

The power of the purse: what do the data say on US federal budget allocation to the states?*

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Abstract

This paper provides new evidence on the relevance of alternative theories of federal budget allocation to states. We primarily intend to estimate the size and relative importance of different institutional and political factors in determining such allocation. The main advantage of our analysis compared to most previous studies is that we use panel data for a relatively long time span. We find that socio-economic characteristics are very important explanatory variables of spending allocation to states. However, these characteristics are not sufficient to explain the disparities in the allocation of federal monies. Some states receive a disproportionate amount of money for reasons essentially linked to politics and the budget allocation process. In particular we find that the overrepresentation of small states determined by the Senate and Presidential election systems has an important impact on federal budget allocation. States whose governor has the same political affiliation of the President receive more federal funds in the form of procurement and defense spending. On the other hand, the political alignment between governor and majority in the House and/or Senate does not affect the allocation of federal funds. We do not find any evidence that marginal states receive more funding; on the opposite we find that safe states tend to be rewarded. Finally, the appropriation committee membership affects the distribution of broad spending categories like total expenditure per capita and direct payments to individuals, while senior members have a disproportionate impact on grant allocation.

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"No money shall be drawn from the Treasury but in Consequence of Appropriations made by law " US Constitution, article I, Section 9, Clause 7.

1. Introduction

The allocation of the federal budget in the United States is a complex process involving numerous institutional players. The budget process is initiated by the President sending a proposal to Congress. The Senate and the House can both amend the initial proposal. As they share equal legislative power, any amendment must be approved in the same form by both chambers. In this stage congressional committees play a crucial role. The appropriation committee, in particular, is one of the most powerful bodies in the legislative process leading to the formulation of the appropriation bill. Finally, the budget passed by congress must return to the president for the final approval. The president has veto power over the budget, and the presidential veto can only be overridden by a qualified congress majority equal to two third of the congressman.

Congressional theories of the budget process emphasize the role played by congressional actors in the allocation of the budget (Bailey and Samuel (1952), Fenno (1973), Kiewiet and McCubbins (1988)). According to several scholars, *individual representatives* occupying key position in the budget process are able to convey a disproportionate amount of money to their districts. Hence, *pork-barrelling* should be a widespread phenomenon amongst committee members, house leaders or senior representatives (Owens and Wade 1984). Other studies have pointed out that *bureaucrats* more than congressmen have a discretionary power over the budget (Gilberst and Specht, 1974; Arnold, 1981). However, no convincing evidence have been found to support this view (Stein, 1981).

Alternative theories of federal budget allocation point out that *political parties* are influential players, suggesting that party politics may have an important role (Cox and McCubbins (1986), Dixit and Londregan(1996), Lindbeck and Weibull (1993)). Whether parties are "strong" institutions controlling the entire congress activity or rather "influential" players whose control on congress is limited by internal bargaining over conflicting interests, still political parties might have an important role in the allocation of the budget (Levitt and Snyder, (1995)).

Institutionalists point out that rules governing democratic systems are the key element to explain policy outcomes (North, 1990). In this sense, rules defining the size of districts and the number of state representatives in the congress, may ultimately be an important determinant of the money received by a state. Hence for example, smaller states having the same number of senators as bigger states, may get disproportionate funds because of over-representation in

Congress (Atlas et al., 1995). Therefore, more attention should be paid to the *rules* rather than to the influence of individual players.

Finally, although the overwhelming majority of studies has analyzed the distribution of federal money from the donors' perspective (central government), some scholars have pointed out that local *recipients*, such as states and municipality, may also be responsible for the budget allocated to them, as a relevant fraction of the budget is distributed in the form of grants that often require an application process from the recipient (Stein, 1981).

This vast theoretical and empirical literature has devoted a formidable effort to the identification of all the possible determinants of the budget allocation. Hence, what have we learnt from the existing literature on federal budget? Congressional analysts, theorists of party politics, and institutionalists have identified the crucial factors governing the budget allocation. However, should we make an assessment on the relative power of the President versus the Congress in the budget allocation, or on whether committee members are more influential than political parties, or if the internal organization of state governments is more relevant than rules allocating state representatives in the congress, we would surprisingly realize that the existing literature is not helpful in answering these type of questions. Although the large empirical literature has tried to estimate the predictive power of these different theories of budget allocation, the findings of those studies are mixed and difficult to compare. In our view, this literature suffers from several shortcomings. First, most studies fail to incorporate in the analysis *all* the relevant *institutional players*. Given the complex interplay between president, congress, committees, parties and state governments, we believe that omitting some explanatory variables in the regressions may lead to non-conclusive or misleading results. When different explanatory variables are correlated, as it seems reasonable to expect in many cases, omitting relevant players could deliver biased estimates of the impact of the ones considered.

Second, even if each single study in isolation may provide some useful insight about a particular aspect of budget allocation, it is still difficult to give the appropriate weight to different factors or discard alternative theories. Finally, as most works concentrate on particular spending programs for some specific years, a meaningful comparison of different studies is undermined by the lack of comparable data.

In this paper we provide new evidence on the relevance of alternative theories of budget allocation. We address two important empirical questions that in our view have not been completely or satisfactorily answered by the existing literature. First, we want to verify whether certain states receive disproportionate amount of money that are not purely reflective of their socio-economic characteristics. Second, when this type of distortion exists, we want to estimate

its size and the relative importance of different institutional and political factors behind this distortion. The main advantage of our analysis compared to most previous studies is that we will use panel data for a relatively long time span. This will allow us to isolate state fixed effects from our variables of interest. Most previous studies have instead considered either a cross section dataset or a very short time span, with all the identification problems that this implies. The second innovation, but not least important, is that we will consider at the same time a number of political actors and a number of different spending aggregates. Focussing on specific spending items often allows to isolate the impact of some specific player or institutional arrangement on the allocative outcome. At the same time this approach does not allow us to see the big picture: different players can probably have an impact on different items but for some players (like the president) the big picture is what matters. Possible trades of influence among players cannot be detected by focussing on specific items and specific actors. Clearly both approaches have merit and drawbacks but we feel that there is a lack in current research that this paper aims at filling. Hence, in this paper we first intend to focus on relatively large aggregates to be able to say something more about the big picture. Then, we will also focus on some more specific spending items whenever we feel that this can add substantial insights in our understanding of federal budget allocation. Hence, this paper contributes to the existing empirical literature on *budget allocations* in two ways. On one hand, we are able to replicate previous studies with richer data and more sophisticated techniques. On the other, we test *all theories* of budget allocation simultaneously to evaluate the relative importance of various institutional players and party politics on budget allocation.

