Project 1

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Abstract

In this report, I will be examining how the United States federal government changed under President George W. Bush and President Barack Obama. I will look into the campaign platforms for each president, determine expectations for how the federal government would resize to meet each president's campaign promisses, and then look at actual policy decisions made by each president and how they changed the federal payroll. I will also examine natural disasters and geopolitical events that occured during each presidency and how the federal government reacted. (* results *)

Contents

1 Business Understanding

For this report, I will be examining federal payroll data obtained by BuzzFeed News using the Freedom of Information Act. While the data set itself dates back to 1973, I will only be examining the data relevant to the presdency of George Bush (2001 - 2008) and Barack Obama (2009 - 2014). Although Obama's presidency lasted from 2009 to 2016, the data (at the time of writing this report) is only available through to 2014.

Since Bush is a Republican, and Obama a Democrat, we would expect a dichotomy in their policy decisions. Generally, Republican candidates run a campaign focused on shrinking the federal government and lowering taxes, while Democratic candidates tend to emphasize coordination with allies and.. These are common trends for each party, but presidential candidates know that winning the presidency means winning party leadership, so each candidate will support changes in policy that draw new voters and reform their respective parties. Let's look more closely at the history of each candidate and their campaign platforms.

1.1 Political Careers

Each president had to build up a strong political career before they were considered by their parties as viable presidential candidates. Let's look briefly at the life and political history of each president.

1.1.1 George W. Bush

George W. Bush was born in New Haven, Connecticut on July 6, 1946. His family moved to Odessa, Texas in 1948, and then to Midland, Texas in 1950. Bush began elementary school in Midland and finished in Houston after the family moved there in 1959. Bush went to high school at Phillips Academy Andover in Andover, Massachusetts where he developed a love for American History. He went to college at Yale University where he majored in history with a concentration in European and American studies. After he graduated in 1968, he joined the National Guard. He then continued his education at Harvard University where he obtained his MBA. George Bush met Laura Welch in July 1977 and they were married on November 5, 1977. Their twin girls were born in November 1981.[1]

Bush began his political career by campaigning to be the Mayor of Odessa when he was 31. He lost the election, but was on the campaign trail soon after to assist his father's run for the presidency in 1988. He then assisted in his father's reelection campaign in 1982, but they were defeated by Bill Clinton. Bush returned to Texas where he decided to run for Governor. He focused his campaign on education, juvenile justice, and welfare policies. He won the campaign, and worked hard with Texas Democrats to follow through with his campaign promises. His most notable legislative accomplishment was overhauling the Texas education system, adding more choice and competition to the system and setting new skill requirements for children. He also introduced tax cuts, programs to help faith-based organizations, and began providing social services through churches.[1]

He won reelection as governor in 1998 and coined the term "compassionate conservatism", a brand meant to unite Republican values of the free market and small government with social welfare. His success as governor made him a prime choice to run for the presidency in the eyes of the Republican party.[1]

1.1.2 Barack Obama

Barack H. Obama II was bown in Hawaii on August 4, 1961. His parents divorced and, after his mother remarried, he moved to Indonesia with his mother and stepfather. His mother was concerned about his education so she sent him back to Hawaii to live with his grandparents. He attended Punahou School from fifth grade through the end of high school. He then went to college, first at Occidental in Los Angeles, and then at Columbia University in New York City. He majored in political science and graduated in 1983. Obama then moved to Chicago to work as a community organizer. He organized the citizens of Altgeld Gardens to pressure Chicago's city hall to improve the living conditions in the public housing project. Unsatisfied with his success, he resolved to get a law degree. He attended Harvard Law School in 1988 and graduated magna cum laude. He met Michelle Robinson shortly after graduation and they were married in 1992. They had two daughters born in 1998 and 2001.[2]

Obama first ran for a political office in 1996, when he ran to be a state senator in Illinois. Despite being a member of the minority party in the state legislature, he was able to work with Republicans and Democrats to pass campaign finance reform and crime legislation. He became a leading legislator after the Democrats won Senate majority and passed nearly 300 bills focusing on helping children, old people, labor unions, and the poor. He then set his sights on a 2004 race for a U.S. Senate seat. He differentiated himself by opposing Bush's war in Iraq. He won the Senate seat by the largest margin in the history of Senate elections in Illinois.[2]

