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## Congressional Appropriations and Earmarks An Analysis of the Economic and Political Effects

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**Congressional Appropriations and Earmarks**  
**An Analysis of the Economic and Political Effects**  
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**Abstract**

The effects of political characteristics on the Congressional appropriations process have remained a subject of debate in recent years. Congressionally directed spending influenced by these effects are defined as *earmarks*. To counter the practice of earmarking, Congress implemented multiple reforms and rules to curb the influence of partisan agendas. Total federal appropriations by year and state from 2002 – 2018 were aggregated to test the significance of the economic and political effects. This model utilized a time series fixed effects regression to determine the results that suggest select political characteristics of U.S. Senators remained significant in the distribution of federal appropriations following the implementation of the Congressional earmark reforms and moratorium.

## Executive Summary

Each fiscal year the U.S. Congress considers multiple appropriations packages that culminate in the annual federal budget. This process is influenced by several factors, including the political characteristics of Congressional Representatives and Senators. Congressionally directly spending that would benefit a specific entity, locality, congressional district, or state other than through a statutory or administrative formula or competitive award process are defined as *earmarks*. In recent years, Congress has attempted to curb the practice of earmarks through multiple reforms and a moratorium.

No comprehensive research has been conducted to evaluate the effects of political characteristics on the appropriation of total federal funding following the implementation of the earmark reforms. This study will focus on determining the significant effects of the economic factors and political characteristics on the allocation of federal appropriations. A time series fixed effects regression model of panel data will be used to analyze and determine these effects.

The results of this analysis indicate although Congress implemented multiple reforms to reduce and eliminate earmarks, select political characteristics remained significant in the allocation of federal funds to the states. The political effect of greatest significance determined that a bi-partisan state delegation in the U.S. Senate attracted the maximum amount of federal funding comparatively with other characteristics. The findings also determined economic factors significantly influence the allocation process utilizing population, labor force, and median income statistics. The implications of these findings demonstrate that political intrigue and economic data remain influential in the appropriations process. This result can foster the debate to analyze the effectiveness of the earmark moratorium and concurrent reforms.

## **Introduction**

The annual Congressional appropriations process attracts intrigue, attention, and influence across the nation. What could be an uneventful procedural tradition is transformed and intensified by constituent activities, interest groups, and the media sphere. The federal funding allocation process affects all facets of American life and the economy from direct individual benefits, agency contracts, grant programs, loan guarantees, state funding initiatives, and local government investments. Therefore, close attention to the factors that affect federal appropriations are paramount in the receipt of these funds and their justification. This study will focus on the impacts of federal appropriations at the state level by fiscal year. There are numerous factors that can influence the appropriation of federal funds from media, lobbying, the economy, and entities or individuals of status. However, this study will focus on the effects of the political characteristics of members serving in Congress, specifically U.S. Senators. To sufficiently measure these characteristics, the effects of political power and status on the distribution of federal appropriations can be expressed through the practice of earmarking. The Congressional Research Service defines the term *earmark* as,

“any congressionally directed spending, tax benefit, or tariff benefit be considered an earmark if it would benefit a specific entity or state, locality, or congressional district other than through a statutory or administrative formula or competitive award process.”<sup>1</sup>

Earmarked appropriations can be utilized for specific projects, municipalities, and institutions within a state or Congressional district. However, this type of federal funding practice has earned the colloquial term “pork barrel” spending. Although earmarking has been a practice in federal appropriations for centuries, the U.S. Congress has adopted reforms and a moratorium in recent years. These policies originated under a U.S. House Republican majority via party rules and

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<sup>1</sup> *Lifting the Earmark Moratorium: Frequently Asked Questions*, prepared by the Congressional Research Service. Washington, D.C., 2018.

committee protocols and remains enforced by party and committee leadership in both chambers. To date, the U.S. Senate has mirrored these policies and following the 2018 midterm elections, Democrats in the House have continued the practice. Congress initially banned the practice of earmarks in an effort to curb an ever-increasing trajectory of overspending and hinder the development of politically driven appropriations.<sup>2</sup> Prior to the earmark moratorium, Representatives, Senators, local organizations, governments, and lobbyists worked in conjunction to secure federal funds through the legislative process. The federal agency application method has been an existing established procedure for federal funding solicitations however, requests to Congressional members were an alternative with more direct and simplified methods available.<sup>3</sup>

With earmark reforms and a moratorium recently adopted, there remains debate on Capitol Hill over the decision to lift the existing restrictions on this funding strategy. Questions regarding the validity and effectiveness of these reforms have lawmakers divided and unsure how to proceed with a comprehensive strategy. This deliberation amongst Congressional members transcends political party lines and continues to persist on arguments of the direct or indirect influences of Congressional funding methods and political interests.<sup>4</sup>

This study will analyze the effects of earmarks and formula driven appropriations on Congressionally directed spending and determine whether political characteristics have remained influential in the appropriations process. Economic factors will be analyzed to control for the broader effects of the national economy while also accounting for each states' ability to attract funding on a per capita basis. This analysis will observe whether these factors have each

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<sup>2</sup> *Lifting the Earmark Moratorium: Frequently Asked Questions*, prepared by the Congressional Research Service. Washington, D.C., 2018.

<sup>3</sup> Thomas E. Elwood. "Congressional Earmarks and Pork Barrel Politics." *Journal of Allied Health* Volume 31, Issue No. 3 (2002): 127 – 130. <https://search-proquest-com.ezproxy.uky.edu/docview/210974971/fulltextPDF/33D4B726225B44BEPO/1?accountid=11836>

<sup>4</sup> John Hudak, "Congress in 2019: Why the First Branch Should Bring Back Earmarks," *Brookings* December 27, 2018, <https://www.brookings.edu/blog/fixgov/2018/12/27/congress-in-2019-why-the-first-branch-should-bring-back-earmarks/>

correlated with total federal spending to determine if a significant pattern has developed in the allocation of federal appropriations to the states by year.

With developing reforms and the establishment of the earmark moratorium, Congress aimed to restrain federal overspending and increase accountability measures in the legislative funding process. However, the debates to revive the practice of earmarks have persisted.

Earmarking appropriations serves as an expression of politically motivated spending.

Considering the ongoing discussions and deliberations over earmarks, this analysis will observe how political characteristics and economic factors have each individually correlated with the appropriations process. By evaluating whether the allocation of federal funding awards by state and year have changed, this study will determine if significant effects have occurred.

### **Problem Statement, Deals and Reforms**

The deal making process occurring in the legislature has been clashing with the Executive branch agency funding allocation process since the beginning of the nineteenth century. Presidents Thomas Jefferson, James Madison, and James Monroe believed that the Constitution should be amended to allow for the federal government to solely control the allocation and finance of internal improvement projects at the national level. However, Representative Henry Clay and Senator John Calhoun believed that this power rested primarily with the U.S. Congress through the power of the commerce clause. This debate between the early officials of American government over the jurisdiction of appropriations led to the evolving debate regarding politically driven earmarked spending. In recent decades, coalitions within Congress and citizen groups have formed opposing the practice of earmarked spending.<sup>5</sup> The rising opposition in the public, Presidential administrations, and with individual members of

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<sup>5</sup> Thomas E. Elwood. "Congressional Earmarks and Pork Barrel Politics." *Journal of Allied Health* Volume 31, Issue No. 3 (2002): 127 – 130. <https://search-proquest-com.ezproxy.uky.edu/docview/210974971/fulltextPDF/33D4B726225B44BEPO/1?accountid=11836>



Congress led to the gradual evolution of policy reforms that culminated in the earmark moratorium.

Although this debate has primarily taken place on Capitol Hill, the effects of earmarking reforms and its ban extend to every state, county, city, and town in the U.S. The administration of federal funding awards reflects upon Congressional members, Senators, executive federal agencies, state governments, and local municipalities. In addition, the economic factors of each region and state have potential independent effects on the federal funding process. Therefore, the earmark reforms and moratorium have instituted wide ranging changes to how applicants and recipients of federal funding communicate with elected federal representatives regarding their funding requests.<sup>6</sup> Although the effects of the reforms and moratorium are still unfolding throughout the U.S., detailed analysis of the political characteristics associated with members of Congress will reveal how this policy has made impacts on the politically motivated distribution of appropriations.

