Fair Grant Allocation?
Agency Politicization and Grant Allocation Performance

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Abstract

Since the 19th century, the United States has implemented a federal grant system aimed at reducing income and resource gaps among individuals and communities. This has led to the federal government dedicating approximately 20% of its annual budget as grants-in-aid to sub-national governments. Although the federal agency has played a pivotal role in allocating federal grants based on their motivations and policy objectives, after the president and Congress have primarily decided on the grant funding level, previous grant studies have exclusively focused on the influence and strategy of the president and Congress. Furthermore, these studies have neglected the demand-side of the grant process, which is critical in determining whether grants have been allocated to the areas most in need. As a result, they have not been able to make a normative argument regarding whether the federal grant has been allocated in the right place that is in need.

This paper aims to address a gap in previous studies on federal grant allocation by examining the role of the federal bureaucracy, with particular emphasis on the state's grant need level. To achieve this, the paper creates a grant need index, which calculates the amount of grant funding needed for each state. The study then investigates how federal political dynamics affect the agency's grant allocation strategy and performance, particularly in achieving a need-based grant allocation versus a politicized allocation.

The analysis focuses on the comparison between the fair grant amount, as determined by the grant need index, and the actual allocation of 430 grants at the state level. By examining the effects of politicization on grant allocation performance across 78 federal agencies from 2005 to 2020, the study aims to determine the impact of political dynamics on grant allocation performance. To analyze the data, the study employs various fixed models, including agency, state, and year, to reveal the impact of politicization on grant allocation performance. The results of the analysis demonstrate that agencies with higher politicization perform poorly in grant allocation, indicating a need to address the political independence of the agency's grant allocation to achieve more effective and need-based allocation of federal grants.

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1   Introduction

U.S. society has long been struggling with inequality issues not only between individuals, but also among communities. Income inequality has worsened in the past decades as the Gini coefficient has continuously increased, from 0.362 in 1967 to 0.474 in 2021 *. Moreover, inequality among the communities has also intensified in the past decades. For example, Maryland, the most wealthy state at the per capita income level, has shown a large increase from $68,854 to $86,738 ($17,884 increase) from 2010 to 2019, while the state of Mississippi's income per capita has increased by only $8,938, from $36,851 to $45,792, during the same time-period †. Thus, there is a large difference in government spending and service provision level by the community, which is influential to the people's quality of life.

The federal grant system is origianally designed to relieve these inequality problems by supporting marginalized people with fewer opportunities, and more than 1,500 federal grants in broad areas are allocated to individuals, sub-national governments, NGOs, and private institutes every year. In particular, the president, Congress, and federal bureaucracy have played a central role in the federal grant process, and each actor has exerted a different level of discretion and influence based on the statutory characteristics of the grants. The president and Congress primarily determine the funding level (amount) and formula (usage) of federal grants at the grant writing and appropriation process, and the federal agencies distribute the grants to the sub-national governments to achieve the grant goal and objective.

However, previous research in distributive politics has exclusively focused on the roles and strategies of the president and Congress in the federal fiscal process, which has resulted in missing the works of the federal agency despite the fact that the federal agency has its own policy motivation and grant objectives. The federal bureaucracy pursues social and economic goals by attempting efficient and need-based grant allocation as revealed in

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*Table A-5. Selected Measures of Equivalence-Adjusted Income Dispersion by U.S. Census Bureau: `https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-inequality.html`

†FRED Economic Data: `https://fred.stlouisfed.org/`

the grant objective of the Catalog of Federal Domestic Assistance (CFDA). Therefore, this research investigates the effect of dynamics between the political actors and federal agency, particularly the politicization, on the agency's grant allocation behavior.

What's more, previous grant research has not paid much attention to the demand side of the grant allocation, such as the political and socio-economic circumstances of the receiving jurisdictions, therefore they have failed to answer if the federal grant is properly allocated to the people and community in need based on each grant's objective. Therefore, this paper calculates the grant-need index (fair grant amount), need level (amount) of 430 federal block and project grants, by state from 2005 to 2020, to determine if the federal grant is allocated in the right place to reduce the income and resource gaps among the communities. By showing the seventy agencies' grant allocation performance, this paper contributes to the public management study, where agency performance is one of the key topics.

The rest of the paper is structured as follows. Section 2 overviews the history and trend of federal grant allocation, and describes the fiscal role of federal agencies in the grant allocation process. I review previous research on distributive politics and fiscal federalism, focusing on the federal agency's role and dynamics with political actors in Section 3. And then, I introduce the method of calculating the grant-need index (fair grant amount) in Section 4, which measures each state's need amount for 430 block and project grants. Section 5 documents the details of datasets and variables used for the analyses, and Section 6 explains the analytic models employed for analyses. Then, I show the result of the analyses that show the effects of federal agency politicization on their grant allocation performance in Section 7. At last, I conclude this research by highlighting the role of a federal agency in the grant process, and discuss the potential use of the grant-need index for future research in Section 8.