Obama's stance against the war set him apart from other potential Democratic presidential candidates. In a keynote address he gave at the Democratic National Convention in 2004, he struck notes of unity between political parties and different ethnicities. He promoted optimism with a phrase he borrowed from Reverend Jeremiah Wright, "the audacity of hope".[2]

1.2 The Bush Presidency

Every presidency starts out with a campaign for office. A successful candidate makes a number of promises over the course of the campaign in hopes of getting voted into power. It is important that candidates to tailor their policies to their constituencies, so they don't drive away the coalition that votes their party into positions of power. The campaign is also an opportunity for candidates to present a vision for the future of their party. Let's look at the campaign that won Bush the presidency, some of the political policies we would expect to see to accomplish these promises, and some of the major events that occured during his presidency that altered how he managed the government.

1.2.1 The 2000 Presidential Campaign

The 2000 presidential campaign was a time to reform the Republican party. After the Clinton presidency, the Republican party wanted to move away from unpopular positions such as being opposed to all government programs. Bush wanted a party that worked to improve education, expand health care, and increase funding for Social Security and Medicare. He wanted the party to calm their rhetoric on morial issues such as abortion. Bush also spoke about cutting taxes for all Americans, while Democratic candidate Al Gore proposed tax cuts only as part of broader plans to implement policy. The two candidates also differed on how to combat teen pregnancy. Democrats wanted to implement sex education programs in public schools, while Republicans depended on abstinence by teenagers.[3]

Bush was also a climate change denier. Having made a substantial profit when Bush exploration merged with Spectrum 7 in 1984, he had a vested interest in denying climate change and he made it part of his campaign platform.[1]

With these campaign promises, we would expect several areas of the government to get an increase in funding. The Department of Education should see an increase in funding to implement Bush's proposed education program, and the Department of Health and Human services should see an increase in funding to expand health care. However, if Bush implements his tax cuts, we should see funding cuts for a variety of other agencies to offset the loss in revenue the government pulls in. One such organization could be the Internal Revenue Service. We could also see cuts to the EPA in an effort to curb government support for researching climate change.

1.2.2 The Presidency

Bush wins the Electoral College in 2000 despite falling short of achieving a majority of the popular vote. This leads Democrats to contest the result of the election, calling for recounts in several contested Florida counties. By the end of 2000, the Supreme Court voted to stop the recounts, and Gore conceded, leaving Bush President-elect.

After his inauguration in January, 2001, Bush is quick to reinstate a ban on providing aid to organizations that perform abortions. He then moves to abandon the ratification of the Kyoto Protocol, which charged 180 countries to set limits on idustrial emissions. In June, Bush signs a $1.35 trillion tax cut into law that reduces taxes for all income brackets and moves to eliminate the estate tax. Bush also outlines a new policy on stem cell research, where funding is continued for existing research, but bans the collection of additional stem cells.[4] It is typical for first-month presidents to begin enforcing policies that were not enforced by the previous leadership. This gives the appearance that they are enthusiatically getting to work to deliver on campaign promises.

On September 11, 2001, the United States is attacked by terrorists. These individuals, working for the extremist group Al Qaeda, hijacked four airplanes and crashed two into the World Trade Center and one into the Pentagon. The fourth was suspected to be headed for the White House, but the passengers fought back againsts the hijackers and diverted

the plane off course. It is the deadliest attack on American soil since the Japanese attacked Pearl Harbor. In an address to the nation, Bush vows to bring the group responsible to justice. With in the month, Bush appoints Pennsylvania governor Tom Ridge to a cabinet-level position to oversee the Office of Homeland Security. Ridge is tasked with coordinating efforts across over fourty federal agencies to protect the United States against future terrorist attacks.[4]

Trailing his education reform in Texas as governor, in early 2002, Bush signs into law an education reform bill reinstating the No Child Left Behind policy. The bill provides more flexibility to local authorities on how they allocate funds and required new standardized tests for math and reading.[4]

Bush's National Security Advisor, Condoleezza Rice, is questioned by Congress for information about warning signs before September 11th. In response, Bush announces sweeping changes to the security departments, placing the Office of Homeland Security in charge of over 100 agencies responsible for protecting the United States.[4] This marks a change in domestic policy that will likely result in additional funding for various security departments. The pressure to make this change originated from Congress, meaning the group responsible for the budget also supports this consolidation of power.