Finally, this work also relates to different streams of political economy literature. First, it contributes to the literature on the strategic use of budget deficit by political actors (Alesina and Tabellini, 1990; Alesina et al, 1997). Our study, focussing on the *allocation* of the federal budget rather than on *total budget*, shows that the previous debate has neglected potentially important sources of political distortions in the budgetary process. Second our work, providing evidence on the importance of constitutional arrangements for budget allocation, contributes to the new growing literature on the economic effects of constitutions (Persson and Tabellini 2002; Besley and Case 2002). Therefore, our empirical findings complement the results of a vast theoretical and empirical political economy literature showing further channels of political influence on economic policy that deserve careful investigation.

To briefly summarize our main results, we find that socio-economic characteristics are very important explanatory variables of spending allocation to states. However, these characteristics are not sufficient to explain the disparities in the allocation of federal monies. Some states

receive disproportionate amount of money as compared to others for reasons essentially linked to politics and the budget allocation process. In particular we find that the overrepresentation of small states determined by the Senate and Presidential election systems has an important impact on federal budget allocation. Also, states whose governor has the same political affiliation of the President receive more federal funds in the form of procurement and defense spending. On the other hand, the political alignment between governor and majority in the House and/or Senate does not affect the allocation of federal funds. When we control for the closeness of presidential race, we do not find any evidence that marginal states receive more funding; on the opposite we find that safe states tend to be rewarded. Finally, we also find that appropriation committee membership affects the distribution of broad spending categories like total expenditure per capita and direct payments to individuals, while senior members have a disproportionate impact on grant allocation.

2. A Survey of the empirical literature

The empirical literature on congressional theories of budget allocations is vast. Most studies have focussed on the role of *committees* in the budget allocation¹, ignoring the role of other political actors, such as *political parties*. An exception is Owens and Wade (1984) who analyse the effect of Congress, committees and parties on the allocation of federal funds at district level in 1978 for both total percapita spending and other disaggregated spending categories, such as agriculture, welfare, public works and defence. They propose two measures of congressional influence on the budget process, the General Influence Scale and the Program Influence Scales. Both indexes measure the congressman influence on the budget on a 1-5 scale. In the general influence scale index, the highest score is assigned to a representative belonging to the house majority and the lowest score is assigned to an ordinary minority party member. Intermediate values are assigned depending on whether majority or minority party members belong to a congressional committees. For the program influence scale the same logic applies, however the highest score is assigned to a majority party member that is the chair of a committee or subcommittee for the specific program analyzed. To capture party influence, the percentage of democratic vote is introduced amongst the regressors². The main result of the study, control-

¹Among the numerous studies on committees see Plott (1968), Goss (1972), Ferejohn (1974), Ritt (1976), Rundquist (1978), Strom (1975), Arnold (1978), Ray (1980), Kiel and McKinzie (1983), Wilson (1986), Rich (1989), Anderson and Tollison (1991).

²As the Congress has been dominated for several years by large democratic majorities, supposing that parties may influence the budget allocation, then we should observe a bias toward democratic districts.

ling for a number of other political variables³ and socio-economic variables⁴, is that spending is positively correlated with the share of democratic vote at district level, while the general influence scale does not affect total percapita spending. However, the different categories of spending are sensitive to the program influence scale. In other words, districts with representatives controlling the chairs of relevant committees receive disproportionately more money on those programs. One interpretation of those results is that committee members allocate preferentially money to their districts. However, an alternative theory that may as well explain those empirical findings, is that districts with economic interests covered by some programs have members sitting in related committees precisely because those activities are important to the district. Therefore, the disproportion in the allocation of funds is not due to pork-barrel, but is a consequence of state characteristics (*recruitment theory*). Indeed the fact that general spending is not affected by committee membership, seems to suggest that the recruitment theory could be a valid explanation for the peculiar pattern of specific programs. In any case, beyond the specific motivations, it is important to understand whether committee members have in fact the power to distort the allocation of spending towards their preferred destinations.

Along the same line, a more recent study by Alvarez and Saving (1997) using district level data for the years 1989 and 1990, estimates the effect of committee membership on *new outlays*, project grants and formula grants⁵. The study considers several committees, namely "Prestige committees"⁶ and "Constituency committees"⁷. Controlling for a number of political variables and economic and demographic controls⁸, this study shows that the district bias is strong for the Ways and Means committee and stronger in formulaic programs. It is somewhat surprising that the strongest effect concerns Ways and Means, since Appropriation is regarded as the most powerful committee in the budget allocation. Concerning the other political variables, democratic representatives seem to be able to convey more money to their districts. Given the democratic majority in congress, this result again suggests that parties may be influential in

³The main political controls in the regression are the percentage of democratic vote, a presidential support score, a measure of district liberalism and a measure of district competitiveness.

⁴The socio-economic controls are the percapita income, the percentage of rural population, the percentage of black population and the urban/rural scale.

⁵Current outlays are often dictated by spending programs approved in past legislatures. Hence, the link between current decision makers and outlays is far from obvious. The selection of new outlays is meant to exclude spending decisions inherited from the past.

⁶Those include Appropriation, Budget rules, Ways and Means.

⁷Agriculture, armed service, interior, merchant marine, public work, science, small business, veterans affairs.

⁸The political controls are: party affiliation of representatives, percentage of voters who supported Bush in 1998, percentage of vote of the incumbent representative in 1998, seniority in congress, donations from PACs. The socioeconomic control include: median income percentage of blue collars, percentage of farmers, percentage of house owners percentage in urban areas, percentage of old.

the allocation of the budget.

Few other papers have analyzed the role of political parties in budget allocation. Snyder and Levitt (1995) is one of the few studies that explicitly focuses on the estimation of party influence in the US federal budget allocation⁹. They use district level data for the period 1984-1990 to estimate whether district with a higher share of democratic vote received disproportionately more money, given that during that period the congress was dominated by democratic majorities. They consider the total federal assistance program and successively a number of subdivisions according to several characteristics such as the variance over time, the fact that the program is formula or non-formula based, the period where a program was initiated. Their main findings are that the share of democratic vote¹⁰ affects the district outlays and the effect is stronger on high variation programs, formula programs and programs initiated under period of strong democratic control¹¹. The regressions, including other political controls, such as party affiliation of district representative and turnout¹², and usual socio-economic controls¹³, are run in a cross-section fashion using averages over the period 1984-1990. Also, the authors report that regressions on the panel using district fixed effects do not show any significant distortion of the federal outlays associated to the district share of democratic vote. Their interpretation for those results is that district representatives are not able to alter spending on specific districts from one budget year to the other, while targeting of more broadly defined constituencies over longer period of time is more likely to happen, as it is shown by the cross-section regressions.

All those studies consider *districts* as the relevant beneficiaries of federal largesse, which in the light of the comment by Snyder and Levitt (1995) on their panel regressions with district fixed effect, may indeed not be the right administrative unit where the allocative distortion can be actually found. Nevertheless, the vast majority of studies are done at district level with the exception of Atlas et al. (1995) and Wright (1974) who consider *States* as the recipients of outlays. In Atlas et al (1995) the main objective is to verify if small states, who are overrep-

⁹Some more recent literature has investigated the role of parties in the budget allocation in India (Dasgupta et al (2001) and Sweden (Dahlberg and Johansson (2000)), obtaining different results. Dutta et al (2001) find that indian states ruled by the same party of the central government receive more grants, while Dahlberg and Johansson (2000) find that Swedish regions where the same party of the central government is in power do not receive more funds. On the other hand, Swedish regions that are "swing" in the national elections receive more transfers from the central government.

