

INVESTIGATING

# PUBLIC HOUSING DEVELOPMENTS

IN THE U.S.





# WHAT IS PUBLIC HOUSING



- Public housing was a **grassroots** initiative established in **1937** as part of the **New Deal**
  - Provided a solution to the housing crisis after the **Great Depression**
- In 1968, the Fair Housing Act of 1968 was implemented to **eliminate discrimination**.
- Politics has effected the program
  - Most significantly was the **Clinton Administration** which prohibited the funding of new developments with specific funds within a cap set on **October 1st, 1999**
  - This imposed a constraint on the program's activities, **halting** the creation of **new public developments**

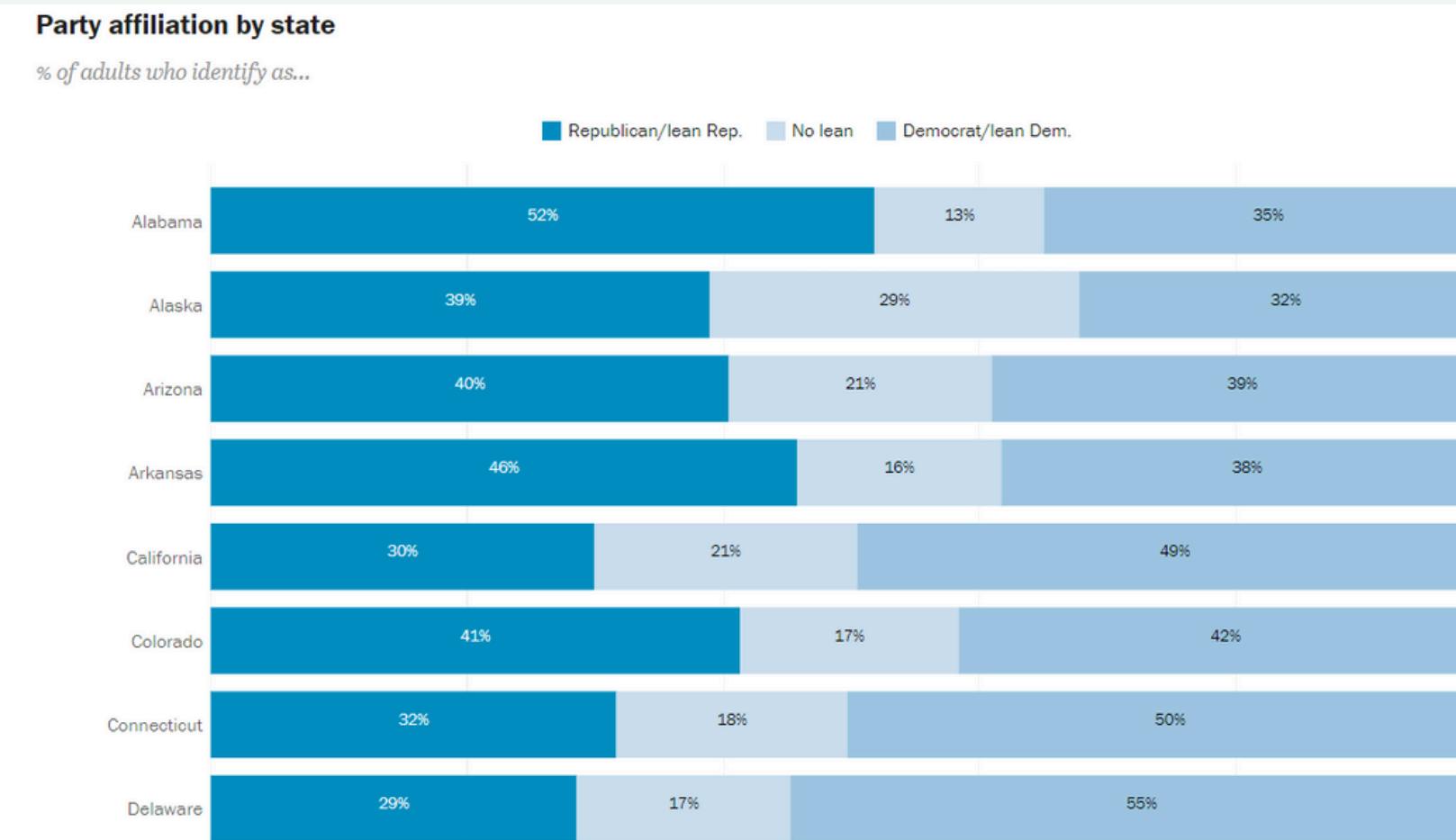


# DATASET

- The data was collected and derived by the **Office of Policy Development and Research** on the Public Housing Developments
- Each value in the dataset is a **housing unit** with each variable describing a different demographic for each unit, including:
  - **Minority** Demographics
  - **Age** Distributions
  - Household Metrics (Household head, average **income**)
  - Number of **Units** & Type