Regarding the efficiency of the moratorium policies and its effects on federal funding awards, the implications are yet to be completely determined due to the recent implementation actions. Although there has been extensive analysis on earmarking prior to the reforms, research on the potential effects of Congressional political characteristics require additional analysis. With supplementary research of this topic, Congress will have the opportunity to assess whether the reforms have made significant effects on political influence. This analysis will aim to observe the period prior and leading to the earmark reforms and years following the implementation of the moratorium to determine the effect of political characteristics on federal appropriations over the period evaluated. This analysis will further demonstrate if an adjustment in Congressionally

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<sup>6</sup> Gordon Steven, "Essays on the Political Economy of Intergovernmental Grants" (PhD Dissertation, University of Kentucky, Lexington, 2017).

directed spending has culminated in the distribution of federal funding awards to the states.

Following the conclusions of this analysis, the effects of earmarked appropriations and economic factors can be further assessed to educate and inform lawmakers of earmarks and their impacts in Washington and throughout the nation.

### **Review of Literature**

Prior to the implementation of the earmark reforms and moratorium, Congressional political status was exploited to influence the federal funding and legislative process. The federal agency application method was an established procedure for federal funding solicitations, however direct requests to Congressional members by constituent groups served as the more direct and alternative method. In recent decades, coalitions within Congress and citizen groups have formed opposing the practice of earmarks.<sup>7</sup> Although federal agency applications are complex and numerous, the utilization of federal grants to states and local governments has increased. The Congressional Research Service states,

“outlays for federal grants to state and local governments, in both nominal and constant dollars, and the number of federal grants to state and local governments have continued to increase since the mid-1980s.”<sup>8</sup>

As the formula driven process has continued to increase in size and scope, earmarked spending has undergone a series of major reforms starting with the administration of President George W. Bush.

With the debate over Congressionally legislated earmarks accelerating into the mid-2000s, President Bush’s Administration initiated an Executive stance on the continuation of the practice. Prior to the 110<sup>th</sup> Congress, the Bush Administration included language in the

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<sup>7</sup> Thomas E. Elwood. “Congressional Earmarks and Pork Barrel Politics.” *Journal of Allied Health* Volume 31, Issue No. 3 (2002): 127 – 130. <https://search-proquest-com.ezproxy.uky.edu/docview/210974971/fulltextPDF/33D4B726225B44BEPO/1?accountid=11836>

<sup>8</sup> *Federal Grants to State and Local Governments: A Historical Perspective on Contemporary Issues*, prepared by the Congressional Research Service. Washington, D.C., 2019.

Executive budget proposals critiquing the use of earmarks. By the beginning of the 110<sup>th</sup> Congress, both the U.S. House and Senate established official definitions for earmarks. In addition to the Congressional definitions, the President's Office of Management and Budget created its own definition of an earmark and issued instructions to the Executive agencies to track earmarked funding during the fiscal year 2008 appropriations process to measure whether Congress met the President's budget goals.

For fiscal year 2009, the President made his stance against earmarks clear in his State of the Union Address. President Bush stated he would veto the fiscal year 2009 appropriations bill if Congress did not cut earmarked funding in half relative to fiscal year 2008. The President would do so by signing Executive Order 13457. The order stated three explicit purposes of reducing the number of earmarks originating in Congress, making their origin and purpose transparent, and including Congressionally originated earmarks in the text of bills instead of other documents. The order prompted a discussion on how the Executive and Congress would proceed forward regarding the debate on earmarks. This friction led to the growth of working relationships between the two branches. However, concerns arose around the practice of the Executive utilizing federal agencies to pressure Congress' ability to carry out representational activities that are an implicit component of its constitutional responsibilities.<sup>9</sup>

In addition to the reforms and actions prompted by the Bush Administration, the U.S. Congress implemented its own restrictions and reforms starting in 2006. By fiscal year 2006, Congress and the Executive took note of the continued utilization of earmarking, but so did many constituent advocacy groups rallying against the practice. In addition to the fiscal year 2007

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<sup>9</sup> *Bush Administration Policy Regarding Congressionally Originated Earmarks: An Overview*. Prepared by the Congressional Research Service, Washington, D.C., 2008.

Bush Administration efforts to regulate earmarking, the Congressional appropriations committee chairs implemented a one-time moratorium on earmarks for fiscal year 2007. Multiple individual House Members and Senators were pushing the ban on earmarks, including Senator John McCain, as a reformed policy platform. Adding to the increasing pressure regarding earmarks, both chambers of Congress began to adopt multiple disclosure and reporting rules in an attempt to publicize which Members and Senators were utilizing earmarked funding. As reforms were building in Congress and the Executive continued to apply pressure on Capitol Hill, the new U.S. House Republican majority entertained the initiative to completely ban earmarks. With rising criticisms from the Executive Branch and constituent groups in the early 2000s, building pressure and voices from within the U.S. Congress began to make headway on regulating earmarked funding practices.<sup>10</sup>

The literature thus far has demonstrated that the evolution of the Congressional earmark moratorium of 2011 was not a sudden, quick decision. However, the establishment of the moratorium arose from a gradual implementation of various rules, Executive Orders, and pressure campaigns. These increasing restrictions against earmarking over multiple years from various sectors, political players, and administrative approaches demonstrate that multiple stakeholders were necessary to establish the reforms and moratorium over time.

Following the implementation of the earmark moratorium, a researcher at the University of Kentucky found that the earmark ban had impacted the distribution of federal competitive grants and projects, primarily at the state and local government levels. The earmark moratorium demonstrated that it was not solely responsible for the relative decline in federal grants between districts with earmarks versus those without due to trends and building reforms occurring prior to

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<sup>10</sup> Richard Doyle and Nancy Roberts. "Real Reform or Change for Chumps: Earmark Policy Developments, 2006 – 2010." *Public Administration Review* Volume 71, Issue No. 1 (2011): 34 – 44. [https://www-jstor-org.ezproxy.uky.edu/stable/41061153?seq=1#metadata\\_info\\_tab\\_contents](https://www-jstor-org.ezproxy.uky.edu/stable/41061153?seq=1#metadata_info_tab_contents)

the ban. On the state government level, the moratorium reversed the trend of increasing grant levels in more heavily earmarked states relative to states with a less number of earmarks. State level data captured longitudinal variation of federal grant allocation. Local government analysis captured cross-sectional variation in earmarking across Congressional districts driven by U.S. House Members. Therefore, the analysis of the reforms leading up to the earmark moratorium in 2011 are critical to the understanding of the moratorium overall.<sup>11</sup>

The results of this economic study on the effects of the earmark ban had differential impact on the distribution of federal competitive grants. On the local government level, the moratorium was not responsible for the relative decline in federal grants between Congressional districts that received a greater number of earmarks versus those that did not. This trend was already gradually occurring with reforms, primarily in the U.S. House, prior to the implementation of the earmark moratorium in 2011.<sup>12</sup> On the state level of analysis, the earmark ban reversed the trend of increasing grant levels in more heavily earmarked states relative to states that received less earmarked funding. Therefore, this dissertation found that the practice of direct earmarking decreased the level of equality in the distribution of federal grant funding. Combined, the earmark reforms leading up to the moratorium and the rules implemented by both chambers of Congress demonstrated an improvement in federal grant funding allocation concerning equality.<sup>13</sup>

When evaluating the conclusions of this research, the researcher states the remaining point of debate should not determine which projects are within the qualifications and requirements of federal grant funding applications. However, the focus of study should be on

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<sup>11</sup> Gordon Steven, "Essays on the Political Economy of Intergovernmental Grants" (PhD Dissertation, University of Kentucky, Lexington, 2017).