¹⁰The measure used is the average share of democratic vote computed on three presidential elections, i.e. 1976, 1980, 1984.

¹¹Periods where both houses were controlled by the same party.

¹²Turnout has a positive and significant impact on outlays.

¹³Median income, state population, district population, percentage over 65 old, percentage of black, percentage of rural, state capital in district.

resented in the Senate, and to a certain extent also in the House, receive disproportionately large amounts of federal funds. They use biennial data on the period 1972-1990 on federal net spending, tax burden, total percapita spending, entitlement and defence to run regressions with fixed state effects over their ten periods panel. After controlling for a number of socio-economic characteristics¹⁴ and political variables¹⁵, they find that total percapita spending is biased upward in overrepresented states and the effect is particularly strong for overrepresentation in the Senate measured by the number of state percapita senators.

The previous work by Wright (1974) on New Deal spending for the period 1933-1940 also shows that the number of state electoral votes percapita has a positive effect on the average aggregate expenditure by states in the period considered. This suggests again that smaller states may receive more funds because of overrepresentation either in the presidential race or in the Congress. Wright also shows that the variability of presidential vote measured by the standard deviation of the total presidential vote for the period 1896-1932, has a positive effect on spending at state level. The interpretation for this results is that money is channeled toward "unsafe" state in order to secure the electoral victory. On the other hand, the closeness of the political race, measured as the absolute difference between 0.5 and the predicted level of Democratic share in 1932, turns out not to be significant. Overall the study by Wright seems to show that some characteristics of the presidential race may affect the pattern of state federal outlays, and as far as we know this is the only empirical attempt to measure the presidential influence over the budget.

3. Data and methodology

We will use data on the 48 US continental States from 1982 to 2000 (Alaska, District of Columbia and Hawaii are excluded). Most variables are taken from the Statistical Abstract of the United States, including the spending aggregates as well as information on socio-economic characteristics of each state. Some political variables are also taken from the Statistical Abstract, including presidential election results, turnout, and data on gubernatorial elections. This dataset has then been complemented with information from the Official Congressional

¹⁴The controls they use are: income percapita, percentage of rural, percentage of population in four years college and univertities, percentage of over 65 old, percentage of population on federal public assistance, percentage of population on unemployment benefits, total percapita state and local taxes, population growth, dummy for costal states.

¹⁵The political controls are the percentage of State House delegation that is democratic and the percentage over the age of 18 who vote.

Directory, which has been especially useful to gather information on committee membership and thus construct the relative variables.

We will start by analysing the impact of *socio-economic variables* on the allocation of federal expenditure to the states and therefore we will estimate the following equation:

$$\begin{aligned} FEDEXP_{st} &= \alpha_s + \beta_t + \theta_1 FEDEXP_{st-1} + \theta_2 Z_{st} + \epsilon_{st}, \\ s &= 1, \dots, 48; \quad t = 1, \dots, 19; \end{aligned} \tag{3.1}$$

where $FEDEXP_{st}$ is real per-capita federal expenditure in state s at time t . As for all subsequent regressions, we will always include state fixed effects and year dummies. We also include a lagged dependent variable which takes into account of the incrementalist nature of the federal budget¹⁶. Modern national budgets are very complex and cannot be redesigned from scratch every year. Therefore changes will tend to be concentrated in specific areas, determining a substantial inertia in budgets from one year to the next. As we noticed, previous studies rarely relied on panel data analysis and therefore could not consider such inertia. But even when panel data have been used (like in Atlas et al 1995) the importance of incrementalism in explaining the federal budget has never been recognized.

In this regression we only include socio-economic variables to see if and how much total federal expenditure to states they can explain. We will include real income per capita ($PRincome$), state population ($stpop$), unemployment rate ($unemp$), percentage of citizens aged 65 or above ($aged$) and percentage of citizens between 5 and 17 year old ($kids$). In all subsequent regressions we will always include such covariates.

We will then augment this basic model to consider specific *institutional* and *political* effects one by one and estimate

$$\begin{aligned} FEDEXP_{st} &= \alpha_s + \beta_t + \theta_1 FEDEXP_{st-1} + \theta_2 P_{st}^i + \theta_3 Z_{st} + \epsilon_{st}, \\ s &= 1, \dots, 48; \quad t = 1, \dots, 19; \end{aligned} \tag{3.2}$$

where P_{st}^i represents the particular set of variables under consideration. We will focus first on *overrepresentation* by including senators per capita ($senatorsPC$), house members per capita ($housePC$) and presidential electoral votes per capita ($elvotesPC$). It is obvious that small states are overrepresented in all such dimensions, in particular in the Senate, where the same number of senators is given to all states independently of their size. Overrepresentation of

¹⁶A famous proponent of the incrementalist theory is Aaron Wildavsky. See for example Wildavsky (1988).

small states is less pronounced in the House and in the presidential election system but it is nevertheless present. If the budgeting system operated like a benevolent welfare maximizer such institutional distortion should not have any impact, while we expect it to have a positive effect on spending in small states.

We will then consider the role of membership of the *appropriation committee* and the *seniority* in such committee. Big states like California and Texas tend normally to have more than one congressmen in the appropriation committee (normally one in Senate committee and three or even four in the House committee) while some small states like Wyoming never had one in the period we considered. Looking at committee members per capita (*appropriationPC*), middle-sized states are normally the ones overrepresented here. But the issue goes clearly beyond size. The reasons for having one or more members in the appropriation committee could be many: what is important here is whether committee members pursue only the general interest or if instead, it is possible to trace any pork-barreling by them. The reason committee members may have a substantial power in the budget allocation has much to do with the working of the committee system itself. Probably, and because of the complexity of the budget, committee members have an informational advantage and not all their work can be properly scrutinized by Congress or the President offices. We also include the seniority in the committee of members of the majority (*appmajSeniority*)¹⁷ as experience can probably teach how to better exploit such informational advantages and, most importantly, will induce more authority in the committee (for example the chair is in most cases the most senior of the majority members).