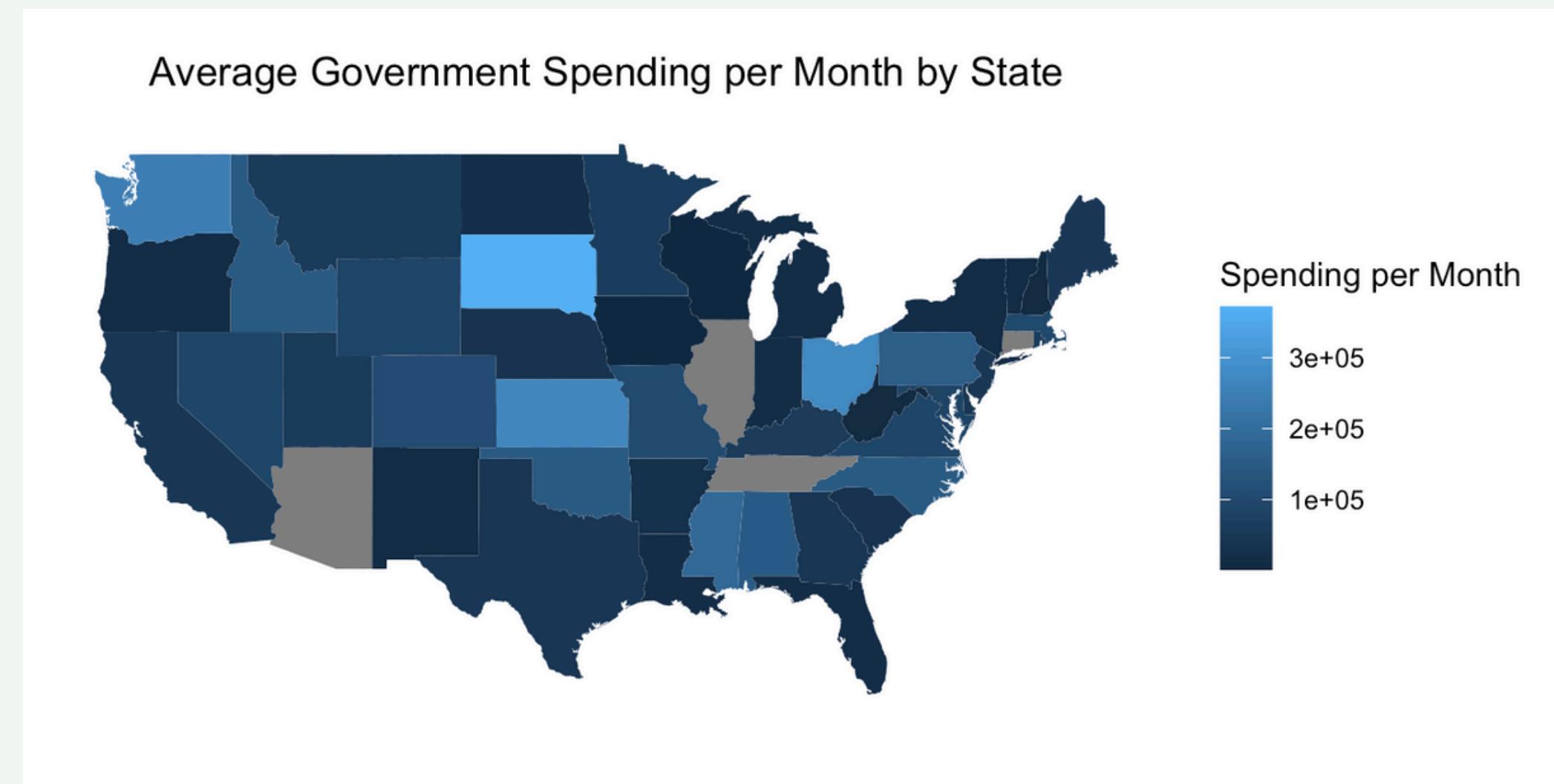
# DATASET CONT.