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

who is better incentivized and informed to determine allocation of federal grant funding, the Executive agency experts or legislators in the U.S. Congress.<sup>14</sup> With the continued implementation of the moratorium rules, this study concludes that federal grants are more proportionately distributed at the state level. Regarding the remaining question of which players in the federal funding process are better incentivized and informed, members of Congress are left with the ability to commandeer this advantage by utilizing political prowess to circumvent or overturn moratorium rules. This specific point can be further evaluated by focusing this research on not only federal grant funding, but evaluating federal discretionary spending through grants, direct payments, contracts, and loans. Concentrated analysis of the effects of federal funding could demonstrate the relevance of political variables or if legislators have found a way to remain politically influential in the funding allocation process.

Continued relevancy of political factors is further exacerbated by the increasing polarization in Washington. The practice of earmarking secures appropriations for the express purpose of funneling federal funding awards into a legislator's local district or state. Thus, earmarks can potentially compress the distribution of members' and Senators' ideologies relative to the ideologies of their district or state populations.<sup>15</sup> With the need to secure funding, Congressional representatives are willing to compromise on their strong ideological stances to foster bipartisanship between differing political spectrums.<sup>16</sup> However, with the implementation of the moratorium, concerns have developed on Capitol Hill that this political currency has lost much of its strength and polarization has potentially worsened due to the new earmark reforms. Determining the effects of political factors on funding allocation will provide the data necessary

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<sup>14</sup> Ibid.

<sup>15</sup> Aaron Hedlund. "Pork-Barrel Politics and Polarization." *Review – Federal Reserve Bank of St. Louis* Volume 101, Issue No. 1, (2019): 57 – 68. <https://search-proquest-com.ezproxy.uky.edu/docview/2171586287/fulltextPDF/571283D2BDEB4E47PQ/1?accountid=11836>

<sup>16</sup> Ibid.

to assess this increasing trend. The analysis thus far of this issue remains unclear due to the time interval since the availability of federal funding data and the implementation of the earmark reforms. However, with federal funding data accessible back to 2002 and the first earmark reforms initiated in 2007, sufficient time has passed to conduct a preliminary analysis of the relationship between federal appropriations, Congressional political characteristics, and state economic factors.

### **Research Question and Hypotheses**

With the increasing role of political polarization evolving in Washington, the earmark moratorium developed out of the concerns over augmented federal spending and “pork-barrel” project developments in Congressional representatives’ districts and states. With growing concern regarding these issues arising in Congress, the Bush Administration, and constituent groups, gradual reforms progressed in the U.S. House of Representatives. Following years of steady reform actions, both chambers of Congress adopted the earmark moratorium rules by the beginning of the 113<sup>th</sup> Congress. Although the moratorium rules have lent to the proportionate allocation of federal grant funding at the state level, there are concerns that earmark reforms have exacerbated political polarization in Washington. Increasing attention to the widening political gap will further support the need for an assessment of political factors in the appropriation of tax funded initiatives. A model will be constructed to analyze the existence of a relationship between federal appropriations, state economic factors, and political characteristics in Congress to address these concerns.

To determine if the earmark reforms and moratorium had a significant effect in Congressionally directed spending, this research will observe the effects of these policies at the federal level due to the moratorium’s adoption in the U.S. Congress. The establishment of this

protocol will be evaluated utilizing an ordinary least squares regression model. Congressionally directed spending items will be observed by aggregating federally administered grants, direct payments, loans, and contracts awarded to each state in the annual appropriations process. State specific federal spending by year will be observed to categorize the data. This study will analyze whether correlations exist between federal appropriations, state specific economic factors, and the aggregated political characteristics concurrent with each state's Senatorial delegation serving in the U.S. Congress. Therefore, the null hypothesis will be determined as follows,

$H_0$ : The earmark reforms and moratorium did not have a significant effect in the distribution of federal funding awards at the state level independent of the U.S. Senator serving in Congress.

The rejection of the null, or alternative hypothesis is outlined below,

$H_A$ : The earmark reforms and moratorium had a significant effect in the distribution of federal funding awards at the state level independent of the U.S. Senator serving in Congress.

If results reject the null hypothesis, this model will produce a significant effect that demonstrates that the allocation of federal funding awards are independent of Senatorial political influence in the distribution of federal awards over the period analyzed. If this model fails to reject the null hypothesis, it will demonstrate that the earmark moratorium failed to curb political influence in the allocation of federal awards. If results fail to reject the null hypothesis, further analysis of the control variables could warrant reevaluation of the moratorium and concurrent reforms to address the use of earmarks. Thus, the research question will determine the statistically significant effect of political status on the federal appropriations process. This result will further demonstrate the continued effectiveness and implementation of the earmark reforms and moratorium.



### **Analysis of Data**

The dependent variable of this study will be Congressionally directed spending items. These funds are allocated through the annual appropriations process approved by the U.S. House and Senate. This is a required Constitutional responsibility each fiscal year, however the procedure is subject to alterations, extensions, and continuing resolutions. The earmark moratorium and reforms were adopted to create greater transparency in the distribution of federal funding and streamline an organized, formula based, and competitive system to allocate awards. This policy would aim to lessen the effect of political power by funneling awards through the federal bureaucracies, states, and federally commissioned organizations. The unit of analysis for this study will be federal appropriation data by state and fiscal year. Therefore, an individual state within a specific fiscal year will serve as one unit of analysis. Although it would be comprehensive to evaluate both effects in the U.S. House and Senate, state data remains constant over time and is not subject to changes in state boundaries due to population shifts or state legislative directives. Congressional district data is altered each time the Constitutionally mandated census is implemented every ten years.<sup>17</sup> In addition, Congressional district data provided by the U.S. Department of Treasury contains omitted variables and incomplete information. However, each federal award is detailed by recipient state.<sup>18</sup> Therefore, this study will focus on economic, political, and federal funding data by state and year. With the focus of this model on Senators and states, the Senate definition of an earmark will determine what data is

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<sup>17</sup> U.S. Const. art. I, § 2

<sup>18</sup> *Award Data Archive*, prepared by the U.S. Department of Treasury (Washington, D.C., 2019). [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_www.usaspending.gov\\_-23\\_download-5Fcenter\\_award-5Fdata5Farchive&d=DwMFg&c=L93KkjKsAC98uTvC4KvQDdTDRzAeWDDRmG6S3YXIIH0&r=zG4OKSHOL9AqZiSFq\\_FCJU1cQ7MXqyqxzXysXVq4dmY&m=7h22aA8CoBil0uNBqppBcGqeG50BQZxmoWdLcQQg0rs&s=TmOY6VDAyu4d7o4PpুবbHZsQDZ0mSNoCwEvPfyteoT8&e](https://urldefense.proofpoint.com/v2/url?u=https-3A_www.usaspending.gov_-23_download-5Fcenter_award-5Fdata5Farchive&d=DwMFg&c=L93KkjKsAC98uTvC4KvQDdTDRzAeWDDRmG6S3YXIIH0&r=zG4OKSHOL9AqZiSFq_FCJU1cQ7MXqyqxzXysXVq4dmY&m=7h22aA8CoBil0uNBqppBcGqeG50BQZxmoWdLcQQg0rs&s=TmOY6VDAyu4d7o4PpুবbHZsQDZ0mSNoCwEvPfyteoT8&e)

observed and provide further detail to Congressionally directed spending items. The Senate defines a Congressionally directed earmark as,

“a provision or report language included primarily at the request of a Senator providing, authorizing or recommending a specific amount of discretionary budget authority, credit authority, or other spending authority for a contract, loan, loan guarantee, grant, loan authority, or other expenditure with or to an entity, or targeted to a specific State, locality or congressional district, other than through a statutory or administrative formula driven or competitive award process.”<sup>19</sup>

Congressionally directed spending items analyzed in this study include grants, contracts, direct payments, loans, and indefinite delivery vehicles. These directed items encompass a wide range of awards allocated by the annual appropriations process to state and local recipients. In addition, they are clearly reported, valued, and measurable utilizing direct funding data provided by the U.S. Department of Treasury. Furthermore, these types of awards were subject to earmarking prior to the moratorium and reforms. The data will range from fiscal years 2002 to 2018 and encompass all 50 states, resulting in 850 total observations. Limited tax and tariff benefits are also detailed by the Senate definition of an earmark. However, with the limited ability to measure these provisions following the earmark moratorium, this report will focus on Congressionally directed spending items. Below is a summary table of the federal appropriations that were allocated between fiscal years 2002 to 2018 by year.