2   Background

The United States' first federal grant-in-aid system was initiated in 1785 under the Articles of Confederation, when grants of land were distributed. The current structure of the federal grant system was established during the 1910s (Dilger and Cecire 2015). Initially, formula and matching grants were used, but the system has since expanded to include various block and project grants in broad policy areas such as education, transportation, agriculture, community development, income, social security, and health. The primary objective of the system is to reduce income and resource gaps not only among individuals but also between communities.

2.1   Federal Grant: Block and Project Grants

The federal government has spent approximately 20% of its yearly outlay to various types of grants, including formula, block, and project grants. Each type of federal grant has been distributed differently, depending on its intended purpose, application process, delivery system, statutory limits of use, and performance conditions. While the distribution of formula grants is strictly governed by eligibility criteria, federal agencies have greater discretion in allocating block and project grants. Consequently, this research focuses specifically on block and project grants to assess the extent of federal agencies' influence in the grant allocation process.

In FY2021, the federal government allocated more than $750 billion for grants, with the amount of funding continuously increasing over the past several decades. Figure 1 illustrates the variation in block and project grant distribution over the years. Furthermore, Figure 1 shows the block and project grants distribution on a monthly basis. A significant portion of these grants are typically disbursed during the first month of each quarter, which aligns with the federal agency's regular payment schedule.
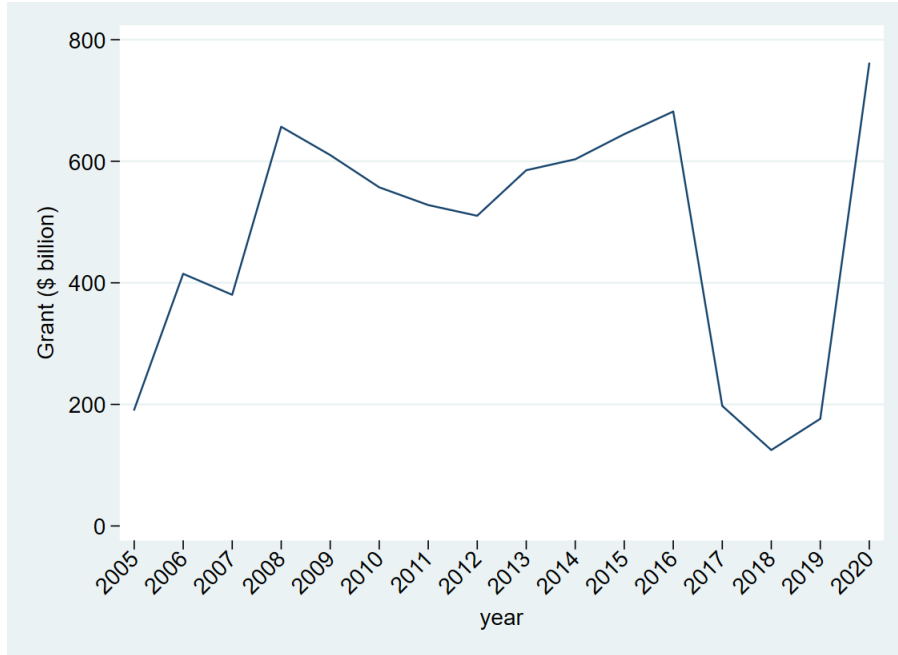
Figure 1: Block and Project Grant Allocation by year, 2005-2020
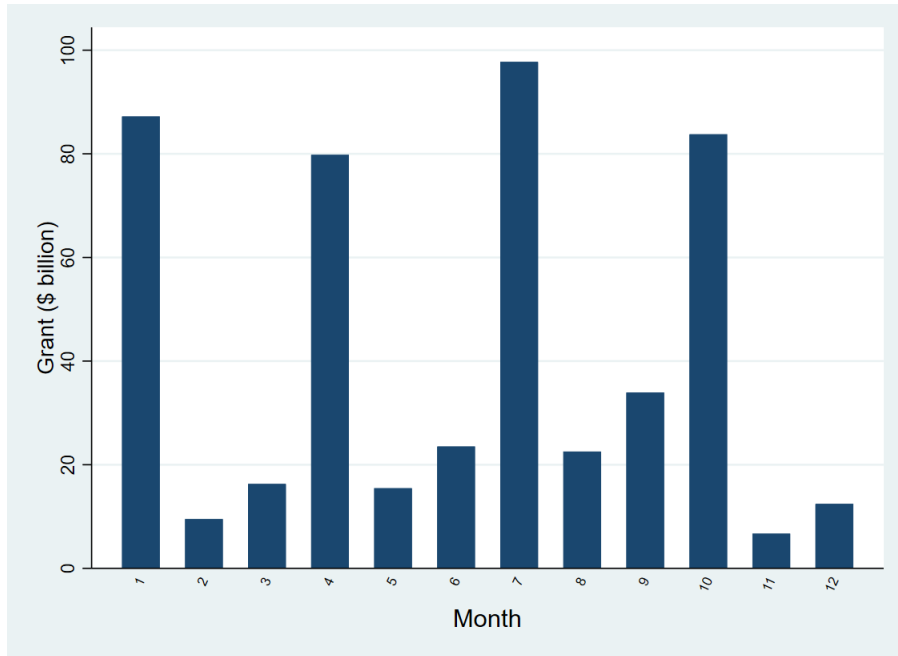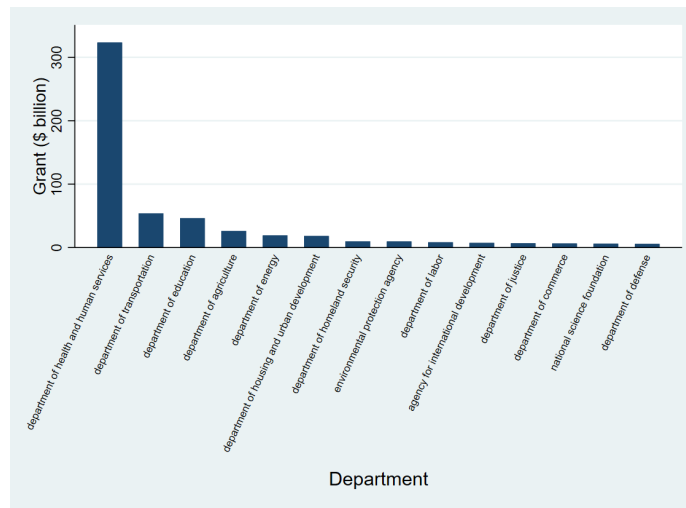
Source FAADS (USAspending) `https://www.usaspending.gov`