Despite the ongoing war in Iraq, Bush continues to sign tax cuts into law, signing the third largest tax cut in history into law in May, 2003. In June of 2005, the Senate passes an energy bill meant to support the oil and natural gass energy industries, while providing tax incentives for the use of alternative energy sources. July of 2005 sees the launch of space shuttle Discovery, the first launch since the space shuttle Columbia failed during atmospheric reentry in 2003.[4]

In August of 2005, Hurricane Katrina ravages the Gulf coast and severely damages the city of New Orleans. The levee systems meant to protect the city from flooding failed, causing massive destruction. Rather than allocating FEMA funds to the disaster, the White House is mute on the issue. The administration is harshly criticized for failing to use emergency funds to support aid the city.

Bush approves a 700 mile long fence along the U.S.-Mexico border on October 26, 2006. We expect to see a spike in funding for Customs and Border Security around this time.

The DOW Jones industrial average begins a sharp decline after an all-time high of 14,164 on October 9, 2007. As the housing crisis begins to set in, Bush proposes a stimulus package to encourage individuals to spend money and stimulate the slowing economy. The Senate votes to pass a slightly smaller stimulus package a few months later, providing Americans with tax rebates and businesses with tax breaks. The federal government resorts to taking over Fannie Mae and Freddie Mac in September, 2008 in an attempt to protect more than half of the country's mortgages. Bush then signs in a $700 billion bailout plan to protect failing bank assets, the largest in history. He follows up with a bailout of General Motors and Chrysler to keep the two auto manufacturers afloat shortly before leaving office. [4]

1.3 The Obama Presidency

Obama's run for the presidency started in a tough fought race for the Democratic nomination. He was able to beat out the other top contender, Hillary Clinton, because of his opposition to the war, and his tone of change that he used through out the campaign. Hillary's key theme was experience, but as the economy deteriorated under Bush, Democratic voters favored Obama's platform and gave him the nomination. Obama saw his oportunity to reshape the Democratic party.

1.3.1 The 2008 Presidential Campaign

On the night of the Democratic National Convention, Obama outlined what he wanted to get done in office. Some of his main promises were cutting taxes for 95% of tax paying families, end the dependence on foreign oil while investing in reneweables, and providing affordable health care to all Americans. He reiterated his desire to end the war in Iraq and expressed that he wanted to close the corporate loopholes that halted the growth of the economy.nce with domestic or foreign policy issues.[5]

The housing market really began to tumble during the presidential debates. Obama was able to win over voters with his calm demeanor and confidence. Republican nominee John McCain began to loose his lead. Obama was able to outspend McCain on campaign advertising, and his vice presidential nominee, Joe Biden, had strong foreign policy experience as the chairman of the Sennate Committee on Foreign Relations. This contrasted McCain's running mate, Sarah Palin, who was shown to have little experience with domestic or foreign policy issues.[5]

Obama won the Electoral College by a margin of 365 to 173, with 53% of the popular vote. He was able to win back key state from the Republicans, like Virgina, Florida, North Carolina, and Ohio.

1.3.2 The Presidency

The young president was quick to issue an executive order to close Guantanamo Bay. Similar to Bush, he was trying to deliver early on a campaign promise to close the controvercial prison. The prison still remains open.

Obama also got to work right away trying to combat the financial crisis. He required companies receiving federal bailout money to cap executive pay to $500,000 a year. He also signed the American Recovery and Reinvestment Act to provide relief to those most affected by the crisis.[6]

In February of his first year, Obama also pulled back Bush restrictions on how much money could go to stem cell research. He followed this in October by lifting a ban that prevented people with HIV and AIDS from entering the United States. He closed October by signing The Matthew Shepard and James Byrd Jr. Hate Crimes Prevention Act which was meant to help local authorities investigate hate crimes and prosecute perpetrators more effectively.[6] Around this time, we could see an increase in payroll for the Department of Justice as they implement new invesitgation tactics.

In early 2010, Obama announces $900 million in grants for schools that are underperforming. He follows this with the signing of the Af-

fordable Care Act, the implementation and regulation of which will likely increase the number of employees required by the Department of Health and Human Services.