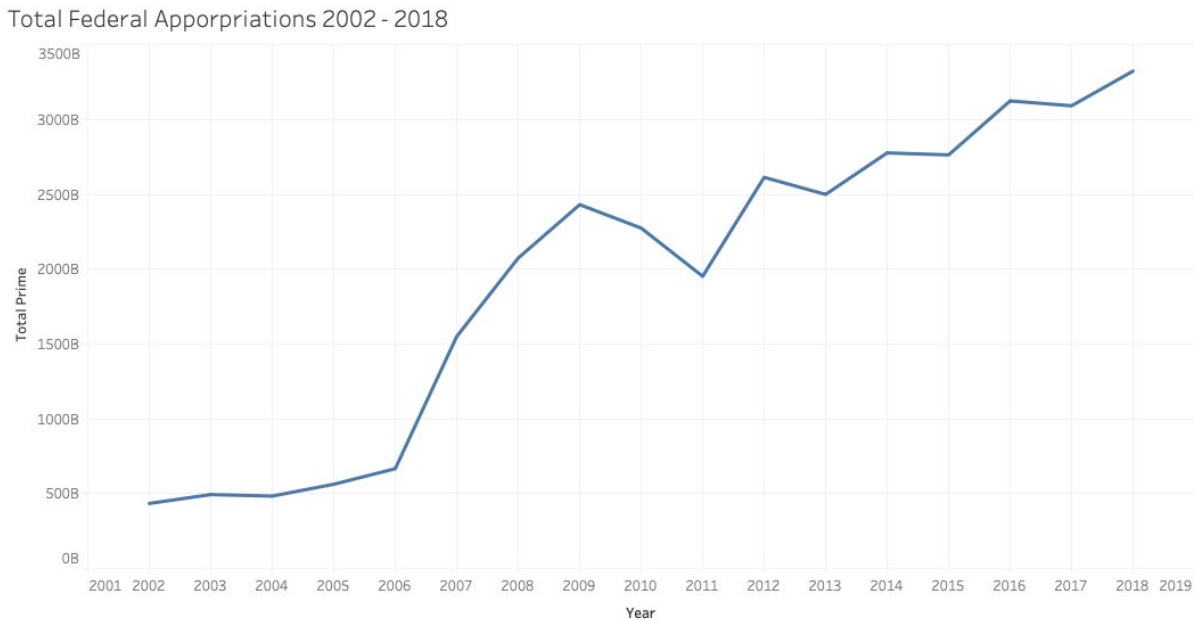
VARIABLES <sup>20</sup>	Descriptive Statistics: Federal Appropriations				
	Years: 2002 - 2018	Observations	Mean	Std. Dev.	Minimum
<b>2002</b>	50	\$8.7 billion	\$10.4 billion	\$717 million	\$60.1 billion
<b>2003</b>	50	\$9.88 billion	\$13.4 billion	\$774 million	\$75.5 billion
<b>2004</b>	50	\$9.68 billion	\$12.9 billion	\$653 million	\$67.5 billion
<b>2005</b>	50	\$11.3 billion	\$14.5 billion	\$691 million	\$74.1 billion
<b>2006</b>	50	\$13.3 billion	\$16.8 billion	\$706 million	\$84.9 billion
<b>2007</b>	50	\$31.1 billion	\$33.2 billion	\$2.1 billion	\$171 billion
<b>2008</b>	50	\$41.5 billion	\$47.1 billion	\$2.78 billion	\$220 billion
<b>2009</b>	50	\$48.7 billion	\$51.3 billion	\$3.56 billion	\$274 billion
<b>2010</b>	50	\$45.5 billion	\$50.7 billion	\$2.63 billion	\$248 billion

<sup>19</sup>*Lifting the Earmark Moratorium: Frequently Asked Questions*, prepared by the Congressional Research Service. Washington, D.C., 2018.

<sup>20</sup> Figure 1

<b>2011</b>	50	\$39.1 billion	\$41.6 billion	\$2.83 billion	\$222 billion
<b>2012</b>	50	\$52.3 billion	\$53.7 billion	\$3.11 billion	\$238 billion
<b>2013</b>	50	\$50.0 billion	\$49.5 billion	\$2.95 billion	\$239 billion
<b>2014</b>	50	\$55.6 billion	\$58.8 billion	\$3.26 billion	\$269 billion
<b>2015</b>	50	\$55.3 billion	\$54.4 billion	\$3.38 billion	\$271 billion
<b>2016</b>	50	\$62.5 billion	\$66.3 billion	\$3.75 billion	\$306 billion
<b>2017</b>	50	\$61.9 billion	\$61.4 billion	\$3.74 billion	\$310 billion
<b>2018</b>	50	\$66.5 billion	\$71.3 billion	\$3.19 billion	\$329 billion

When observing the minimum and maximum amounts of federal allocations by year, the range in spending data is widespread. However, the individual means demonstrate that concentrations of funding are well below the maximum funding allocation each year. The large maximums reported are due to larger outlier states like California and Texas that receive greater amounts of funding on average. These results show that the appropriations data collected encompasses a large dispersion. Below is a graph of federal appropriations by year during the period of analysis for all 50 states.



The trend of sum of Total Prime for Year.

<sup>21</sup> Figure 2

Several explanatory variables have the potential to affect the allocation of federal funding awards. These variables range from agency policies, regional economic trends, state statutes, political influence, and local activities. However, the explanatory variables selected for this study focus on broader, national implications that are constant across regions, states, and localities. Detailed analysis of the explanatory variables will establish a justification for the economic and political factors included in this study. Population density heavily influences what type of federal funding is awarded to population groups across the country.<sup>22,23</sup> Cities, urban centers, and densely populated areas can sustain sufficient funding through a broad and diverse tax base. Less densely populated areas rely upon outside or federal financial assistance to support basic government services. Conversely, more heavily populated areas have the economic advantage to attract private investment and federal sector funding. Municipalities and states also attract a need of resources and request federal assistance. Labor force participation demonstrates the percentage of the population currently engaged in the labor market.<sup>24</sup> States and localities with smaller percentages of labor force participation struggle to support services, encourage workforce development, and create employment opportunities. With less of the population involved in the work force, less business activity is occurring to attract capital, investment, and support a sufficient tax base for states. Median income can play a major role in the federal funding allocation process, especially through bureaucratic award formulas. The median income of a state, region, or locality can serve as a significant economic indicator and measurement tool on

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<sup>22</sup> U.S. Census Bureau, “Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April, 2010 to July 1, 2019,” State Population Totals and Components of Change: 2010 – 2019, <https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-total.html>

<sup>23</sup> U.S. Census Bureau, “Intercensal Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2010,” State Intercensal Tables: 2000 – 2010, <https://www.census.gov/data/tables/time-series/demo/popest/intercensal-2000-2010-state.html>

<sup>24</sup> U.S. Department of Labor, Bureau of Labor Statistics, “Labor Force Data by County,” Tables and Maps Created by BLS, <https://www.bls.gov/lau/>

earning and purchasing power.<sup>25</sup> When observing average cost of living and the median income of a specific population, this can serve as a gauge on economic health. Below is a summary table of the economic factors included in this analysis.

VARIABLES <sup>26</sup>	Descriptive Statistics: Economic Factors				
Years: 2002 – 2018	Observations	Mean	Std. Dev.	Minimum	Maximum
<b>Population</b>	400	6,106,048	6,751,860	500,017	39,200,000
<b>Labor Force Participation</b>	400	\$3,060,267.00	\$3,273,781.00	\$256,414.00	\$19,000,000.00
<b>Median Income</b>	400	\$50,188.71	\$9,258.54	\$29,359.00	\$76,260.00

Similar to the appropriations data, the minimums and maximums of these variables demonstrate a large dispersion in population and labor force participation variation. The relative economic health of a state or locality will have a large impact on the influential factors a populace wields in attracting federal funding. Each of these economic variables can individually effect the allocation of federal funding awards independent of a representative serving in the U.S. Congress.