Figure 2: Block and Project Grant Allocation by Month, 2005-2020

Source FAADS (USAspending) `https://www.usaspending.gov`

Over the course of 16 years, from 2005 to 2020, block and project grant allocation by federal departments and agencies exhibited significant variation, as depicted in Figure 3. The Department of Health and Human Services (HHS) allocated over $300 billion during this period, which was substantially higher than the spending of other federal agencies. Additionally, the Department of Transportation (DOT), Department of Education (ED), and Department of Agriculture (USDA) each allocated over $30 billion during this time-period.

(a) Department
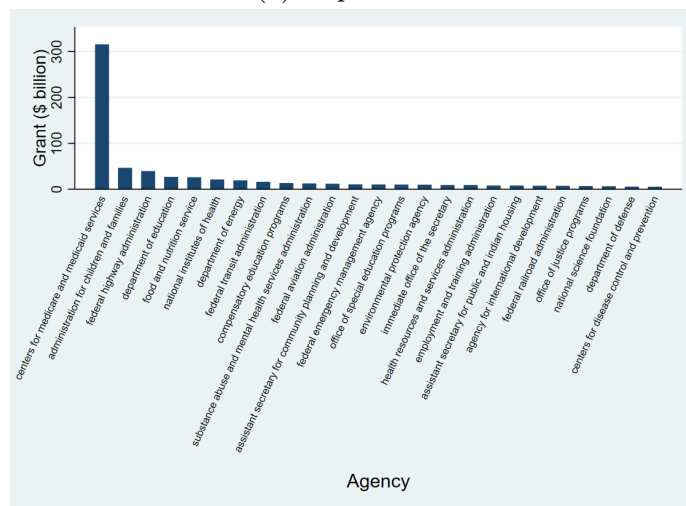
(b) Bureau

Figure 3: Block and Project Grant by Agency, 2005-2020

Source FAADS (USAspending) `https://www.usaspending.gov`

Furthermore, as demonstrated in Figure 4, from 2005 to 2020, the states with the largest populations and land areas, such as California, New York, and Texas, received the highest amount of block and project grants.
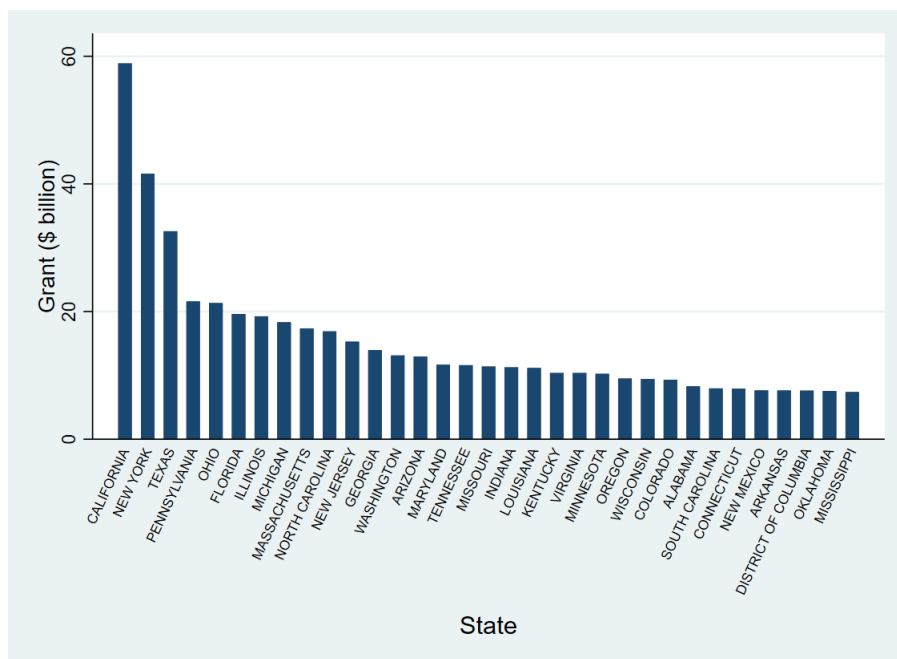