- This data was gathered by the Pew Research Center.
- Contains the political leaning democrat, republican, and other for each state.
- States were identified by full title.
  - We used the American National Standards Institute (ANSI) Codes for States to merge the two datasets.
- Values were converted to decimal form for ease of use and uniformity.

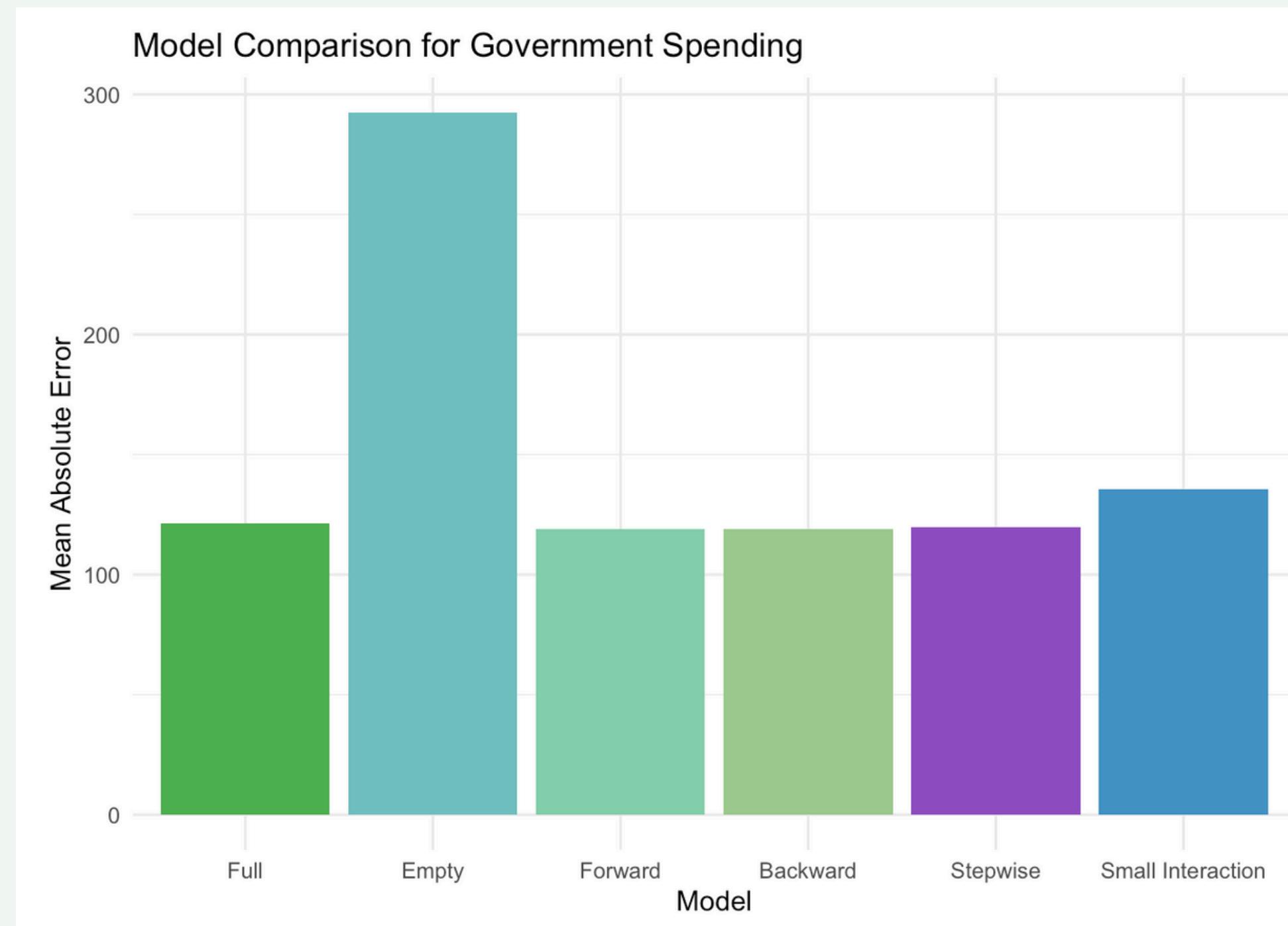


# WHAT FACTORS INFLUENCE GOVERNMENT SPENDING?

- Gain insight on determining how governments want to **allocate resources and funding**
- Could be useful for **policymakers** and lobbyists to advocate for increased government spending
- Useful for **economic analysis** as these dynamics could shed light on the effectiveness of spending based on socio-economic status to reduce poverty
- Beneficial knowledge for **urban planning**