After analysing the potential distortions that derive from the functioning of congress and its institutions we move to consider in P^i those variables that can possibly capture the impact of *party affiliation*. In doing so the principal actor considered will often, although not always, be the president. We first consider the role of the closeness of presidential elections in itself (*presclose*), then interacted with the number of the electoral votes per capita, and finally limited to those states where the president has won the election (*winpres*). In the first two cases we are clearly looking for the possibility that the president targets marginal constituencies in order to gain the goodwill of their residents: given the winner-takes-it-all characteristic of the electoral vote system, the president has clearly an incentive to target marginal constituencies (if allocation of federal funds generates votes), which are "cheaper" to buy. The third case refers instead to the possibility, sometime discussed in the political science literature, that the president rewards constituencies that show their attachment and therefore allocate more

¹⁷This is the number of year in office for the Senate committee and number of terms for the House committee. When a state has more than one committee member we use the seniority of the most senior among them.

funds where he gets higher margins. Although apparently little compatible with office-seeking behavior, such possibility should be considered in the context of repeated interactions, where getting a reputation for "rewarding your people" can in fact be beneficial in the next election, possibly more than trying to buy ideologically adverse states. As a further check of this hypothesis we also run a regression including the share of the presidential party in the last election (*presshare*). Of course, as for all the regressions we carry out, there should always be a distinction between the incentives to do something and the fact that such incentives translate into actual distortions. In some cases the institutional framework can generate such incentives (for example the electoral vote system) but maybe there are other institutional arrangements that in fact do not allow each player to pursue their interest in a direct fashion. Separating different effects is clearly a complex task and we do not claim to be always successful in this.

The distribution of federal spending could also be determined purely by ideological factors. More conservative states could receive less because they demand less, not having a positive attitude towards public spending. To attempt at isolating this possibility we run a regression including the share of votes for the republican candidate at the last election (*reppressshare*). Also, a possibility that has never been explored previously, is that the alignment in party affiliation between central powers and state governments could play an important role, both for ideological (the governor has preferences more in line with those of central power) and electoral (the governor can help during national election campaigns) reasons. The central power, of course, is not a monolithic entity and, as we have seen, the final budget is the outcome of complex interactions between President and Congress. For this reason we create three dummy variables to reflect the political alignment of governors with the President (*sameP_{ts}*), as well as with majorities in respectively House (*sameH_{ts}*) and Senate (*sameS_{ts}*). We then run a regression when P_{st}^i is represented by these three variables.

The regression analysis so far can provide a number of insights on the possible role played by actors and institutions. It has, however, some important limitations: first of all by considering one element at time (as most of the literature so far) we are probably missing relevant correlations and overestimating some effects. For this reason we finally run a regression including all the P_{st}^i vectors in one equation of the form

$$\begin{aligned}
 FEDEXP_{st} &= \alpha_s + \beta_t + \theta_1 FEDEXP_{st-1} + \sum_i \theta_2^i P_{st}^i + \theta_3 Z_{st} + \epsilon_{st}, & (3.3) \\
 s &= 1, \dots, 48; \quad t = 1, \dots, 19;
 \end{aligned}$$

This should provide an overall better understanding of the various determinants of total

federal spending in the states. The results we can get from equation (3.3) are interesting in providing the big picture, the one that get missed when focussing on specific spending items and specific actors. Nevertheless, disaggregation by spending categories can now provide a number of new insights since different programs are targeted at different needs and are administered in different ways. For example the President is constitutionally responsible for national defense. Although the defense budget goes through the normal process like any other program, it is legitimate to think that the President has more authority and influence on defense spending than on many other programs. In fact, the few times the President has used his veto power in the period we consider has always been because he judged defense spending too low, and that this would have put at risk national security.

Thus we proceed estimating a series of disaggregate equations of the form

$$PROGRAM_{st}^j = \alpha_s + \beta_t + \theta_1 PROGRAM_{st-1}^j + \sum_i \theta_2^i P^i + \theta_3 Z_{st} + \epsilon_{st}, \quad (3.4)$$

$$s = 1, \dots, 48; \quad t = 1, \dots, 19;$$

where j = direct expenditure, entitlements, defense, procurement, grants.

Finally, we will focus in more detail on the role of the president, which has been relatively neglected by most of the past research on this topic. We can exploit one specific institutional element to make more precise our predictions on the role of the President: the fact that he can be reelected only once and therefore will not be running an electoral campaign during the second mandate. Our dataset includes, along with the Bush senior administration, both Reagan and Clinton mandates, who clearly faced term limit during their second period in office. Thus, we should expect the electoral motivation to be weaker as compared to the ideological one during the second term in office. There are of course a number of institutional features that can potentially mitigate the difference between the two terms, first of all party discipline, if any¹⁸. We will therefore consider the programs where we expect higher presidential influence (direct expenditure and procurement) as well as federal expenditure and direct expenditure and include in the regression an interaction term between SAMEP and a term-limit dummy. A positive or non-significant sign would be interpreted as a prevalence of the ideological motivation, while a negative sign would suggest that transfers to friendly governors is mainly the consequence of

¹⁸For a discussion of this point see Besley and Case (1995). Besley and Case exploit the variation in governors' term limits across US states to study the effectiveness of elections as a discipline device for incumbent administrators.

electoral incentives.

4. Federal spending allocation: a look at the aggregate

In the first column of Table 1 we report the OLS estimates of equation 1, where only socio-economic factors are included together with a lagged dependent variable, state fixed effects and year dummies. From the value and significance of the lagged FEDEXP it is clear, as expected, that there is a lot of inertia in the evolution of federal budget and therefore our incrementalist hypothesis was substantially correct. Socio-economic variables come with expected signs and overall good significance levels. States with higher income per-capita receive significantly less as do states with larger population. Given that on the left hand side we have a per-capita variable, a negative sign for *stop* should indicate the presence of some economies of scale. The percentage of aged population has also a positive sign, still significant at the 10% level. Unemployment rate and percentage of kids display a negative sign although estimated with far less precision (especially unemployment). Overall, the picture that emerges makes sense in welfaristic terms: poorer states get more money and a number of programs (especially entitlements) probably tend to address public funds towards states that have more need for them.

We then move to analyse various specifications for equation 2, starting with the issue of overrepresentation (Table 1, column 2). As expected, the number of senators per capita has a rather strong impact on the allocation of federal funds. Given that the number of senators per state is fixed and equal to two, we substantially have that smaller states will receive more money. *ElvotesPC* and *housePC* are not significant (*housePC* also displays a negative coefficient) but clearly they are correlated with *senatorsPC*. An F-test on the three variables comfortably rejects the hypothesis that they are jointly not significant, which induces us to conclude that overrepresentation introduces a serious distortion in the allocation of federal spending.

In columns 3 and 4 of Table 1 we report the regressions when we consider the role of appropriation committees membership. We consider members per capita (number of congressmen in the two appropriation committees divided by total state population) and find that this has a significant impact on funds per capita received (column 3); we find no evidence, instead, of an effect of seniority (column 4).