In March, Obama announces that he will allow exporatory drilling for oil and gas in the Gulf of Mexico and in the Atlantic Ocean off the coast of Virginia. Drilling in these areas had previously been banned, but he allowed drilling in an attempt to reduce dependency on foreign oil, one of his campign promises. Unfortunately, in April of 2010, the Deepwater Horizon oil rig explodes, killing 11 workers. BP was leasing the oil rig, and signed off on continuing drilling before a pressure seal had been completely tested. The company again endangers the ecosystem of the Gulf of Mexico when a massive oil spill happens in June. Obama says the company will have to pay heave reparations for their neglect.[6] It will be interesting to see which agencies, if any, add employees to help manage the crisis in the Gulf and prevent similar events from happening again.

In April of 2010, Obama proposes increasing the NASA budget by $6 billion over the next five years. He wants to see the money used for space exploration over lunar exploration.[6]

Obama takes a stab at veteran education reform with a post-911 GI Bill, mean to assist veterans of the U.S. military in recieving cheap or free college tuition.[6] Efforts to implent this will likely require additional employees at the Veterans Affairs and the Department of Education.

In the end of 2010, Obama institutes a two-year pay raise freeze for federal employees. This is meant to help curb the deficit, and will definetly impact the federal payroll starting in 2011. However, this is followed by the Healthy, Hunger-Free Kids Act which allocates money for funding nutrition education and free lunch programs at public schools.

As Obama entered his second term, he put immigration reform and climate change in the spotlight. He outlined a plan for comprehensive immigration reform just after his first week of being reelected. He followed a few months later with the Climate Action Plan, which was meant to lower carbon polution and prepare the country for the pending effects of climate change. He made it clear that reversing climate change is a task for the whole planet.[6] As Obama steps up his fight against cliamte change, we would expect the EPA to receive additional funding for cliamte science. It will also be interesint to see how Customs and Border Protection responed to his immigration reform.

1.4   Congress

Just because a president allocates money for a program, doesn't mean the payroll for the agency responsible will be affected. Congress is ultimately responsible for managing the bidget of the U.S. government. This means that the party in control of the House of Representatives and the Senate has more control over the budget than the president. If the president leads the party that controls either the House or the Senate, they will likely be able to implement more of their policies. However, if the president's party is the minority party in either of the chambers, they will meet more opposition as they try to push policy.

Majority Party			
Year	President	Senate	House
2001	Bush	Republican	Republican
2003	Bush	Republican	Republican
2005	Bush	Republican	Republican
2007	Bush	Democratic	Democratic
2009	Obama	Democratic	Democratic
2011	Obama	Democratic	Republican
2013	Obama	Democratic	Republican
2015	Obama	Republican	Republican

Based on the majority party in each chamber of Congress, Bush should have faced minimal opposition for his first term and the first half of his second term. Obama entered office with a Democratic House and Senate. He should have been able to move policy most effectively during the first half of his first term. It will be interesting to see how his policy was effected by Republicans gaining back the House during his first term.

2 Data Understanding

The federal payroll data was obtained through the Freedom of Information Act by BuzzFeed News. For this report I will be examining the status files, which contain payroll information for each agency organized by quarter. I will not be examining accessions or separations in this report.

The status files contain relevant attributes needed for a payroll system such as employee name, the agency they work, their age, education level, length of service, and pay. Each entry also contains a PseudoID which can be used to identify an individual employee. I will further describe each attribute below. These definitions were created using the FedScope Data Definitions document and translation files included with the data set.[7]

2.1 PseudoID

A unique identifier for an employee. This value is sufficient for identifying an employee in a table. If a table contains duplicate PseudoIDs, an employee must of either been transfered to another organization, or had their pay change.

2.2 Name

The name of the employee if it is provided by the agency. Some employee names have been withheld by the agency they work for. These entries have "Name Withheld by Agency" in place of the name. The name of an employee is not useful for understanding how the federal government changes under a president, so this attribute will not be used.

2.3 Date

The date the pay report is generated up to. Because the tables are quarterly, the date for each quarter will be the same for all entries. This is the

last day in March, June, September, and December.

2.4 Agency

This is a categorical variable representing the department the employee worked at. The departments are encoded as six characters. The first four characters represent the top level organization the department belongs to. The last two characters are unique to the department for identification. The provided file "SCTFILE.txt" can be used to translate between the agency encoding and the actual name of the agency.