# MODELS



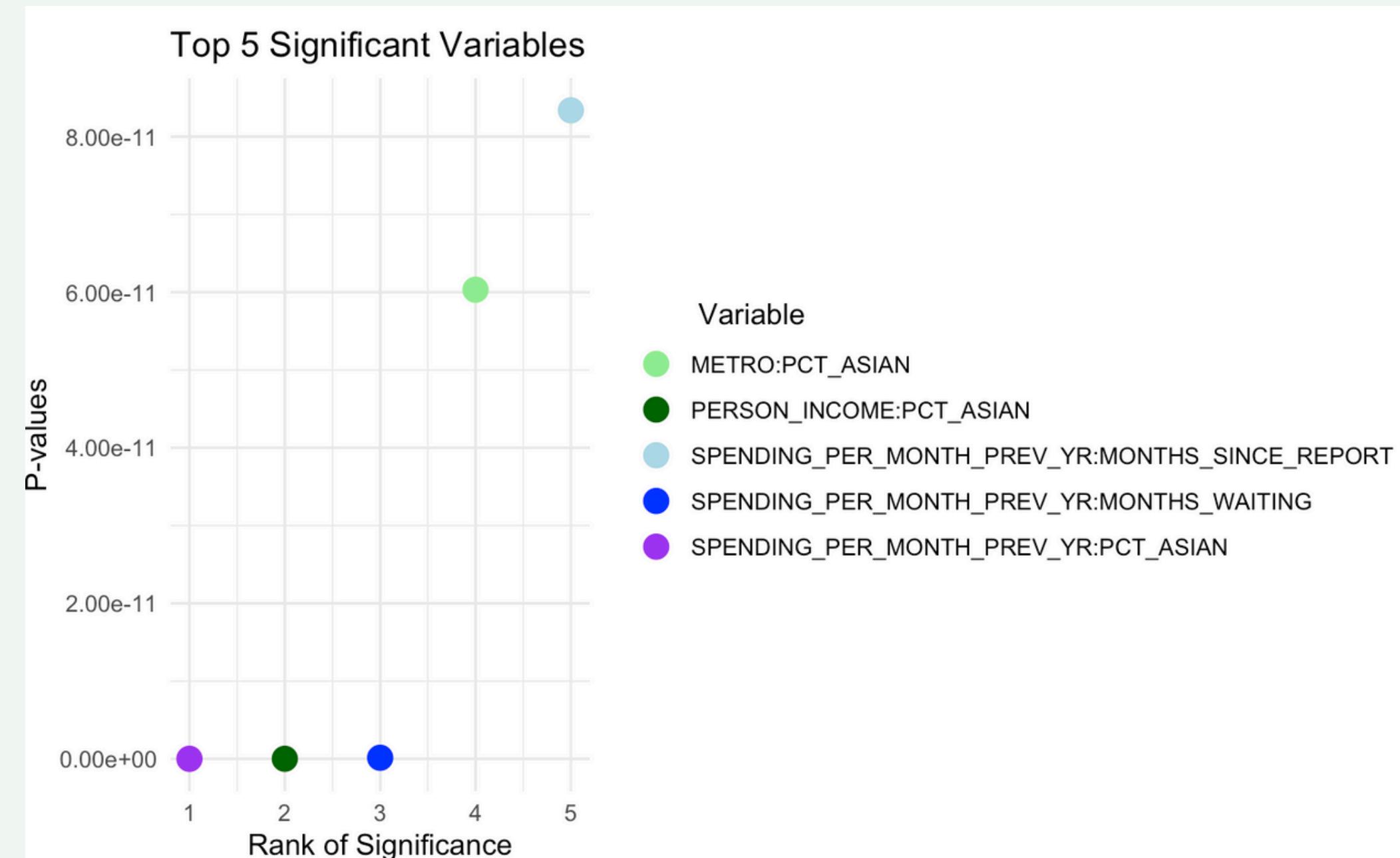
- Built **five** models with all the variables using different methods
  - Most had **similar** mean absolute errors
- Used the statistically significant variables from the **smallest model** (backward regression) to fit an **interaction** model