In columns 5, 6 and 7 (Table 2) we analyse the role of the presidential election closeness. A surprising result is that *presclose* has a positive and significant impact on our dependent

variable. This seems at odds with what most public choice literature would suggest about the behavior of incumbents in trying to move marginal states to his side. This result, however, could be misleading. The President's incentives may depend on marginality but clearly, because of the electoral vote system, not all the states are the same. In column 6 we control for electoral votes per capita and introduce an interaction term between *presclose* and *elvotesPC*. The result now is quite different. The coefficient of electoral votes per capita is positive and significant at the 5% level (it was not so in column 2, when *senatorsPC* was included and *presclose* was absent) while *presclose* is now insignificant, although still positive¹⁹. In column 7 we include, with *presclose*, an interaction with a dummy for states where the President won the election. Thus, the coefficient of *presclose* now represents the effect of closeness in states where the President was in minority in the last election, while the coefficient of *winpres* represents how much, for a given level of closeness, the President discriminates between friendly and unfriendly states. Both effects are not strongly significant but definitely it appears that closeness is not considered as a symmetrical variable: it makes a difference if the state voted for the President or not. The coefficient of *winpres* is indeed rather large, although not extremely precisely estimated.

Given the results obtained on closeness, it is worth checking a different hypothesis, namely that the President will tend to reward states that demonstrated their support in the election. As noticed in the previous section, this hypothesis has already received some limited attention and we believe it is rationalizable both from an ideological and an office seeking perspective. In column 8 we include the share of votes obtained in each state by the President in the last election (*Presshare*) and we find a very strong and significant effect. This can somehow definitely solve the puzzle we encountered with presidential closeness. We find no evidence of targeting of marginal states and find instead clear evidence of rewards being distributed to friendly states.

A further way to isolate ideological motivations is to recognize that republicans are generally less favorable to public spending. Therefore it is well possible that states dominated by republicans will be less motivated to receive public funds. In some cases states need to apply

¹⁹Indicating with θ_p, θ_e and θ_I the coefficients of, respectively, *presclose*, *elvotesPC* and the interaction term, the coefficient of *presclose* (calculated at the mean value of *elvotesPC*) is now given by

$$\theta_p + \theta_I \times \overline{elvotesPC} = 142.58$$

and its standard error is

$$var(\theta_p) + (\overline{elvotesPC})^2 \times var(\theta_I) + 2 \times \overline{elvotesPC} \times cov(\theta_p, \theta_I) = 98.23$$

which gives a t-ratio equal to 1.45.

if they wish to receive funds for some specific programs. In column 9 therefore we include the share of presidential votes for the republican candidate (*reppressshare*), to try to capture how conservative a state is. Quite surprisingly we find that the coefficient of *reppressshare* is large and strongly significant. This is somehow puzzling and contrasts with the previous limited (both in quantity and quality) evidence. We will return on this point later to try to provide an explanation using more disaggregated spending programs.

As we have seen, it is a serious possibility for federal spending to be disproportionately allocated to friendly states, and we found something in that direction for what concerns the President. This can be justified on a number of grounds both for office-seeking and policy oriented central administrations. We therefore investigate further this possibility by introducing the variables *sameP*, *sameH*, and *sameS*. In this case, however, we find a very limited impact. An F-test for the joint significance of the three variables rejects the assumption that they are significantly different from zero. Of the three variables, *sameP* looks the only one that could potentially have an impact, with a t-ratio of 1.71. Again, we will return on this point later when more information will be available.

For the moment instead we only ask if the results we found are robust to having a more complete specification, where different effects are considered at the same time. What we have done so far is to analyse the different hypotheses one by one, like all the previous empirical literature. Although we refer to total expenditure rather than specific programs, we also manage to mimic most of the results that the previous empirical literature obtained with very different (and generally less sophisticated) methodologies. In Table 3, column 1, we pull together the various, and not necessarily conflicting, hypotheses.

First of all, it worth noticing that socio-economic variables (in particular income and population) remain substantially important and in some cases (*aged* and *kids*) improve both their magnitude and significance level. We include a dummy for democratic presidents (*dempres*), that turn out to spend substantially more. The coefficients can be interpreted in dollar terms, which means that having a democratic president has a long run impact on federal expenditure per capita equal to 964.62 \$ per year²⁰.

Coming to the various hypotheses we already discussed, all the results we obtained on individual variables (or group of variables) are substantially confirmed by this further check²¹

²⁰The long run coefficient takes into account the presence of a lagged dependent variable and is therefore calculated as $337.62 \times (1 - 0.65) = 964.62\$$, where 0.65 is the coefficient of *PRfedexpL1*.

²¹In the case of the overrepresentation theory, although individually insignificant, a F-test of the three overrepresentation variables is passed comfortably, with a p-value equal to 0.013.

and therefore we will not discuss them further. We also add some new covariates in this regression. First, electoral *turnout* (in presidential elections) which turns out to be insignificant. Second, we add two new alignment variables: two dummy variables equal to one if respectively both senators from a state (*sameGOV_S*) or the majority of house members from a state (*sameGOV_H*) have the same political color of the governor from that state. Both variables seem to have no impact on spending. Finally, we also think that considering the potential electoral motivation at the state level could add an important element to the current picture: thus, we include a dummy variable (*gov_electionyear*) equal to one in gubernatorial election years and states. This variable, too, is insignificant in this regression.

To conclude this section, we find good support for *institutional* and *congressional theories* of the federal budget: overrepresentation of small states is important, as it is having members in the appropriation committee. Coming to the role of the President, substantially neglected so far, we find that the electoral vote system introduces relevant distortions but we do not find any evidence of spending being targeted to marginal states. On the contrary, states that have supported the President with big margins tend to be rewarded. Political affiliation between central and local powers and ideological motivations do not seem to explain much in aggregate terms.

5. Pork-barrel politics on specific spending programs

In Table 3 we report the results obtained on a number of specific spending programs derived from the Statistical Abstract. We first distinguish between grants and direct expenditure (which is defined as total expenditure minus grants). Federal grants represent an important proportion of the US federal budget directing money to local governments. Unlike other forms of expenditure involving direct payments to residents of particular states, federal grants are allocated to states and are administered by local governments. Most grant programs are distributed by a formula, whereby the central government decides how to allocate federal resources to local authorities. Nevertheless, grants are in some cases under the direct responsibility of States, in particular when they are granted in the form of block grants: States, therefore, normally enjoy larger discretion about their usage. Does this difference induce also a different allocation when compared to other outlays? We find some intriguing differences in the way grants are allocated as compared to other programs. First and most importantly, states whose governor faces re-election within the year receive more grants. The variable *gov_electionyear* is not significant

instead in all the other cases, suggesting that grants probably play a special role for incumbent governors. It is intuitively clear that grants can give political returns to governors: thanks to the discretion they might have on how to spend grants it is well possible that voters associate that form of spending with governors much more than they do for other transfers they receive. However motivated a governor can be to obtain more grants, it remains to be asked what is the process that leads to actual allocation: in other terms we should ask who are the actors or institutions that drive such result. We tried to include a number of interactions in order to isolate the relevant mechanism but could not find anything more: disproportionate allocation to governors in their electoral years is not driven by ideological or party affiliation, nor by any of the other mechanisms we examined. It remains the possibility that governors are more active in lobbying central powers when they are under the pressure of electoral campaigns, but we cannot claim we tested such hypothesis.