For example, the Food and Drug Administration is encoded as 'AGHE36'. Here, AGHE refers to the Department of Health and Human Services. The value '36' is then used to identify the FDA specifically. All agency entries begin with 'AG' or 'AH', so these characters can be discarded.

2.5 Station

Station is a categorical variable that refers to the actual location the employee worked at. This is encoded in a 9 character string. The first two characters represent the state the employee worked, characters 3-6 map to a city, and characters 7-9 encode a county.

2.6 Age

This is an ordinal attribute that holds the age of the employee. Ages are broken down into the age ranges of five years starting with 15-19, 20-24, and going up to 70-74 and then 75+.

2.7 Education

Education is another ordinal attribute that encodes the level of education the employee achieved. This is represented as a two digit number that maps to a description of the education level. Examples are 04 for High School Graduate, 13 for a Bachelor's Degree, 17 for a Master's Degree, and 21 for a Doctorate Degree.

2.8 PayPlan

Pay plan is a two character categorical variable loosely representing the type of work the employee does. This is used by the governemnt to determine the rate of pay increases. Some examples are 'EE' for expert, 'EG' for consultant, and 'EX' for executive.

2.9 Grade

Grade is a categorical vaiable used in conjunction with PayPlan to determine an employees basic pay rate.

2.10   LOS

LOS is an ordinal variable representing the length of service in years of the employee. Length of service is grouped by the following time spans: ¡ 1, 1-2, 3-4, 5-9, 10-19, 20-24, 25-29, 30-34, and 35+.

2.11   Occupation

Occupation is a categorical variable classifying workers as blue or white collar. The value can be more desciptive by looking into occupation families, but the data attribute category also encodes this information so I will not be using this field.

2.12   Category

Category is a categorical variable representing the type of work the employee does. It is a single character in the PATCO acronym which translates as follows.

Letter	Translation
P	Professional
A	Administrative
T	Technical
C	Clerical
O	Other White Collar
B	Blue Collar

2.13   Pay

Pay is a ratio representing the annual pay of the employee in U.S. dollars.

2.14   SupervisoryStatus

A categorical variable representing what level of leadership the employee is at. This follows the following translation.

Status Code	Translation
2	Supervisor or Manager
4	Supervisor (CSRA)
5	Management Official (CSRA)
6	Leader
7	Team Leader
8	All Other Positions

Here, CSRA refers to a private organization that provides IT solutions to the federal government.

2.15   Appointment

Appointment is a categorical variable representing if the position is expected to be permanent, nonpermanent, career, or career-conditional.

2.16 Schedule

A categorical variable describing if a position is full-time, part-time, intermittent, or seasonal.

2.17 NSFTP

Another categorical variable representing if a position representing is a position is seasonal for full-time, permanent employees. Can assume the following values.

NSFTP Code	Translation
1	Non-seasonal, Full-time, Permanent
2	Seasonal, Full-time, Permanent

3 Data Preparation

The data comes in text files with fixed width columns. Dr. Hahsler provided us with some initial code to read in one of the text files, break up the attributes into columns, apply a header to the columns, remove common characters from the Agency column, and create a new column called AgencyName with the translation from the four character Agency identifier to the full agency name. This is was a good starting point, however, there is more to be done before the data is clean enough to begin analysis. After my cleaning pipeline was functional, I wrote R code to apply the pipeline to every status file in the data set. I grouped cleaned data frames by year and saved each year to its own CSV file for quick reloading as I moved into data modeling.

3.1 Agency Subsetting

The first thing I do is throw out agencies that I don't want to examine. Based on my business understanding, I selected agencies that were specifically mentioned as receiving attention by each president at some point in their two terms. I also selected agencies that I thought would show differences in the political affiliations and leadership policies of the two presidents. I perform this subsetting as the first stage in my pipeline to reduce the amount of data that has to flow through the rest of the pipeline. Here are the agencies I chose.