Figure 4: Block and Project Grant Allocation by State, 2005-2020

Source FAADS (USAspending) `https://www.usaspending.gov`

2.2 Federal Agency

The federal bureaucracy plays a significant role in developing and operating American society as one of the largest institutions in the country, composed of 457 federal departments and agencies ‡ with almost 3 million federal employees and 8,000 Senior Executive Service (SES) level public officials, and they have provided the various public services based on their policy goals and motivations. As such, some scholars have argued that the bureaucracy should be recognized as a fourth branch of the governing system, given its significant impact on the federal policy process (Strauss 1984).

The federal bureaucracy is typically divided into four categories: cabinet departments,

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‡Federal Register agency list: `https://www.federalregister.gov/agencies`

independent agencies, government corporations, and regulatory agencies. The various types of work and statutory features associated with each category can significantly impact the bureaucracy's decision-making processes and policy outcomes, particularly in relation to grant allocation and lawmaking.

3   Literature Review

3.1   Political Control and Bureaucratic Politics

The American public policy process involves the active interaction between the president, Congress, and the bureaucracy to achieve their respective political and policy goals. In this process, political actors such as the president and Congress have implemented various control mechanisms, including statutory, appointment, budget, and procedure, in both ex-ante and ex-post strategies to maximize their political and policy benefits.

The president and Congress have employed ex-ante control mechanisms to limit the discretion of the bureaucracy in policymaking, and it includes statutory control , appointment, and budget control. In addition to these ex-ante control mechanisms, political actors utilize ex-post control mechanisms, such as oversight and investigations, to ensure if the bureaucracy's policy implementation is in accordance with their political preferences. Despite the control mechanisms implemented by political actors, the federal bureaucracy has strategically coped with them by using the advantages of information superiority and expertise.

3.1.1   Congress

Congress has delegated a significant portion of its policy implementation responsibilities to agencies through various oversight mechanisms, which it continually monitors to ensure compliance with the policy objectives. Consequently, scholars in delegation research have emphasized the role of congressional committees and subcommittees in overseeing agency works and measuring the level of agency's policy discretion under the different political circumstances and dynamics with the Congress (Weingast and Moran 1983, Weingast 1984, McCubbins and Schwartz 1984, Ferejohn and Shipan 1990). Moreover, other congressional scholars have explored the influence of administrative procedures and agency structures as Congress' control resources over policy-making and implementation by agencies (McCubbins, Noll, and Weingast 1987, McCubbins, Noll, and Weingast 1989, Bawn 1995). They have

highlighted the importance of various administrative procedures, such as rule-making and adjudication, in shaping agency behavior and providing Congress with the tools needed to oversee agencies effectively. (McCubbins, Noll, and Weingast 1987, McCubbins, Noll, and Weingast 1989, Bawn 1995).

3.1.2 The President

In addition to Congress, the president has also employed various control mechanisms over the bureaucracy to achieve policy goals. These mechanisms include appointment, spending limits, and procedures, among others. After delegating policy implementation to agencies, the president closely monitors their spending and rule-making activities, particularly through the Office of Management and Budget (OMB) (Cooper and West 1988, Berman 2015).

In particular, scholars point out the president's unilateral power through appointment and agency creation. The appointment of agency officials who share the president's political preferences is an essential control mechanism. The president has the power to appoint agency heads and senior executives, which can shape the direction of agency policymaking and implementation (Bertelli and Feldmann 2007, Hollibaugh Jr, Horton, and Lewis 2014). By directly interacting with the political appointees, the president has an information superiority over Congress (Howell 2015). With respect to the agency creation, Lewis (2004) argues that the president creates the agency with unilateral action under the politically favored circumstance, and notes that the larger political divergence between the president and Congress gives rise to the higher level of insulation for the newly-created agencies. Additionally, the president can use spending limits to control the amount of funding that agencies receive for specific policy areas, which can impact the scope of the agency's policy-making and implementation. The president can also use procedures to shape how agencies implement policies, such as through executive orders and memoranda.

3.1.3 Bureaucracy

As one of the largest institutions in the country, the federal bureaucracy has its own motivations and various resources, and maintains a checks-and-balances relationship with political actors to achieve its policy preferences. Each agency possesses unique characteristics such as types of work, organizational structure, mission, size, level of policy discretion (insulation or politicization), and ideology. These characteristics enable agencies to influence the policy process and ensure that their interests are represented. Agencies strategically interact with political actors to achieve their objectives, using their expertise and information advantage to shape policy outcomes.