Another important difference concerns the role of the appropriation committee. On federal expenditure as well as on direct expenditure, committee members per capita matters. For grants instead (and only for grants) we find that the seniority is important rather than the number. Again, this calls for further investigation to properly interpret such result. On socio-economic ground there are also important differences, as income and population are less relevant and the percentages of aged and of kids are instead significant, with a positive sign for the aged and a negative sign for kids. We cannot exclude that this last result is also due to political factors rather than mere welfare considerations.

We will proceed now to analyse three categories of direct expenditure with very different characteristics: *direct payment* to individuals, *defense* spending and *procurement* spending. We have some priors concerning for example the potential role of the president on defense or the fact that entitlements should be less prone to manipulation as compared to other forms of spending. Thus, from this comparison we hope to be able to better disentangle some of the issues left open from the previous section.

For what concerns overrepresentation we find, quite surprisingly, that direct payments to individuals are in fact driving the result for the aggregate federal spending. All other spending categories (including defense, procurement and grants) do not seem too sensitive to this problem while an F-test of the three overrepresentation variables for direct payments to individuals gives us a p-value of 0.0145. Membership of the appropriation committee does not turn out to be relevant but, again, this variable is close to decent significance level for direct payments to individuals and rather far from it for other outlays. This seems to suggest that even broad programs that involve direct payments to individuals and apparently leaving little margins for

pork-barrel behavior, can be subject to some form of manipulation, especially by Congress.

Results are very different for *defense* and procurement *spending*. Here clearly the President has the upper hand. The variable *sameP* is significant at 5% level for procurement and almost so for defense while we find no influence for *sameH* or *sameS*. The long run coefficient of *sameP* is 77.78 which is not that small if we think that these are dollars per capita.

A couple of interesting remarks are in order. First, Democratic and Republican presidents show little difference for what concerns overall defense and especially procurement spending while Democrats seem definitely more prone to spend in direct payments to individuals. Second, unemployment rate displays, as expected, a negative and significant sign for spending in direct payments to individuals but, less obviously, it has a negative and significant sign for what concerns defense and procurement spending. A number of interpretations are possible, including the fact that unemployed could be less electorally responsive to pork-barrell spending. This is especially intriguing as we control for income, which shows a negative sign: buying the votes of poorer citizens should be cheaper, if we believe in decreasing marginal utility of income; but this could also be compatible with purely welfaristic concerns, while this is clearly not the case for the coefficient of unemployment. Clearly, further investigation is necessary before being able to make more precise and informed claims.

Having found that the President has some power in allocating *defense* and *procurement* spending to friendly governors we would like to be able to say more about the specific causality links and motivations. For this reason we include in Table 4 we include in the regressions an interaction term between *sameP* and a dummy indicating a President who is in his second mandate and therefore cannot run for re-election. We find that this interaction has a negative coefficient and is significant for direct expenditure, defense and procurement, while *sameP* (that now captures the effect for Presidents in their first term) maintains a positive a significant sign. Thus, Presidents who do not face re-election pressure create less distortion to favor friendly governors, in spite of potential party discipline pushing in the opposite direction. This induces to think that the movement of funds is in this case (as opposed to the case of grants) driven by the center rather than by governors' lobbying and that the main motivation for introducing this distortion is electoral. Thus, contrarily to what principal - agency literature would suggest, electoral pressure can in fact induce more rather than less mis-behavior by part of incumbent administrators under some circumstances and institutional arrangements.

6. Conclusions

The allocation of the US federal budget is a complex process that has been widely studied by political scientists. Different theories have emphasized the role of different institutional and political players such as congress, committees and political parties, as well as the role of institutional rules, such as district size and number of representatives. The empirical literature has provided some evidence and support toward some of the theoretical models. However, the empirical strategy and the quality of the data of previous works casts some doubts on the generality of the empirical findings.

In this paper we provide new evidence on the relevance of alternative theories of budget allocation that, differently from most previous studies, is based on the use panel data for a relatively long time span. This allowed us to isolate state fixed effects from our variables of interest. Also, in our analysis we considered at the same time a number of political actors and a number of different spending aggregates. The aggregate spending categories are useful to get insight on the big picture, as possible trades of influence among players cannot be detected by focussing on specific items and specific actors. On the other hand, more specific spending items such as defence and procurement allow us to estimate more precisely the bias introduced by some players (like the President) that is empowered by the constitution with some sort privileged control on those items.

We find that socio-economic characteristics are very important explanatory variables of spending allocation to states. However, these characteristics are not sufficient to explain the disparities in the allocation of federal monies. Some states receive a disproportionate amount of money for reasons essentially linked to politics and the budget allocation process. In particular we find that the overrepresentation of small states determined by the Senate and Presidential election systems has an important impact on federal budget allocation. States whose governor has the same political affiliation of the President receive more federal funds in the form of procurement and defense spending. However, we find that Presidents who do not face re-election pressure create less distortion to favor friendly governors, in spite of potential party discipline pushing in the opposite direction. On the other hand, the political alignment between governor and majority in the House and/or Senate does not affect the allocation of federal funds. We do not find any evidence that marginal states receive more funding; on the opposite we find that safe states tend to be rewarded. Finally, the appropriation committee membership affects the distribution of broad spending categories like total expenditure per capita and direct payments to individuals, while senior members have a disproportionate impact on grant allocation. Sur-

prisingly, our study provide evidence of substantial budgetary power of the President, a player that has been completely neglected by the previous literature. Although the budget is approved by Congress, the Senate and the House seem finally to be less influential than the President. Hence, we conclude that the proposal and veto power of the President and the structure of the budgetary process, leaves a substantial space for manoeuvre to the President and to the Committees. Therefore, the empirical findings of our paper provide evidence on the economic consequences of Constitutions, highlighting the *budget allocation* as important area of economic influence for institutional and political actors.

List of variables

Federal expend: real percapita federal expenditure (outlays) by state in 2000 constant US \$. *Source: The statistical abstract of the US and the Bureau of Statistics.*

Direct exp: real percapita direct payments to individuals (outlays) by state in 2000 constant US \$. *Source: The statistical abstract of the US and the Bureau of Statistics.*

Defense: real percapita defense expenditure (outlays) by state in 2000 constant US \$. *Source: The statistical abstract of the US and the Bureau of Statistics.*

Procurement: real percapita procurement expenditure (outlays) by state in 2000 constant US \$. *Source: The statistical abstract of the US and the Bureau of Statistics.*

SameP: dummy variable equal to one when the party affiliation of the president and the governor is the same, and zero otherwise. The party affiliation of president and governor is taken from *The statistical abstract of the US.*

SameH: dummy variable equal to one when the party affiliation of the majority of the House and party affiliation of the governor is the same, and zero otherwise. The party affiliation of House majority and governor is taken from *The statistical abstract of the US.*

SameS: dummy variable equal to one when the party affiliation of the majority of the Senate and party affiliation of the governor is the same, and zero otherwise. The party affiliation of Senate majority and governor is taken from *The statistical abstract of the US.*

Termpres: dummy variable equal to one when the president faces term-limit and zero otherwise. *Source: The statistical abstract of the US.*

Gov_electionyear: dummy variable equal to one during a governor election year and zero otherwise. *Source: The statistical abstract of the US.*

Stpop: State population. *Source: The statistical abstract of the US.*

AppropriationPC: number of appropriation committee percapita by states. The number of committees members is taken from the *Official Congressional Directory*.