# INTERACTION MODEL

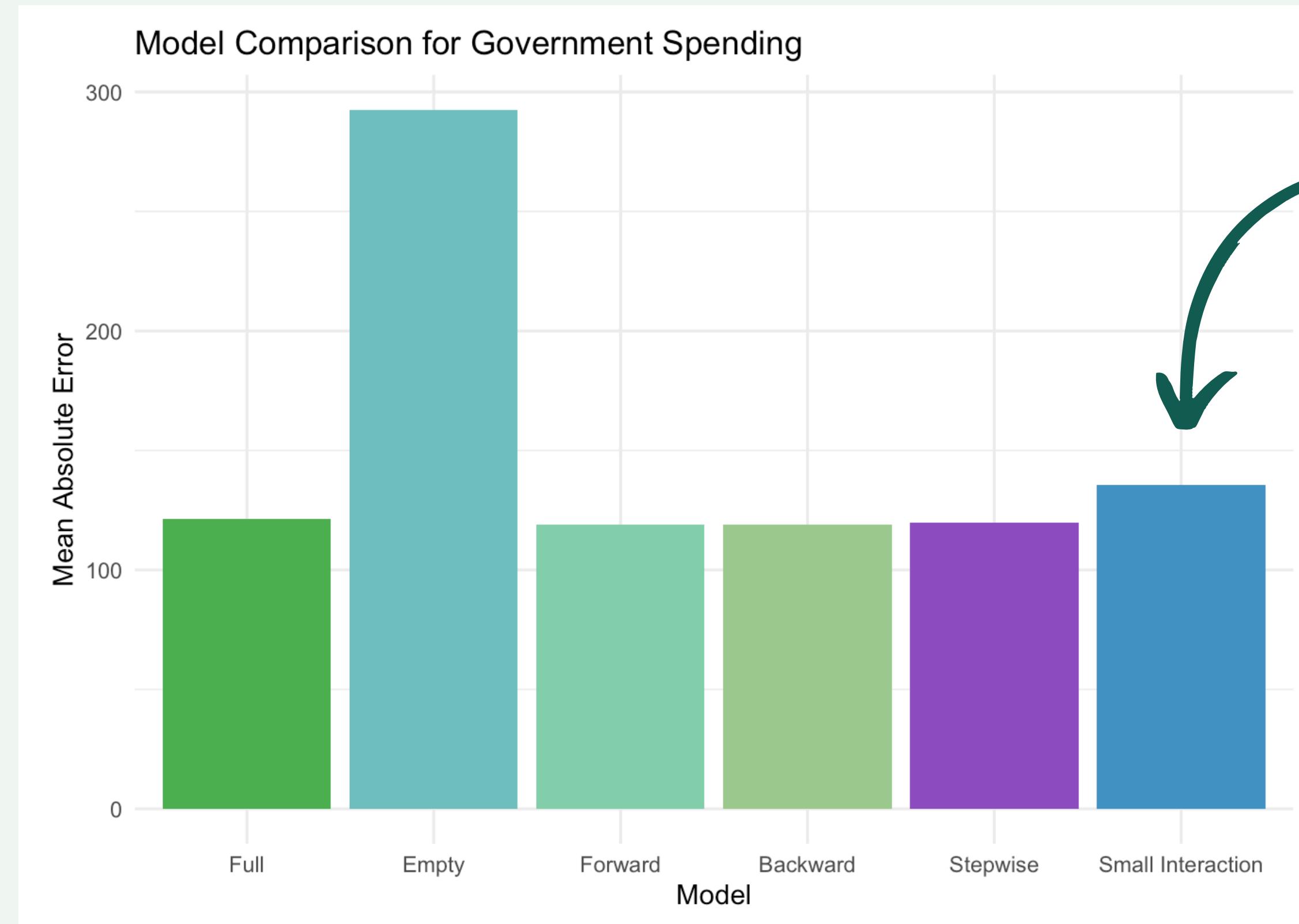
Found the variables with the **lowest p-values** and fit a smaller interaction model

- To determine any **differences** in predicative quality

Variable	Description
METRO	Metropolitan Area Indicator {0, 1}
PCT_ASIAN	Percent Asian or Pacific Islander
PERSON_INCOME	Average Household Income per Person per Year
SPENDING_PER_MONTH_PREV_YEAR	Previous Year Spending per Month
MONTHS_WAITING	Average Number of Months on Waiting List among Admissions
MONTHS_SINCE_REPORT	Average Number of Months since Manager Reported on Household