All federal funding begins with the annual appropriations process conducted by Congress each fiscal year. Article I, Section IX, Clause VII details the appropriations power of the U.S. Congress.<sup>27</sup> Clause VII states,

“No Money shall be drawn from the Treasury but in Consequence of Appropriations made by Law; and a regular Statement and Account of the Receipts and Expenditures of all public Money shall be published from time to time.”<sup>28</sup>

The process starts with the proposal of the President’s budget. This is followed by a budget resolution process undertaken by Congress and subsequent legislation of an approved budget for the next fiscal year.<sup>29</sup> In recent years this process has been subject to increased partisanship

<sup>25</sup> U.S. Census Bureau, “Median Household Income by State,” Historical Income Tables: Household, <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-households.html>

<sup>26</sup> Figure 3

<sup>27</sup> U.S. Const. art. I, § 9

<sup>28</sup> Ibid.

<sup>29</sup> *The Congressional Appropriations Process: An Introduction*, prepared by the Congressional Research Service. Washington, D.C., 2016.

which has limited the ability of Congressional representatives to coordinate, bargain, and make deals with one another to reach policy decisions. This consistent practice of bargaining federal funds within Congress led to the implementation of the earmark moratorium and stemmed from the campaign to reduce political corruption in the appropriations process. Earmarks and funding initiatives are utilized as political currency to trade special projects and funding opportunities for co-sponsorships, legislative support, and encouraged bi-partisan legislation.<sup>30</sup> This model will determine if a significant effect has occurred regarding the reformed prohibition of bargaining federal funds or trading earmarks to foster bi-partisanship.

Regarding these bargaining tactics, the inclusion of political variables and characteristics will be a critical set of explanatory variables. Regarding the influence and agenda setting power of the U.S. Congress, Senate party affiliations, majorities, seniority, and committee assignments and chairmanships each have the potential to influence which U.S. Senators receive appropriated funding in their states. When political parties hold the majority on Capitol Hill, they wield the power to set legislative agendas. Regardless of party affiliation, the tenure of a U.S. Senator contributes a major factor in their ability to foster influence. Tenured Senators gain status due to their increased political rank and influence that accompany multiple years in the Capitol. Those with longer service find themselves in party leadership, coveted committee assignments, and positions of power and persuasion. With tenure and status come committee and sub-committee assignments by party leadership. Chairmanships on these committees are coveted due to their ability to set agendas for specific sectors of U.S. policy. All legislative priorities are subject to committee determinations before ever coming up for a Senate floor vote. Although these factors are all significant, the ability of a Senator to compromise, barter, and deal provides the ability to

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<sup>30</sup> Hedlund, Aaron. "Pork-Barrel Politics and Polarization." *Review – Federal Reserve Bank of St. Louis* Volume 101, Issue No. 1, (2019): 57 – 68. <https://search-proquest-com.ezproxy.uky.edu/docview/2171586287/fulltextPDF/571283D2BDEB4E47PQ/1?accountid=11836>

pass pieces of legislation through the Senate and into law. Political prowess and competency are paramount to the ability of a Senator to introduce legislation and get it passed in the Senate.

Below is a summary table of the political characteristic measures included in this model. Many of the variables provided below are individual categorical characteristics. Each of the means demonstrate the variation of the data for each categorical variable.

<b>CATEGORICAL VARIABLES<sup>31</sup></b>	<b>Descriptive Statistics: Political Characteristics</b>		
Years: 2002 – 2018	Observations	Frequency	Percentage
<b>Two Republicans</b>	400	142	35.50
<b>Bi – Partisan Delegation</b>	400	119	29.75
<b>Two Democrats</b>	400	131	32.75
<b>Three Democrats</b>	400	7	1.75
<b>Four Democrats</b>	400	1	0.25
<b>Zero in the Majority</b>	400	126	31.50
<b>One in the Majority</b>	400	117	29.25
<b>Two in the Majority</b>	400	149	37.25
<b>Three in the Majority</b>	400	7	1.75
<b>Four in the Majority</b>	400	1	0.25
<b>Zero Committee Chairs</b>	400	283	70.75
<b>One Committee Chair</b>	400	94	23.50
<b>Two Committee Chairs</b>	400	23	5.75
<b>Zero Sub-Committee Chairs</b>	400	153	38.25
<b>One Sub-Committee Chair</b>	400	153	38.25
<b>Two Sub-Committee Chairs</b>	400	94	23.50
<b>No Majority Leader</b>	400	353	88.25
<b>One Majority Leader</b>	400	47	11.75
<b>No Minority Leader</b>	400	351	87.25
<b>One Minority Leader</b>	400	48	12.00
<b>Two Minority Leaders</b>	400	1	0.25
<b>Zero on Power Committee</b>	400	15	3.75
<b>One on Power Committee</b>	400	151	37.75
<b>Two on Power Committee</b>	400	231	57.75
<b>Three on Power Committee</b>	400	3	0.75

<sup>31</sup> Figure 4

**CONTINUOUS VARIABLES<sup>32</sup>**

**Descriptive Statistics: Political Characteristics**

Years: 2002 – 2018	Observations	Mean	Std. Dev.	Minimum	Maximum
<b>Seniority</b>	400	13.11	7.533	2	40
<b>Total Bills Through the Senate</b>	400	4.637	4.195	0	24
<b>Total Bills Through to Law</b>	400	2.312	2.226	0	14

The selection of specific political elements aim to control for these variables in the distribution of federal funding awards. This study will analyze U.S. Senate political party affiliations, party majorities and minorities, party leadership, effectiveness to pass legislation and become law, committee and subcommittee chairmanships, power committee assignments, and seniority.<sup>33</sup> Each of these political variables are determined to be potentially influential in the earmarking process as noted in the review of literature. A Senator’s ability to harness these characteristics and utilize them to create law are principal in influencing the appropriations and funding allocation process.

Description of each variable propositioned for this analysis is critical to building a successful model. Each independent variable described will be organized by state and fiscal year from 2002 to 2018 and merged into one data set. A single data model will be constructed to observe the dependent variable and explanatory control variables. Further description of the research design will establish the construct of a regression model that will determine the significant effects of each explanatory variable on the dependent variable, federal appropriations.

**Research Design**

With the parameters set, the hypotheses stated, and the variables defined, this section will analyze the design of the regression model to determine the effect of Senatorial political

<sup>32</sup> Figure 5

<sup>33</sup> Craig Volden Alan E. Wiseman. *Legislative Effectiveness in the United States Congress*. (New York: Cambridge University Press, 2014).



characteristics and the implementation of the moratorium and earmark reforms. Detailed reasoning for each explanatory variable's inclusion in this model represents a diverse and broad spectrum of controls. To accurately determine a statistically significant effect, each variable will be analyzed utilizing a time series fixed effects regression. To build this model, state and year are set as panel variables, state as the entities or panels and year as the time variable. This analysis will be observing federal appropriations, state economic factors, and U.S. Senate delegation political characteristics across time at the state level utilizing cross-sectional analysis implemented by a panel data model. This model will account for unobservable controls that vary over time but not across entities. These would include unmeasurable political characteristics and other national controls that affect states and the receipt of federal appropriations. Regarding the use of fixed effects, a Hausman Test was executed to determine the validity of this proposed model and determine if a control for endogeneity is required for this analysis. The Hausman Test runs an estimation method for both fixed and random effects. The null states that both estimation methods demonstrate similar coefficients. The rejection of the null demonstrates that differences occur between both sets of coefficients, where random effects reveal inconsistencies. When running the Hausman Test on this model, the results demonstrated a rejection of the null. Therefore, the use of fixed effects with state and year can appropriately be structured into a panel data model.

To further demonstrate support for the use of fixed effects, this method is used when analyzing the impact of variables that vary over time. Fixed effects accounts for the relationships between the explanatory and dependent variables within an entity. This model includes states as the entity of analysis, which each may have its own individual characteristics that could influence the political personalities of each U.S. Senator and the allocation of federal

appropriations. These include the state and local variables that affect how Senators are elected and how they vote in Washington. With fixed effects, this model assumes that unobserved variables within the state may impact the explanatory or dependent variables. Therefore, this model controls for the potential omitted variable bias of political characteristics that have time-invariant values with time-invariant effects. Fixed effects accounts for variability within the states and omitted variable bias to accurately evaluate the net effect that the Senate delegation political characteristics have on federal appropriations to the states.