Agency	Agency Code
Department of Health and Human Sevices	AGHE, AHHE
Department of Homeland Security	AGHS, AHHS
Department of Housing and Urban Development	AGHU, AHHU
Department of Energy	AGDN, AHDN
Department of Education	AGED, AHED
Department of Justice	AGDJ, AHDJ
Department of the Interior	AGIN, AHIN
Department of Transportation	AGTD, AHTD
Environmental Protection Agency	AGEP, AHEP
Federal Emergency Management Agency	AGEM, AHEM
General Services	AGGS, AHGS
NASA	AGNN, AHNN
National Security Agency	AGSP, AHSP
Internal Revenue Service	AGTR07, AGTR93
Veterans Affairs	AGVA, AHVA

3.2 Unknown Values

Many of the entries have values encoding for unknown or missing information in at least one of the attributes. For example, the Age column uses "UNSP" to show that the age of the employee is unspecified. Other values that indicate missing data are a string of asterisks or an empty field. It is necessary to convert these values to NA, which R uses to encode that an attribute is missing for an entity.

When R reads in a data file, it assumes all attributes are 'factors', or categorical variables. Many of the attributes are categorical variables, but fields like Age and Education are ordinals. I need to convert these to ordered factors, R's representation for an ordinal, before moving forward. Also, Pay needs to be converted from a factor to a numeric value.

3.3 Imputation

After converting these field to more accurate data classes, I work to impute some unknown values. Starting with Age, I replace an unknown employee Age with the median Age for employees at the same Agency. I thought this was a good method for imputing Age because if some agencies have outliers in Age, either very young or very old, the median will not be dramatically affected by these values like the mean would.

I then impute Education by taking the median Education level achieved by employees of the same Age at that Agency. The majority of employees in the federal government achieved a Bachelor's degree, so this was a common value that was used to fill in unknown Education.

Finally, I impute Pay using the median Pay for employees of the same Age at the Agency. This is a good method because the annual pay for an employee at any organization is closely related to their work experience, which can be loosely approximated based on their age. This will also separate based on Agency, so that if some Agencies recieve higher Pay on average, the imputed value more closely represent the separation.

After imputation, I throw out any entries where Pay could not be imputed. If the Agency an employee worked at was not known, the above imputation method would not return a value. Without knowing the Pay or the Agency an employee worked at severely reduces the amount of useful information we can gather from their entry, so they are removed.

3.4 Duplicates

Next, I handle duplicate PseudoIDs. As stated earlier, a PseudoID will occur multiple times if an employee changed agencies during the quarter or if their pay changed. If an employee changed organization, I will want to include their salary when determining the total value of the payroll for each of those organizations, so these entries will be left as is. However, if an employee simply recieved a raise while working at the same organization, I want to remove the lower of the salaries. This makes the assumption that the employee earned that same ammont during the whole quarter, but since we are looking at payroll data with the level of granularity of the quarter year, this is acceptable.

4 Analysis

With the data set cleaned, I can now begin analysis. We will start with simple data exploration to find the attributes that are most useful for describing changes to the federal government.

4.1 Simple Statistics

I will skip simple statistics for PseudoID and Date because their values are used only for identification of individuals and time.

4.1.1 Agency

The Agency attribute is useful for determining the number of employees at an agency. I selected the years 2001, 2005, 2008, and 2012 to examine how employment at my selected agencies changed over the course of four presidential terms. See Figure 1.

This figure shows dome interesting trends. First and most notable is the creation of the Department of Homeland Security (HS) by Bush following 9/11. The agency does not show up in 2001, but is the second largest of my choosen agencies by 2005. Also, the size of the agency increases under President Obama. Another agency that grows under Obama is the Office of Veterans Affairs (VA). This is likely in response to the post-911 GI Bill signed by Obama in 2010.

Some agencies see a decrease in size between the two presidents. Notably, the IRS (TR) saw decreases in staffing at each interval I selected. Bush began the downsizing in the agency following his tax cuts, but the downsizing continued under Obama.

4.1.2 Station

Let's look at the states with the most federal employment in the years chosen above. I will use substring to grab the first two characters in the Station column. I map this to the state name using a translation table provided in the data set. Then I count the occurances of the states and sort the entries in descending order.

year	2001	2005	2009	2013
rank	State — Count	State — Count	State — Count	State — Count
1	DC — 195,701	DC — 207,993	DC — 231,997	DC — 246,609
2	California — 163,895	California — 170,589	California — 188,056	California — 199,593
3	Maryland — 156,112	Maryland — 165,670	Maryland — 177,874	Maryland — 196,400
4	Texas — 129,741	Texas — 136,488	Texas — 157,398	Texas — 168,109
5	New York — 114,721	New York — 110,724	Florida — 120,900	Florida — 130,690
6	Pennsylvania — 82,909	Florida — 101,691	New York — 117,739	New York — 119,592

I expected the most populated states to have the most employees. It also makes sense that DC would have the most employees, being the center of the government. It is interesing how Florida gradually overtakes Pennsylvania and New York in the number of employees. Next I will provide the average number of employees in each state for each of these years. This will do a good job showing how the overall size of the govenrment changes over the course of this timespan.