# MODELS (A CLOSER LOOK)



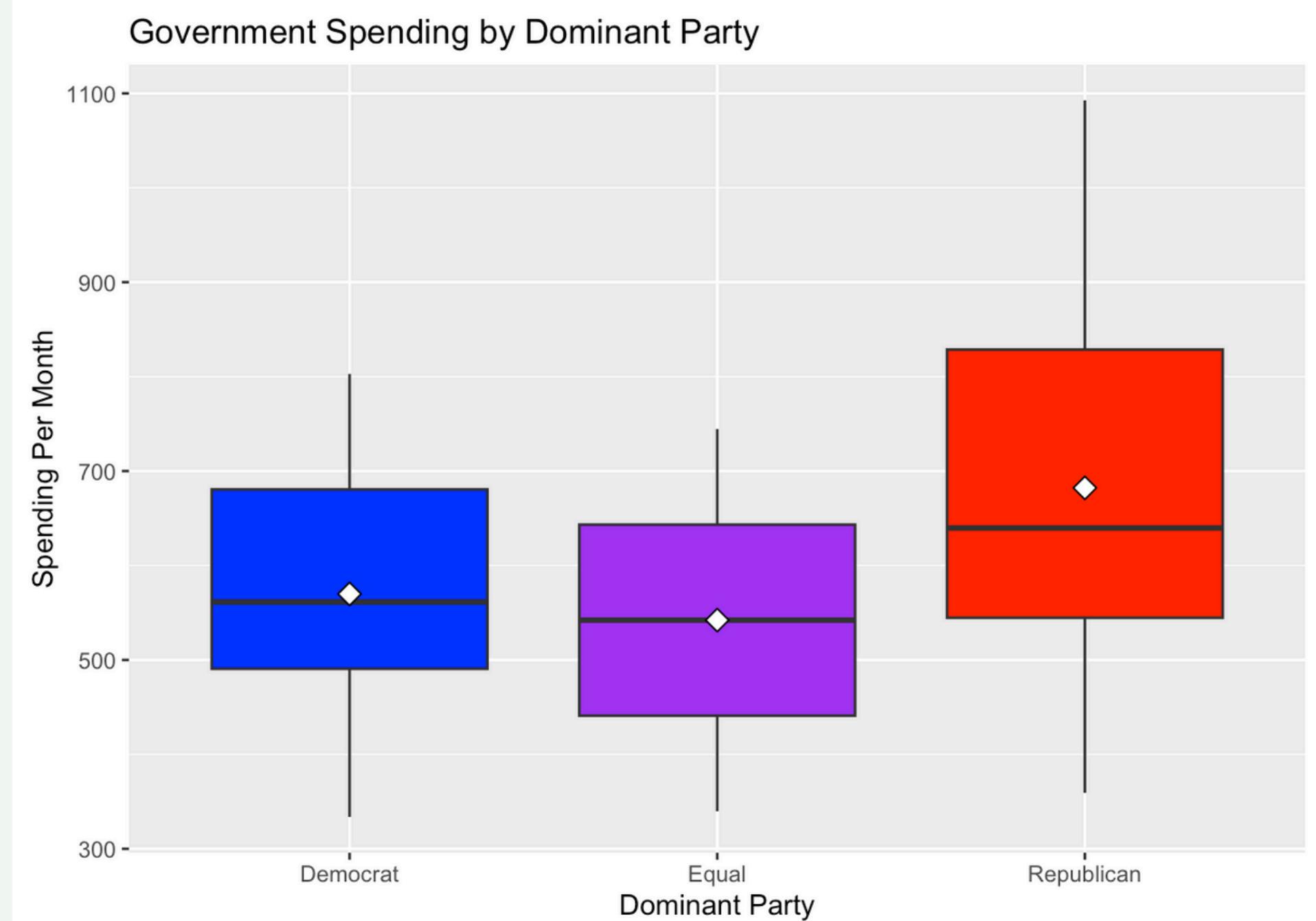
- The smaller interaction model had a **higher** mean absolute error
  - Indicates **weaker** model

## Conclusion:

- With every model being significant and having similar MAE values, there are **NO clear influential variables** from the dataset

# POLITICAL LEANING COMPARISON

- **Comparing** the confidence intervals of government spending based on dominant political party
  - Trend of **Republican** states spending **more money** on their public housing developments
  - P-value for the model that took into account state politics was **statistically significant**



# RED STATES AND FUNDING

- Red States have:
  - Population: Smaller populations
  - Socio-economic status: Poorer communities
  - Quality of life: Worse living conditions
  - Funding: More federal funding



## MOVING FORWARD:

- Fit smaller interaction models to determine any **common variables**
- Incorporating **historical data** from previous years could offer valuable insights into the **correlations** guiding government spending allocation
- Lastly, departing from the state, and delving out analysis down to the **county level**