With the inclusion of the explanatory variables, dependent variable, and time series fixed effects regression model, the equation of this study is demonstrated below:

$$cf_{it} = \alpha_{it} + \beta_1 x_1 \dots \beta_n n_1 + \rho_{.it}$$

The variable  $cf_{it}$  represents the equation's dependent variable *total federal funding awards* allocated by legislative appropriations in the U.S. Congress.  $\alpha_{it}$  denotes that if there were no additional variables or controls on the right side of the equation, the result of the equation would be zero.  $\beta_1 x_1 \dots \beta_n n_1$  is the set of economic and political *explanatory variables* detailed and specifically determined to demonstrate a potential effect on the dependent variable.  $\rho_{.it}$  expresses the *error terms or unobserved variables*. The  $i$  in this equation represents the state and  $t$  represents the fiscal year observed. The  $it$  variables specify the unit of analysis in this equation. This model will utilize a social science standard two-tail t test with a 95% confidence interval to determine the significance of results.

When constructing this regression model, total federal funding awards are aggregated by state from a sum of total appropriated prime assistance and contracts.<sup>34</sup> In addition, the economic

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<sup>34</sup>*Award Data Archive*, prepared by the U.S. Department of Treasury (Washington, D.C., 2019).

variables are outlined and listed by state and year. The political variables are the primary explanatory variable of analysis. These are listed out as multiple variables but all are characteristics of Senators and their political status. When observing Senators' ability to attract federal funding awards to states via political influence, this model treats each Senator as a treatment on the individual state. The Senate data is categorized by each Congress, therefore accounting for the even years within this model. However, there are two Senators per state, demonstrating that each state receives two instances of the treatment each Congress. When observing the Senators as individual treatments, we can aggregate each treatment in an individual state and year to measure the full effect of that state's Senatorial delegation's political influence on the annual appropriations process. Therefore, this model collapses the Senate data into Senatorial delegations by state. The individual identity of each Senator is irrelevant to this study but each state's combined Senatorial delegation's ability to attract federal funding awards is critical to this model. There are abnormal circumstances when states have three, or in the case of Massachusetts in 2012, four Senators present. There are sixteen instances of three Senators from an individual state during one Congress in the available data. These instances do occur but their significance is minimal to the overall model due to the disruption of a sitting Senator's term and the blunted impact a broken term has on influence and effectiveness.

With the data organized for this model, each of the specific explanatory variables and the dependent variable are merged into a single data set. Many of the political characteristics are listed in the data set as categories and the regression is executed with fixed effects and a robustness check to account for the assumptions made in the model. With the aggregation of the

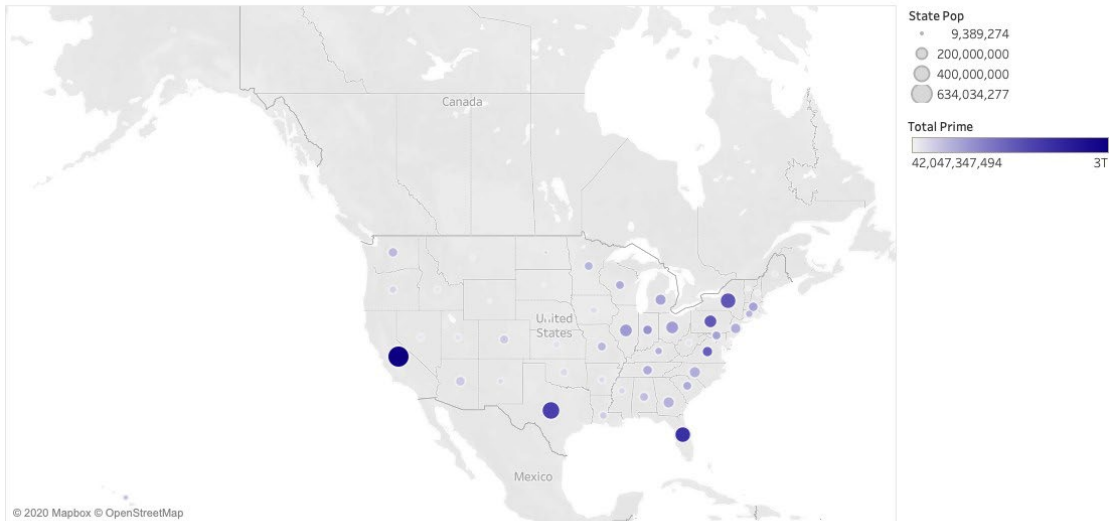
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Senatorial delegation characteristics, merging the economic variables, and executing the regression on the dependent variable of Congressionally directed federal spending, the results will reveal the null or rejection of the null hypotheses.

**Results**

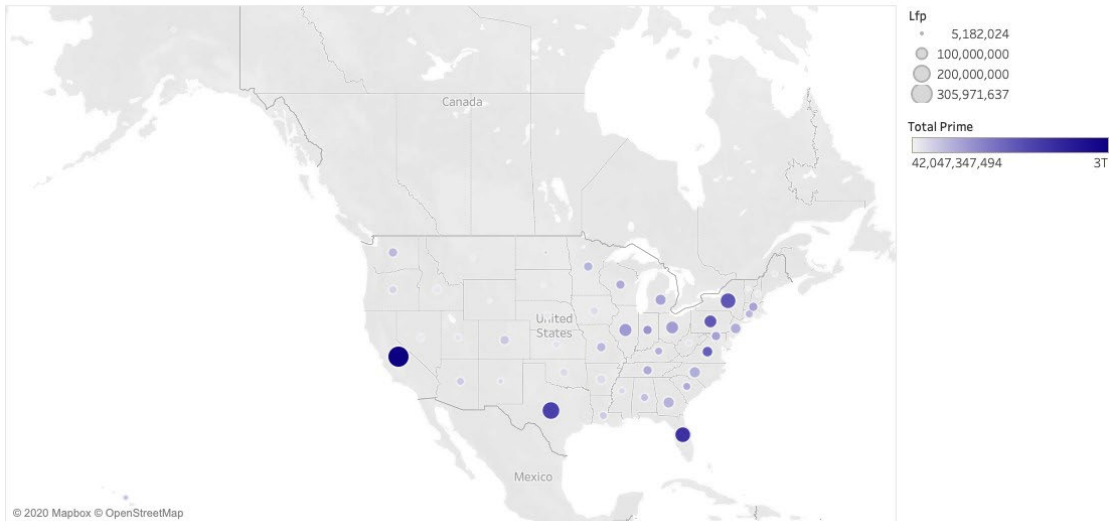
Federal Appropriations and State Population 2002 - 2018



Map based on Longitude (generated) and Latitude (generated). Color shows sum of Total Prime. Size shows sum of State Pop. Details are shown for State Abbr.

35

Federal Appropriations and State Labor Force Participation 2002 - 2018



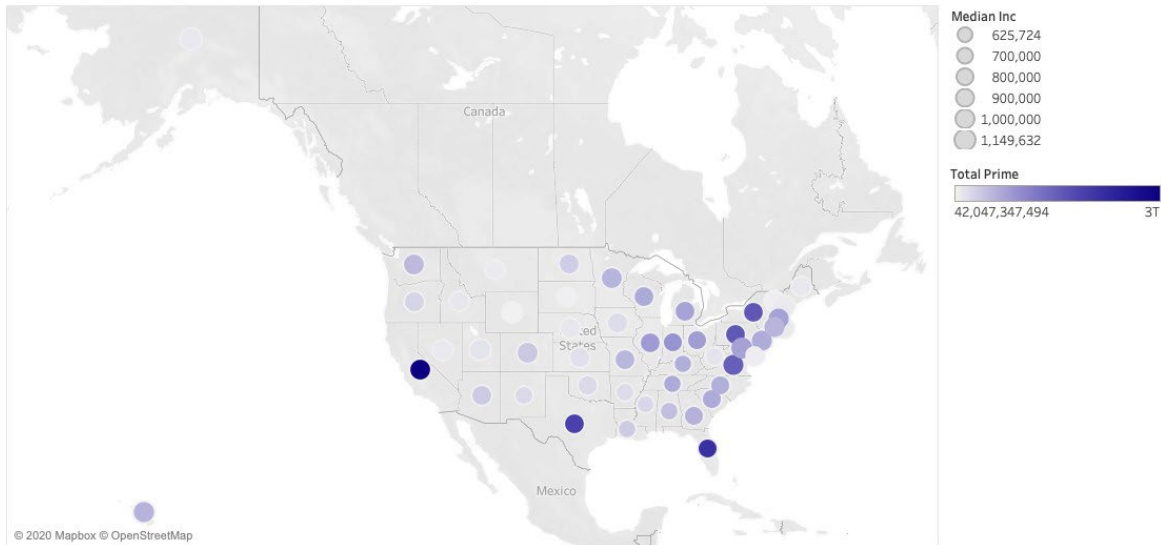
Map based on Longitude (generated) and Latitude (generated). Color shows sum of Total Prime. Size shows sum of Lfp. Details are shown for State Abbr.