The motivation and goals of federal agencies play a critical role in their decision-making processes by providing direction and priorities for policy implementation. Consequently, scholars have examined the motivations and goals of the bureaucracy at both the individual and institutional levels. In particular, federal agencies are motivated by budgetary security, budgetary growth, reputation, and public service interest, and scholars argue that the motivations and goals of the federal bureaucracy is crucial to comprehending their decision-making processes and their impact on public policy (Niskanen 1975, Carpenter and Krause 2015, Frederickson, Smith, Larimer, and Licari 2018). These motivations are guided by various factors, such as organizational structure, mission, size, level of policy discretion, and ideology.

Although the motivation and preference of the bureaucracy have not been explicitly revealed, recent scholarship has investigated the agency's ideology using various methods. Ideology (ideal point) plays a critical role in the policy-making and implementation of federal agencies, and the development of the agency's ideal point (ideology) has helped to measure the policy alignment between the agencies and the political actors. (Clinton and Lewis 2008, Bertelli and Grose 2009, Bertelli and Grose 2011, Clinton, Bertelli, Grose, Lewis, and Nixon 2012, Chen and Johnson 2015, Richardson, Clinton, and Lewis 2018).

3.1.4 Agency's Independence: Political control over the bureaucracy and agency's discretion

In response to the control mechanisms employed by political actors, the federal bureaucracy has developed its own strategic coping mechanisms to achieve its goals and objectives within the public policy process. Scholars have sought to understand the agency's coping mechanisms and identify the circumstances and dynamics that enable the bureaucracy to maximize its discretion. Factors such as information superiority, ideological congruence, expertise, and level of policy conflict with the political actors have been identified as critical determinants of the federal agencies' discretion (Huber and Shipan 2002, Huber and Shipan 2008).

Therefore, the federal agency's level of discretion varies based on their unique characteristics and relationships with political actors. To measure this variation, scholars have created several indices of agency discretion or politicization. For example, Epstein and O'halloran (1999) developed a discretion index that considers appointment power limits, time limits, spending limits, legislative and executive action requirements, reporting and consultation requirements, public hearings, appeals procedures, rule-making requirements, exemptions, compensation, and direct oversight. Similarly, Selin (2015) emphasized the importance of leadership structure and policy monitoring mechanisms, such as OMB review, number of committees monitoring the agency, and appointment and removal of leadership positions, in determining an agency's independence. Furthermore, Bolton and Thrower (2019) created an agency's fiscal discretion score/index based on the appropriation amount and the page numbers of appropriation bills for each agency. These indices provide valuable insights into the various dimensions of agency discretion and politicization, allowing for a more nuanced understanding of the bureaucracy's role in the policy-making process.

3.1.5 Effects of Agency Politicization on the agency's performance

In recent years, scholars have paid increasing attention to the relationship between agency politicization and their policy implementation and performance. Additionally, prior research

has not utilized the mission-oriented works of agencies to assess their performance on a large scale. Most studies have relied on the regulatory works of specific agencies at the sub-national level or student test scores to measure performance. While some scholars have assessed the performance of 10 to 20 federal departments, such studies often rely on survey results (either self-reported or expert evaluations) or the duration of FOIA responses. Although it is difficult to directly measure agency performance, scholars have used various metrics to study the effect of politicization on performance. For example, Wood and Lewis (2017) and Lowande (2019) find that agency politicization through personnel and structure negatively affects performance by measuring the response time to Freedom of Information Act (FOIA) requests. Piper and Lewis (2022) identify a negative association between agency vacancies and performance by using a dataset of federal officials' self-reported surveys. Furthermore, Lewis (2011) and Lewis (2009) have investigated the complex dynamics and considerations of presidential appointment processes and have warned that politicized appointments can harm agency performance.

3.2   Distributive Politics

Federal grant allocation is a complex process involving multiple actors, such as the president, Congress, interest groups, and sub-national governments. Consequently, research on federal funds allocation has primarily focused on two strands: distributive politics and fiscal federalism. Distributive policies, as defined by Shepsle and Weingast (1981), concentrate benefits in specific geographic areas while spreading costs through general taxation. The president and members of Congress are interested in maximizing electoral benefits and achieving policy goals. In this context, scholars have examined the roles and strategies of these actors in influencing federal grant allocation. Although Congress and the president first decide the scope and nature of federal grants to the sub-national governments, the federal bureaucracy has a high level of discretion in allocating the block and project grants. Additionally, fiscal federalism scholars have explored the optimal level of fiscal transfer and taxation between

federal and sub-national governments.

3.2.1 Congress

As a key player in the federal fiscal process, Congress determines grant rules, appropriates funding, and oversees allocation activities. With the "power of the purse," Congress establishes grant formulas and budget authority levels for federal agencies, while committees actively supervise funding allocation. Members of Congress (MCs) strategically use federal grants to achieve policy goals and electoral benefits. Consequently, research has focused on Congress's internal functions and dynamics with the president, particularly examining the influence of legislators' committee and party status. Key committee members, including Appropriations Committee chairs, enjoy greater benefits for their home districts (Aldrich and Rohde 2000, Clemens, Crespin, and Finocchiaro 2015, Berry and Fowler 2016). Furthermore, scholars have found that legislators from the president's or majority party receive higher levels of federal funds, with the effect being more pronounced during election years (Berry, Burden, and Howell 2010, Dynes and Huber 2015).