AppmajSeniority: number of terms of the most senior House appropriation committee member and number of years of the most senior Senate appropriation committee member. *Source: Official Congressional Directory*

SenatorsPC: number of senators percapita by state. *Source: The statistical abstract of the US.*

HousePC: number of House representatives percapita by state. *Source: The statistical abstract of the US.*

AlignmentSG: dummy variable equal to one when the party affiliation of the governor and the two senators from the state are the same, and zero otherwise. *Source: The statistical*

abstract of the US.

SameGOV_H: dummy variable equal to one when the party affiliation of the governor and the majority in the State House are the same, and zero otherwise. *Source: The statistical abstract of the US.*

ElvotesPC: number of electoral votes percapita by states. number of senators percapita by state. *Source: The statistical abstract of the US.*

Presclose%: distance in percentage of vote between the winner of the presidential race and the first runner up. *Source: The statistical abstract of the US.*

Winpres: dummy variable equal to one for the state where the incumbent president has won the elections, and zero otherwise. *Source: The statistical abstract of the US.*

Dempres: dummy variable equal to one when the president is democratic, and zero when the president is republican. *Source: The statistical abstract of the US.*

Turnout: total percentage of vote in presidential election. *Source: The statistical abstract of the US.*

PRincome: real income percapita in 2000 constant US \$. *Source: The statistical abstract of the US and the Bureau of Statistics.*

Aged: percentage of population over 65 years old by state. *Source: The statistical abstract of the US.*

Kids: percentage of population between 5 and 17 years old by state. *Source: The statistical abstract of the US.*

Table 1: Congressional theories of budget allocation
Dependent Variable: real percapita federal expenditure

<i>Theories</i>	<i>Economic</i>	<i>Overrepresentation</i>	<i>Committees</i>	<i>Seniority</i>
	(1)	(2)	(3)	(4)
senatorsPC		301.29 (2.20)*		
housePC		-49.42 (1.50)		
elvotesPC		68.41 (1.13)		
approprPC			82.04 (2.83)**	
appmajSenior				1.21 (1.05)
LAG	0.70 (19.61)**	0.66 (17.28)**	0.70 (19.93)**	0.70 (19.61)**
PRincome	-0.03 (2.55)*	-0.03 (2.87)**	-0.03 (2.53)*	-0.03 (2.40)*
unemp	-1.89 (0.27)	0.68 (0.10)	-1.04 (0.15)	-1.93 (0.27)
stpop	-0.05 (3.76)**	-0.06 (4.04)**	-0.05 (3.97)**	-0.05 (3.83)**
aged	970.28 (1.67)	998.51 (1.72)	983.45 (1.82)	982.64 (1.70)
kids	-381.02 (1.27)	-406.72 (1.32)	-374.93 (1.31)	-369.56 (1.26)
Constant	2,635.57 (5.73)**	2,356.87 (7.14)**	2,596.47 (5.69)**	2,578.34 (5.53)**
Observations	864	858	864	861
R-squared	0.96	0.96	0.96	0.96

note: OLS with state and year fixed effects, robust t statistics in parentheses (significant at 5%; ** significant at*

Table 2: Partisan theories of budget allocation
Dependent Variable: real percapita federal expenditure

	<i>theories</i>	<i>closeness1</i>	<i>closness2</i>	<i>closness3</i>	<i>incumbent</i>	<i>ideology</i>	<i>allignement</i>
	(5)	(6)	(7)	(8)	(9)	(10)	
presclose%	234.51 (2.38)*	-146.81 (0.68)	-189.18 (0.64)				
winpres			372.69 (1.56)				
elvotesPC		127.85 (2.11)*					
close*elvotesPC		107.98 (1.55)					
repressshare						819.64 (3.43)**	
Pressshare				410.06 (3.30)**			
sameP							32.69 (1.71)
sameH							21.11 (0.82)
sameS							-7.26
LAG	0.69 (19.68)**	0.67 (18.65)**	0.69 (19.39)**	0.68 (19.25)**	0.69 (19.45)**	0.69 (19.46)**	0.69 (19.46)**
PRincome	-0.04 (3.09)**	-0.04 (3.10)**	-0.04 (3.18)**	-0.04 (3.34)**	-0.03 (3.01)**	-0.03 (2.63)**	-0.03 (2.63)**
unemp	-3.19 (0.45)	-1.93 (0.28)	-2.81 (0.40)	-2.85 (0.41)	-0.15 (0.02)	-1.60 (0.23)	-1.60 (0.23)
stpop	-0.04 (3.51)**	-0.06 (4.43)**	-0.05 (3.76)**	-0.05 (4.00)**	-0.05 (4.09)**	-0.05 (3.77)**	-0.05 (3.77)**
aged	955.91 (1.53)	990.99 (1.48)	971.30 (1.51)	974.31 (1.51)	1,004.95 (1.91)	957.77 (1.62)	957.77 (1.62)
kids	-424.96 (1.37)	-453.87 (1.41)	-459.64 (1.41)	-454.89 (1.40)	-279.44 (0.99)	-361.72 (1.18)	-361.72 (1.18)
Constant	2,821.35 (6.12)**	2,795.95 (6.20)**	2,922.67 (6.23)**	2,826.81 (6.10)**	2,425.67 (5.28)**	2,661.04 (5.73)**	2,661.04 (5.73)**
Observations	864	864	864	864	864	864	864
R-squared	0.96	0.96	0.96	0.96	0.96	0.96	0.96

note: OLS with state and year fixed effects-robust t statistics in parentheses (significant at 5%; ** significant at 1%)*

Table 3: All theories of Budget allocation
Dependent variable: real percapita outlays by program