Year	Average Employees
2001	41828.24
2005	43895.55
2008	49347.78
2013	52324.04

4.2 Data Visualization

4.3 Relationships

5 Conclusion
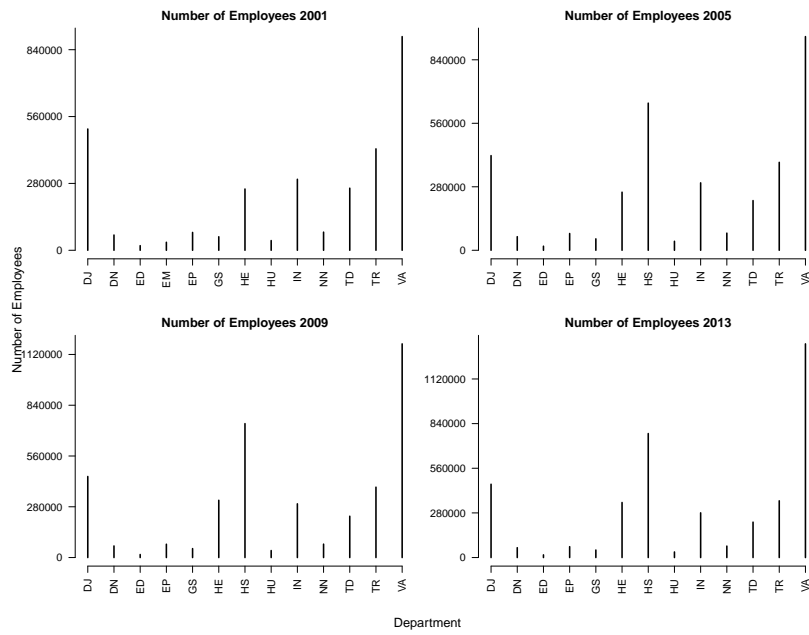
Figure 1: Number of Employees at Key Departments

Federal Employment by State, 2001
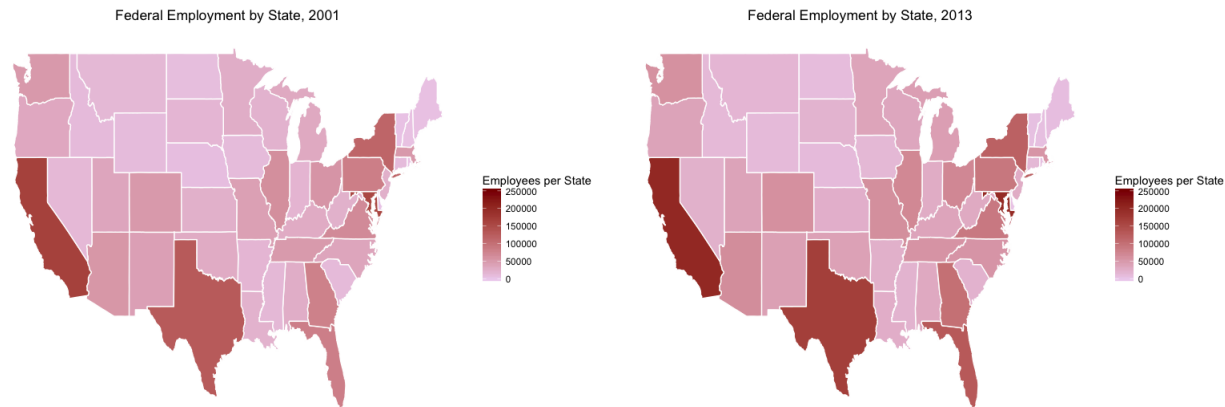
Federal Employment by State, 2013

Figure 2: Number of Federal Employees in Continental United States

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