36

<sup>35</sup> Figure 6

<sup>36</sup> Figure 7

Federal Appropriations and State Median Income 2002 - 2018



Map based on Longitude (generated) and Latitude (generated). Color shows sum of Total Prime. Size shows sum of Median Inc. Details are shown for State Abbr.

37

Following the execution of this regression model, specific explanatory variables resulted in correlations of statistical significance. The most significant economic factor resulting from this model was state median income. Utilizing the 95% confidence interval, median income resulted in statistical significance. The coefficient stated that for every dollar added to the state's median income, \$1,535,916.00 were brought into the individual state. The next economic factor with significance was the impact of each state's labor market. Labor force participation had a coefficient that stated for every person included in the labor force, \$33,477.20 was allocated to the state from the federal government. State population also resulted in a significant correlation. The coefficient stated for every person added into the population count, \$27,321.09 was distributed to the state. These findings individually demonstrate a relationship with federal funding allocation best defined by the Congressional Research Service as, "through a statutory or administrative formula or competitive award process."<sup>38</sup> Congress and the Executive agencies calculate these broad economic factors into legislation and Executive agency formulas to

<sup>37</sup> Figure 8

<sup>38</sup> *Lifting the Earmark Moratorium: Frequently Asked Questions*, prepared by the Congressional Research Service. Washington, D.C., 2018.

distribute funding to states. This is true for grant applications, direct allocations, and contract bids to specific state governments, local entities, private businesses, and individuals.

Each economic factor included in this model demonstrated statistical significance in the federal appropriations process. However, there was no such uniformity when it came to the Senatorial political characteristic variables. A majority of these factors demonstrated no significant effects however, three specific variables did. Each Senate delegation was analyzed in this model for their combined effect as two combined treatments on each state. With one Senator from a state in the Majority party, this characteristic resulted in a significant effect. Although this finding demonstrated significance, the coefficient stated that this majority advantage would decrease funding allocation to a state by \$12.3 billion. The results are similar when observing the effects of Senators and their ability to pass a piece of legislation through Congress and into law. This characteristic resulted in a significant effect however, the coefficient stated that this ability would decrease funding allocation to a state by \$1.65 billion. The characteristic with the greatest significance was party affiliation. When observing states with two Democrats or two Republicans, these held no statistically significant effects on the allocation of federal funding. However, when a state had one Democrat and one Republican, or held a bi-partisan delegation, this was a significant result. A bi-partisan state delegation resulted in a coefficient of increased federal funding by \$20.3 billion. Below is a table of this model’s regression results.

**Federal Appropriations: Economic and Political Effects<sup>39</sup>**

<u>EXPLANATORY VARIABLES</u>	<u>Federal Appropriations</u>
Sum of Democrat Senators (1)	2.027e+10*** (5.757e+09)
Sum of Democrat Senators (2)	7.400e+09 (5.539e+09)

<u>EXPLANATORY VARIABLES</u>	<u>Federal Appropriations</u>
Sum of Majority Party (1)	-1.233e+10** (6.104e+09)
Sum of Majority Party (2)	-7.825e+09 (5.611e+09)
Sum of Committee Chair (1)	4.535e+09 (4.708e+09)
Sum of Committee Chair (2)	5.969e+08 (6.532e+09)
Sum of Sub-Committee Chair (1)	8.934e+09 (6.321e+09)
Sum of Sub-Committee Chair (2)	7.822e+09 (6.441e+09)
Sum of Seniority	-2.823e+08 (3.375e+08)
Sum of Majority Leader	-2.779e+09 (4.598e+09)
Sum of Minority Leader (1)	-2.632e+09 (3.538e+09)
Sum of Minority Leader (2)	7.719e+09 (2.369e+10)
Sum of Totals Bills Through the Senate	4.480e+08 (5.625e+08)
Sum of Total Bills Through to Law	-1.651e+09** (7.818e+08)
Sum of Power Committee (1)	3.452e+08 (5.110e+09)
Sum of Power Committee (2)	1.046e+09 (5.522e+09)
Median Income	1.536e+06*** (387,379)
Population	27,321** (12,398)
Labor Force Participation	33,477*** (12,387)
Constant	-3.136e+11*** (7.780e+10)
Observations	400
Number of States	50
R-squared	0.612

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Each of the other political characteristics did not establish statistically significant results in this model. Those included committee and sub-committee chairmanships, minority or majority party leadership, total bills passed through the Senate, power committee membership, or seniority in the Senate. From these reported results, select Senate delegation political characteristics can demonstrate a statistically significant effect on the federal funding appropriations process. Therefore, the earmark moratorium and reforms did not curb all of the effects of Congressional political characteristics. The broad economic factors demonstrate a significant effect on the funding distribution. This can be best explained by the competitive, formula driven award process that utilizes these statistics. The interpretation of these findings and relevancy to the hypotheses of this study will be detailed in the next section.

### **Discussion**

When observing the overall results of this model, the economic factors play a significant role in the Congressional appropriations process. The federal agency application method remains an established procedure for federal funding solicitations and serves as the primary vehicle of allocation. The model's results combined with the context of an increasing trend in the number of federal grants to states and local governments has strongly supported that broad economic factors are important to what states receive from Congress and the Executive agencies each fiscal year.<sup>40</sup> These findings lend support to the importance of individuals and states to report accurate population, labor force participation, and median income figures to the federal agencies. Therefore, it can be logically concluded that participation in the census and state agency specific data are important to determine state specific allocation.

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<sup>40</sup> *Federal Grants to State and Local Governments: A Historical Perspective on Contemporary Issues*, prepared by the Congressional Research Service. Washington, D.C., 2019.



As each broad economic factor contributes a significant effect in the federal allocation process, the analysis of the political characteristics each provide differing results. Referencing the analysis of the literature, the focus on reducing and controlling the effects of political characteristics were paramount in the gradual evolution of the earmark moratorium. The period covered in this model accounted for years prior to, during, and following the moratorium's inception, debate, and adoption. This assessment accounts for the overall effects of Senate delegation political characteristics during this period. In the execution of this model, many of the political characteristics had no significant effect.

Committee and sub-committee chairmanships did not demonstrate a significant effect. This result could be due to the role of committees and their leadership focus. Committees are issue specific and serve as the primary authority on the inception of specific legislative agendas. Each Senator is assigned to individual committees to oversee these issues not only for their states, but more importantly on a national level. When a Senator serves as chairperson of a committee, a significant portion of their time and work are focused on the issues and agendas of that committee. This can serve as a hindrance to attracting federal funding to their specific state. The results of these factors demonstrate that committee and sub-committee work can attract attention and work from the allocation process. In addition to committee and sub-committee chairmanships, assignment to a "power committee" also resulted in no significant effect. Both political parties in the Senate consider Appropriations, Armed Services, and Finance committees to be "Super A" or power committees.<sup>41</sup> Although the Appropriations committee is significant to the allocation process on the national level, it is not significant in the distribution to a specific committee member's state. The proposed conclusions of this result are similar to the assignment

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<sup>41</sup> *Senate Committees*, prepared by the U.S. Senate. Washington, D.C., 2019.  
<https://www.senate.gov/artandhistory/history/common/briefing/Committees.htm>

of a committee or sub-committee chairmanship. Leadership on a committee and a seat with a power committee demonstrate Senators can focus their work on specific assignments over the ability to draw funding to their state.