3.2.2 President

Presidency scholars have investigated the president's fiscal strategy and behavior in the federal spending process. They regard fiscal policy as a powerful resource for the president to pursue electoral benefits and achieve policy goals. Studies have examined the president's influence, both *ex-ante* and *ex-post*, particularly in relation to electoral and pork benefits for the president and co-partisan legislators. Empirical findings have demonstrated that the president allocates more federal funds to legislators and governors of the same party, with this particularistic distribution being greater during presidential and election years (Larcinese, Rizzo, and Testa 2006, Berry, Burden, and Howell 2010, Dynes and Huber 2015, Kriner and Reeves 2015).

3.2.3 Bureaucracy

Federal grant allocation to sub-national governments is a critical function of federal agencies, and the grant allocation mechanism is significantly influenced by agency characteristics and relationships with political actors. Berry and Gersen (2010) argue that less politicized agencies (with fewer political appointees) are less responsive to political factors when allocating federal spending to sub-national governments. Gordon (2011) emphasizes the role of high-level political appointees in influencing agency spending implementation, showing that a close link between the White House and General Services Administration (GSA) political appointees positively correlates with the number of GSA contracts awarded to districts of the president's co-party members. Moreover, Anderson and Potoski (2016) explore the impact of agency structural features on federal spending allocation, arguing that agencies with more independent structures display larger variations in spending amounts across Congressional districts. They measure agency politicization levels by examining the number of agency head appointments and the percentage of political appointees within the agency. Berry and Gersen (2017) reveal that a more politicized agency, characterized by its structure and appointees, allocates larger amounts of federal funds to jurisdictions with the president's co-partisan members.

4 Developing Grant Need Index (Fair Grant Amount)

Program evaluation studies have often calculated eligible populations or households to effectively measure program performance. By analyzing program eligibility, researchers use various socio-economic variables to calculate the take-up rate, employing the eligible population as the denominator rather than the entire population (Hauge, Jamison, and Jewell 2008, Burton, Macher, and Mayo 2007, Currie 2004, Finkelstein and Notowidigdo 2019, Heckman and Smith 2004, Wallsten 2016). Although the calculation may not be perfect due to challenges in obtaining comprehensive datasets, this method has been widely used in academia, government, and industry. Previous program evaluation studies have focused on either a single program or a few programs. This paper, however, extends the number of grants analyzed by utilizing a mechanism to calculate the eligible population.

Given that federal agencies have a certain level of discretion in allocating block and project grants, this research focuses exclusively on these grant types. The federal government allocates approximately 1,200 block and project grants annually; however, many are temporary or distributed for short periods. Consequently, this analysis includes grants distributed for at least ten years within the 16-year time window. Additionally, one or two representative variables are employed for each grant type, resulting in the inclusion of 430 block and project grants for analysis.

To effectively calculate the grant need amount, the Catalog of Federal Domestic Assistance (CFDA) grant objective and eligibility for each grant are utilized. Published annually by the System for Award Management (SAM), the catalog provides detailed grant information, including authorization, objectives, applicant and beneficiary eligibility, credentials/documentation, pre-application coordination, application procedures, award procedure, deadlines, approval/disapproval time range, appeals, and renewals.[§]

In order to calculate a fair grant amount, more than 40 datasets from government agencies, research institutes, and individual scholars are employed, with the Census' American

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[§]CFDA: https://sam.gov/content/assistance-listings

Community Survey (ACS) being the most widely used. These datasets cover a broad range of policy areas, such as education, agriculture, infrastructure, safety, health, and business.¶

By integrating the CFDA's grant objectives and eligibility criteria with the comprehensive datasets, this study develops a Grant Need Index to estimate fair grant allocations for various policy areas. The index offers a more accurate measure of grant need, enabling policymakers and stakeholders to assess program performance and allocation efficiency. This approach allows for a more extensive analysis of block and project grants, considering both eligibility criteria and the specific policy contexts of each grant.

¶Example (1): Low-Income Home Energy Assistance Block Grant (LIHEABG) eligibility is determined if a person participates or has family members participating in certain benefit programs, such as SNAP, SSI, TANF. The eligible population is calculated by state and then multiplied by the weighting factor (the amount of LIHEABG out of the total amount of block and project grants). Example (2): Parkways and park roads grant eligibility is based on the condition of parkways and park roads. The index considers the infrastructure system (number of parks and miles of total roads) of the jurisdiction and weighs the relative amount of this grant against the total grant amount.