	(1)	(2)	(3)	(4)	(5)	(6)
	federal exp	direct exp	entitlement	defense	procurement	grants
PRdirexpL1	0.65 (16.88)**	0.64 (16.56)**	0.69 (5.84)**	0.65 (13.84)**	0.58 (11.77)**	0.72 (19.71)**
sameP	26.74 (1.40)	25.74 (1.48)	-0.27 (0.04)	24.74 (1.83)	32.67 (2.11)*	1.28 (0.18)
sameH	20.21 (0.73)	22.18 (0.83)	7.70 (0.66)	28.41 (1.46)	32.96 (1.38)	-0.59 (0.08)
sameS	-10.35 (0.47)	-15.93 (0.73)	-1.12 (0.12)	-5.66 (0.36)	-21.10 (1.05)	4.01 (1.01)
gov_electionyear	-5.97 (0.25)	-14.64 (0.61)	1.29 (0.12)	3.03 (0.19)	-25.22 (1.25)	10.24 (2.29)*
appropriationPC	95.35 (3.03)**	87.60 (2.89)**	32.33 (1.76)	6.63 (0.46)	24.78 (1.35)	5.28 (0.68)
appmajSeniority	0.35 (0.29)	-0.34 (0.29)	-0.52 (0.99)	0.75 (0.82)	0.92 (0.83)	0.73 (2.19)*
senatorsPC	230.15 (1.56)	194.64 (1.38)	134.15 (1.37)	-8.11 (0.11)	125.15 (1.31)	50.06 (1.20)
housePC	-0.54 (0.02)	-5.87 (0.18)	33.16 (1.59)	-28.38 (1.15)	-41.72 (1.38)	-7.46 (0.62)
allignmentSG	-6.55 (0.31)	-8.15 (0.39)	-14.26 (1.44)	-3.30 (0.21)	-4.73 (0.25)	1.44 (0.31)
sameGOV_H	-6.90 (0.36)	-1.25 (0.07)	6.46 (0.67)	-4.06 (0.33)	-10.27 (0.66)	-4.96 (1.09)
elvotesPC	97.08 (1.48)	100.31 (1.60)	51.38 (1.21)	12.27 (0.31)	38.31 (0.82)	-4.75 (0.23)
presclose%	-303.08 (1.01)	-328.14 (1.13)	108.34 (0.44)	-37.25 (0.21)	-18.86 (0.09)	13.63 (0.18)
winpres	385.11 (1.60)	316.15 (1.36)	-169.99 (0.84)	7.11 (0.05)	-54.63 (0.32)	62.35 (1.06)
dempres	337.62 (6.76)**	242.85 (5.27)**	317.17 (1.90)	38.64 (1.30)	-4.72 (0.14)	98.14 (7.96)**
turnout	1.69 (0.51)	2.87 (0.90)	1.66 (0.83)	-0.21 (0.09)	2.07 (0.77)	-1.13 (1.47)
PRincome	-0.04 (3.34)**	-0.04 (3.29)**	-0.01 (1.79)	-0.03 (3.49)**	-0.03 (2.91)**	-0.00 (1.67)
unemp	0.77 (0.11)	-1.89 (0.28)	11.02 (2.70)**	-14.65 (2.71)**	-12.23 (2.00)*	2.58 (1.39)
stopop	-0.06 (4.06)**	-0.06 (3.65)**	-0.04 (3.57)**	-0.03 (2.86)**	-0.03 (2.29)*	-0.01 (1.66)
aged	1,068.79 (1.84)	565.61 (1.01)	73.67 (0.32)	199.70 (0.80)	200.92 (0.67)	492.60 (7.04)**
kids	-475.56 (1.49)	-324.36 (1.16)	-91.61 (0.97)	-160.62 (1.04)	-161.91 (0.95)	-151.56 (2.10)*
Constant	2,326.35 (5.20)**	2,069.13 (4.91)**	891.97 (2.28)*	1,149.48 (4.47)**	834.87 (2.74)**	273.95 (3.29)**
Observations	855	855	855	855	853	902
R-squared	0.96	0.96	0.97	0.95	0.92	0.97

note: OLS with state and year fixed effects-robust t statistics in parentheses (* significant at 5%; ** significant at 1%)

Table 4 : All theories with term limits
Dependent variable: real percapita outlays by program

	(1)	(2)	(3)	(4)
	federal expend	direct exp	defense	procurement
LAG	0.64 (16.93)**	0.64 (16.58)**	0.64 (13.76)**	0.58 (11.65)**
sameP	38.68 (1.95)	39.53 (2.15)*	36.45 (2.56)*	46.13 (2.87)**
sameP*termpres	-56.95 (1.76)	-65.63 (2.05)*	-55.81 (2.32)*	-64.00 (2.19)*
sameH	4.58 (0.16)	4.17 (0.15)	12.99 (0.61)	15.41 (0.62)
sameS	-9.84 (0.45)	-15.36 (0.70)	-5.07 (0.33)	-20.54 (1.03)
gov_electionyear	-8.47 (0.35)	-17.52 (0.74)	0.60 (0.04)	-27.95 (1.39)
appropriationPC	91.54 (2.95)**	83.20 (2.78)**	2.79 (0.19)	20.56 (1.12)
appmajSeniority	0.42 (0.35)	-0.26 (0.23)	0.81 (0.90)	0.99 (0.90)
senatorsPC	225.94 (1.52)	190.29 (1.34)	-12.73 (0.17)	120.24 (1.23)
housePC	-8.19 (0.24)	-14.68 (0.45)	-36.07 (1.42)	-50.46 (1.63)
allignmentSG	-6.61 (0.31)	-8.19 (0.39)	-3.28 (0.21)	-4.68 (0.25)
sameGOV_H	-5.83 (0.30)	-0.03 (0.00)	-2.95 (0.24)	-9.13 (0.59)
elvotesPC	104.30 (1.57)	108.46 (1.70)	19.15 (0.47)	46.37 (0.97)
presclose%	-334.56 (1.11)	-364.80 (1.24)	-68.33 (0.39)	-54.28 (0.25)
winpres	403.93 (1.67)	338.01 (1.44)	24.86 (0.18)	-34.84 (0.20)
dempres	573.79 (4.27)**	411.70 (4.15)**	19.66 (0.35)	32.58 (0.48)
turnout	1.90 (0.57)	3.11 (0.97)	0.00 (0.00)	2.28 (0.86)
PRincome	-0.04 (3.25)**	-0.04 (3.18)**	-0.03 (3.34)**	-0.03 (2.75)**
unemp	-0.17 (0.02)	-3.00 (0.45)	-15.73 (2.91)**	-13.41 (2.21)*
stpop	-0.06 (4.12)**	-0.06 (3.73)**	-0.03 (2.94)**	-0.03 (2.34)*
aged	1,097.13 (1.93)	598.85 (1.10)	226.98 (0.95)	231.74 (0.81)
kids	-504.01 (1.61)	-357.44 (1.32)	-188.71 (1.27)	-193.68 (1.19)
Constant	2,293.40 (5.28)**	2,055.23 (5.02)**	1,227.34 (4.74)**	955.85 (3.14)**
Observations	855	855	855	853
R-squared	0.96	0.96	0.95	0.92

note: OLS with state and year fixed effects-robust t statistics in parentheses (significant at 5%; ** significant at 1%)*

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