A similar argument can be presented for majority and minority party leadership in the Senate. The leadership team of each political party focuses on the agendas of the party delegation. This includes whipping party votes, setting agendas, and towing the party line. With this focus in mind, the ability of a leader to prioritize funding allocation to their specific state can be left to a lower importance. Committee chairmanships and party leadership can be correlated with seniority. In this model, the tenure of a Senator does not demonstrate a significant effect on funding allocation. The potential reasons for this lack of significant correlation can stem from a senior Senator's focus on gaining influence through leadership or committee assignments. These goals lead to greater influence on funding and legislative priorities overall but have no significant effect in attracting funding appropriations to their representative state.

The final political factor that had no significant effect on funding distribution in this model was the ability of a Senator to pass a piece of legislation through the Senate. Although this result demonstrates no significance, it can be linked with the ability of a Senator to pass a piece of legislation into law. This political characteristic demonstrated a significant effect on federal funding but with a negative coefficient of \$1.65 billion to the Senator's state. Therefore, the ability to get a piece of legislation through both chambers and to the President for signature is significant, but can lead to less federal funding allocation. This result can provide implications of a Senator's ability and focus on getting legislation passed into law but will regress attention to advocating for additional federal funding. In addition, Senators pushing to pass specific

legislation will need cooperation and compromise for passage. This could lead to comprising funding in exchange for specific agendas.

This political exchange and cooperation can be a significant reason for the negative coefficient found with a Senator in the majority party. The general assumption is that majority parties hold the agenda setting power in the Senate. Although there is truth to this statement regarding legislative agendas, minority parties can wield a significant amount of influence as well. This result can be traced back to the founding and the structures of the Republic, giving minority parties in power the ability influence the majority, especially when the margin of difference is minimal. No party has held a super majority in the Senate during the period of analysis. Therefore, majority parties must give in to concessions of the minority to pass legislation, set agreements on agendas, and allocate federal spending. This is supported by the finding that a Senator's involvement with the majority party produces a negative coefficient of \$12.3 billion per state. Although the significance is less robust than the other political characteristics, there remains a significant effect with majority party affiliation.

While there is significant evidence that compromise can result in a decrease in federal funding for members of the majority party, working with the opposite political party can demonstrate a positive outcome. The sole political characteristic that demonstrated a statistically significant result with a positive coefficient of \$20.3 billion was the presence of a Republican and Democratic Senator from one state. A bi-partisan delegation resulted in the ability of that state to secure \$20.3 billion more than states with single party delegations.

The implications of a state bi-partisan delegation demonstrate that bi-partisan relationships coupled with representation lead to increased amounts of federal funding. When majority and minority parties trade, concede, and compromise on legislation for passage, these

actions lead to defeats and victories on each side of the aisle. The party coalitions must work together to achieve the legislative priorities each are working to gain. Thus, when political factions trade and compromise, each side gets specific requests met. When these instances of bi-partisan deal making occur, states can receive additional federal allocations of \$20.3 billion with the presence of a Republican and Democrat Senator but also decrease appropriations by \$12.3 billion on average with a split majority and minority party Senate delegation. If the mean of federal spending to the states each year totals \$39 billion, the ability to acquire \$20.3 billion or lose \$12.3 billion on average for a specific state based upon the political savvy and deal making abilities of Senators are paramount characteristics when serving in Washington. Of the political characteristics utilized as explanatory variables in this model, the bi-partisan Senatorial state delegation demonstrates the most significant effect in securing federal funding to a state.

From the description and interpretation of these results, federal appropriations remain influenced significantly by bi-partisan deal making and legislative trading. Thus, this model fails to reject the null hypothesis and demonstrates that although the earmark moratorium and reforms have been formally banned, the presence of politically motivated appropriations continue to persist. Although there is a growing sense of political polarization in Washington, this trend clearly does not affect the ability of opposing party Senators to collaborate, secure legislative agendas, and barter federal appropriations. With the political characteristics proven to be significant, bargains and compromises remain relevant in the legislative processes on Capitol Hill. Therefore, the presence of the earmark reforms and moratorium over the period of analysis failed to eliminate the utilization of politically motivated spending in Congress.

### **Limitations**

Although this model reveals significant results in the allocation of federal funding since 2002, this model has its limitations. This study observed federal funding data from 2002 – 2018 and accounted for these years as time variables and states as panel variables in the time series fixed effects regression model. However, the effect of the earmarking reforms and moratorium by year were not assessed as an explanatory variable in the outcome of the model. By observing total federal funding data by year, there is the assumption that the earmark moratorium of 2011 potentially helped with lowering appropriations temporarily. However, this assumption does not correlate with the reform actions by Congress and the Bush Administration starting in 2006. The exclusion of year as an explanatory variable was predominately due to the exponential increase in federal funding that occurred in response to the Great Recession between 2006 – 2008. Federal funding increased in some states by a factor of four or five times the previous year's allocation. This was a significant increase in funding and the escalation continued gradually following the recession. By observing this trend, skewedness was tested and the data was adjusted accordingly to set year as a time variable in this model. Therefore, year as an explanatory outcome variable skewed the effect total appropriations had on the regression.

Additional limitations narrowed this study to a Senate delegation by state analysis due to limited and fluid data in the U.S. House, the collapse of the Senate political characteristics, and available Senate data by Congress, not each individual year. When observing the economic effects, this study observed broad measures that apply to each state in the Union. Population, median income, and labor force participation data accounted for per capita data measures that would observe appropriations to states of differing demographics. However, each of the states have numerous controls not accounted for in this model. Although fixed effects accounted for

within subject variability of the states, further analysis can observe the variability across states. Additional variables were considered for inclusion in this study such as political media presence and social media usage. However, these proposed variables were excluded due to the difficulty to gather and utilize measurable data.

### **Conclusions**

When observing the overall effects of this model, the economic variables were each statistically significant and provided evidence that reporting accurate state population, labor force, and median income data is crucial to maximizing federal assistance proportionate to the citizenry of an individual state. These findings conclude that states with greater population and wealth also receive the greatest allocation of federal funding.

The earmark reforms and moratorium instituted by Congress aimed to decrease the amount of federal spending affected by political characteristics. By accounting for the explanatory variables across the period analyzed, this model aimed to observe their total effects on states by year. Following observation of the results, they reveal the ability of U.S. Senators to influence the appropriations process utilizing political status to trade and negotiate on behalf of their state. Although the majority of the political characteristics included in this model did not result in significant effects on the appropriation of federal funding, three demonstrated such an effect. The Senatorial explanatory variables of significance provided evidence that majority party rule, the ability of a Senator to pass a bill into law, and the presence of one Senator from each party demonstrates a significant effect on federal appropriations. This conclusion validates that although earmarking reforms and moratoriums remain formally established through chamber rules and protocols, political characteristics remain influential in the appropriations process over the period analyzed. With the ability to utilize political capital, Senators maintain the power to

utilize the significant characteristics controlled in this model to influence allocation of federal appropriations. This ability relies greatly on the political party structure and utilizes party position as an advantage in this process. Therefore, this model failed to reject the null hypothesis and demonstrated that the earmark moratorium and reforms did not determine a significant effect in the distribution of federal funding awards at the state level independent of the U.S. Senator serving in Congress.

The results of this model can be utilized to assess and review the current policies and reforms under debate in Congress. With these rules in place, Congress has continued to increase spending and wield political savvy as determinants of federal appropriations. Although earmarks are formally banned, members of Congress have established alternative avenues to wield political status. I recommend Congress utilize this study to initiate debate on the effectiveness of the earmark reforms and moratorium. In addition, further evaluation of this study can provide the basis for measuring and tracking the effectiveness of political characteristics in the appropriations process. With an overview of the general political characteristics observed, further detailed analysis will yield greater understanding of political effects on policy initiatives in Washington.

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