5 Data and Variables

I utilize the Federal Assistance Awards Data System (FAADS) dataset to calculate the total amount allocated by grant, as well as the amount of each grant allocation to the states. The FAADS data source provides comprehensive information on federal grant types, awarding agencies, awarding timing, and the receiving jurisdiction. The Department of Treasury and Census Bureau provide this dataset from the fiscal year 2000$^{\parallel}$. However, the dataset contains many missing values before the fiscal year 2006. As a result, I used the dataset from the fiscal year 2006 (calendar year 2005) to conduct my analysis.

Moreover, I primarily use the Office of Personnel Management's dataset for information on the agencies[**], which offers comprehensive data on federal agencies starting from 2001. Additionally, I utilize Selin's (2015) dataset to incorporate the organizational characteristics of these agencies.

As I derive the fair grant amount by considering the socio-economic characteristics of the states, I omit the control variables that would represent the state's characteristics.

5.1 Key Variables

Dependent variable: In order to measure the agency's grant allocation performance, I create the amount needed for each state by a grant from 2005 and 2020. Since the federal grant is designed to reduce the income and resource gap among the communities, the amount of grant needed for each state is defined as a fair grant amount.

Absolute Difference of Actual and Fair Amount ($): It represents the absolute difference between the actual allocation amount and the fair grant amount. This variable is used to assess whether federal agencies allocate the appropriate amounts to the correct locations, regardless of the excess or shortfall in distribution. Consequently, a smaller difference indicates better grant allocation performance in this analysis. To account for outliers, I use the

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$^{\parallel}$USAspending: `https://www.usaspending.gov`
[**]FedScope: `https://www.fedscope.opm.gov/`

logged amount of the difference.

Independent variables: The primary independent variables in this study are related to the agency's level of politicization, which plays a crucial role in their decision-making processes.

Agency's Politicization: There are several methods for calculating the agency's politicization (Limbocker, Richardson, and Selin 2022) through political appointees and agency structure. For politicization through appointment, I utilize the politicization score developed by Lewis (2010), which accounts for the proportion of Presidential Appointees with prior political experience and the proportion of PAS (Presidential Appointees Subject to Senate Confirmation) positions filled by CA (Career Ambassadors) and SES (Senior Executive Service) appointees. I use the number of managers and directors as the denominator. In addition, Selin (2015) argues that the agency's structural characteristics and the relationship with the political actors are crucial part of the agency's independence. Thus, I use Selin's (2015) procedural independence score, dimension 2, to account for the agency's organizational structure's politicization.

Control variables: Several agency-specific variables are used as control variables in this analysis.

Agency Employees: The number of the agency's total employees, measured in both thousand employees and as a logged number.

SES Employees: The number of senior executive service level employees, measured in both thousand employees and as a logged number.

Agency Budget: The total amount of the agency's budget, measured in both million dollars and as a logged amount.

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6   Methods

I examine the effect of politicization on 70 agencies' grant allocation performance between 2005 and 2020. To analyze the impact of politicization and professionalism on grant performance, I use an ordinary least squares (OLS) model with agency-fixed effects and clustered standard errors. I begin the analysis with Pooled OLS and include three fixed effects: 1) agency and year, 2) state and year, and 3) agency-by-state and year. These fixed effects account for agency and state level time-invariant characteristics, allowing for an examination of the agencies' influence on the grant process within agencies or states.

$$\log(\text{AbsDiff}a, t) = \beta_0 + \alpha a + \delta_t + \beta_1 \text{Politicization}a, t + \mathbf{X}\Psi a, t + \epsilon_{a,t} \tag{1}$$

$\text{AbsDiff}_{a,t}$ represents the absolute difference between the actual and fair amount for agency a in year t. $\text{Politicization}_{a,t}$ represents the level of politicization for agency a in year t. $\mathbf{X}$ represents a vector of other control variables that influence the absolute difference. β_0, α_a, δ_t, β_1, and $\Psi_{a,t}$ are parameters to be estimated. $\epsilon_{a,t}$ is the error term.

Hypothesis: Agency's Politicization: An agency having more political appointees shows a lower level of performance in the grant allocation. In other words, more politicized agencies show a larger amount of difference in actual allocation and fair amount, therefore $\beta_1 > 0$ in the analysis (1).

7 Results

Previous research has not extensively examined the politicization and performance of a large number of federal agencies. Therefore, this analysis, which analyzes for 70 federal agencies, significantly advances our understanding of the politicization effect on agencies. This study examines the impact of federal agency politicization on grant allocation performance between 2005 and 2020, encompassing a sample of 430 grants. Given that some grants are awarded to only a few states, two separate analyses were conducted: one for the full set of 430 grants, and another for the subset of grants distributed across 25 or more states. The inclusion of grants allocated to at least 25 states effectively reduces bias and errors in the analysis, particularly for research grants that are allocated to only a few states.

Table 1 demonstrates the impact of agency politicization on grant allocation using pooled OLS models, revealing a negative effect. The observed effect is approximately halved when limiting the analysis to grants allocated to 25 or more states, yet remains statistically significant in both models (1) and (2) in Table 1.

Table 1: Pooled OLS

	(1) Log of Abs Diff All grants	(2) Log of Abs Diff Receiving grants over 25 States
Politicization (Manager)	3.789***	1.494***
	(0.201)	(0.275)
Employment (Logged)	0.0614***	0.233***
	(0.00376)	(0.00429)
Constant	11.45***	11.83***
	(0.0310)	(0.0358)
Observations	211,166	91,588
R-squared	0.003	0.032

Standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 2 reports the findings of OLS models with agency and year fixed effects, focusing on within-agency variation over time. These models provide additional evidence of a negative relationship between agency politicization and grant performance, while accounting for unobserved heterogeneity across agencies. By controlling for agency-specific factors that are constant over time, such as management style, organizational culture, or historical performance, these models help to isolate the effect of other variables, such as political leadership or policy changes, on grant allocation outcomes.

Moreover, the negative effect of politicization on grant allocation is even more pronounced when including grants allocated to 25 or more states. This suggests that politicization has a less detrimental effect on grant performance for agencies that are responsible for distributing funds across a larger number of states.

Table 2: Bureau and year fixed effect

	(1) Log of Abs Diff All grants	(2) Log of Abs Diff Receiving grants over 25 States
Politicization (Manager)	0.0130	4.792
	(4.075)	(3.224)
Employment (Logged)	0.0560	0.673**
	(0.383)	(0.320)
Constant	11.83***	9.988***
	(2.450)	(2.062)
Observations	211,166	91,588
R-squared	0.239	0.327
Bureau FE	YES	YES
Year FE	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Note: clustered standard errors at bureau level.

The results presented in Table 3 further support previous evidence of the negative impact of politicization on agency grant performance. The effects on models (1) and (2) is larger and statistically significant. The state and year fixed effects utilized in the analysis effectively control for time-invariant, state-specific factors, such as economic conditions, demographic characteristics, and political institutions.

Table 3: State and year fixed effect

	(1) Log of Abs Diff All grants	(2) Log of Abs Diff Receiving grants over 25 States
Politicization (Manager)	3.931***	2.269***
	(0.328)	(0.463)
Employment (Logged)	0.0583***	0.231***
	(0.00685)	(0.0100)
Constant	11.88***	11.58***
	(0.0681)	(0.0934)
Observations	211,166	91,588
R-squared	0.072	0.132
State FE	YES	YES
Year FE	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Note: clustered standard errors at state level.

The findings presented in Table 4 reveal the effect of agency-by-state and year fixed effects on grant allocation outcomes, controlling for both agency-specific and state-specific factors. In model (1), which includes all grants, the effect differs from the original hypothesis. However, the results demonstrate a negative impact of politicization when analyzing grants that are allocated to 25 or more states.

Table 4: Bureau-State and year fixed effect

	(1) Log of Abs Diff All grants	(2) Log of Abs Diff Receiving grants over 25 States
Politicization (Manager)	-0.0801	4.801
	(4.080)	(3.199)
Employment (Logged)	0.0574	0.649**
	(0.377)	(0.317)
Constant	11.44***	7.786***
	(3.040)	(2.610)
Observations	211,166	91,588
R-squared	0.305	0.417
Bureau FE	YES	YES
State FE	YES	YES
Year FE	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Note: clustered standard errors at bureau-state level.

8 Conclusion

The impact of agency politicization on agency performance has been a key topic in political science and public management, and recent scholarship has made significant theoretical and empirical advancements. However, previous research has primarily focused on department-level politicization and non-mission-oriented performance for their analyses. This paper aims to narrow the gap by examining the negative impact of politicization on the mission-oriented work performance of 70 federal agencies. In contrast to previous research, which has primarily focused on the role of political actors such as the president and Congress, this paper highlights the critical role played by federal agencies in the federal funds process. Additionally, prior studies have analyzed federal grant allocation without taking into account the need level of the grant, and the creation of the Grant Need Index in this analysis allows for an evaluation of whether and when federal agencies maximize their grant objectives.

The development of the Grant Need Index addresses the limitations of previous studies by incorporating a broader range of grants and datasets, enabling a more nuanced understanding of the complex relationships between federal and sub-national governments, as well as the influence of various actors and factors on grant allocation decisions.

While this paper makes a significant contribution to distributive and bureaucratic politics by highlighting the role of federal agencies in the federal grant process, future research can build upon these findings in several ways. First, the Grant Need Index mainly considers quantitative aspects of demand such as the number of people under the poverty line, miles of roads and highways, and the number of patients with each disease, but it does not effectively capture the qualitative aspect of each community's need, such as the severity of poverty or disease. Thus, future research should consider incorporating the qualitative aspects of societal needs to further develop the Grant Need Index. Additionally, further work could refine the index by incorporating additional datasets or exploring new methods for calculating eligible populations and grant need amounts. Also, this index can be applied in other research on federal grants, and future studies should utilize the index to make a normative argument

about the political and economic circumstances that contribute to better grant allocation. Future research could explore the application of the Grant Need Index to specific policy areas or programs and investigate its usefulness for evaluating the impact of political factors on grant allocation decisions.

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