Budgetary Redistributive Instruments and Electoral Support

A Dissertation
Submitted
to the Temple University Graduate Board

In Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

By
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May, 2009

ABSTRACT

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The goal of this dissertation was to model and test whether political parties once in power skew the federal budget in favor of their base. The theory includes the formation of a comprehensive theoretical model, which divided the budgetary instruments into two categories: monetary and political transfers. Using statistical tools, the dissertation examines the budgetary bias itself, the timing of its usage across the electoral cycle, and the substitutability of the instruments. The results found that political parties do bias budgetary funds towards their base. However, they tend to use tools, which are less visible to the opposition party and more evident to their base. The results confirmed that when parties use more of one type of transfer, they use less of the other. Finally, parties use alterations in total transfers to influence their base early in the election cycle, and move on to other means, such as platform alterations, as the next election draws closer.

DEDICATION

To my parents:

You have taught me the reason why education is important. For this, as well as your love and assistance along the way, thank you.

ACKNOWLEDGEMENTS

In a way, pursuing a PhD is like swimming against a tide; without proper training and appropriate motivation, one is not likely to make it too far. Throughout the process of conducting this research, I was lucky to have many trainers and motivators. Now that I am finally out of the rough waters, I would like to acknowledge those who helped me along the way.

Special thanks go to my graduate school 'mentor', Dr. Michael Goetz, and the two other members of my committee: Dr. Mohsen Fardmanesh and Dr. Paul Rappoport. I want to thank you all for taking the time to assist me throughout writing this dissertation. Each of you showed me what it means to be a caring teacher, and I will never forget your sense of commitment and the attention you paid to my fledgling research. I would also like to thank Dr. Megan Mullin, for taking the time out of her busy schedule to read my dissertation and provide clear, concise feedback.

I would like to thank Temple University, specifically everyone in the Economics Department: the professors who teach economics, the staff that helped me to coordinate my defense and the peers who provided a great sounding board throughout these years of graduate study.

I would like to thank my parents for providing me with shelter, food and support in my early graduate years, as well as pointing out the importance of perseverance through my later years. I would also like to thank my broader family members for their example. Each has shown their commitment to education in their own fields and, as the youngest, I have always tried to keep up.

It is also important to acknowledge my friends, who were always available to go out for a beer and talk. Those occasions provided a dose of reality as to what the working world was like, which kept me striving to enter back into it.

Finally, and perhaps most importantly, I would like to thank my wife. Thank you, Becky, for believing in me. Thank you for your patience when I have been anxious and thank you for helping me to broaden my goals. Although I began swimming this channel before I met you, I do not believe I would have finished without you creating the wave that brought me to shore.

"It does not require a majority to prevail, but rather an irate, tireless minority keen to set brush fires in people's minds…"

Samuel Adams

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CHAPTER 1

INTRODUCTION AND OBJECTIVES

1.1 Introduction

A political party's goal is to maximize its share of an electorate and, subsequently, win elections. In order to improve its chances of winning elections, political parties use all tools at their disposal—including governmental budgets. A political party in power may find it worthwhile to utilize budgetary redistribution and direct the proceeds towards its base either in order to reward loyal voters or to induce voters to vote for the party again in future elections. The central problem inspected in this dissertation will be whether political parties skew the federal budget in favor of their base.

This dissertation contains a comprehensive theoretical model that incorporates all forms in which a political party could bias governmental budgets towards their base. Recent research models will be slightly altered and will be combined to form an all-inclusive theory. The theory will present the tools (platform alterations, political transfers[1], and monetary transfers[2]) that a political party can utilize to influence an electorate. The degree in which budgetary tools are used, the timing of their usage, and the tools' substitutional properties will then be empirically estimated.

There are several reasons why this dissertation is relevant and important to the study of economics. First, this dissertation's problem directly studies how political parties can affect elections, which is the heart of public choice economics. Second, the model

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[1] Political Transfers are defined as alterations in governmental budgets where the political party in power disproportionately targets budgetary departments which align with their party platform.
[2] Monetary Transfers are defined as intergovernmental transfers targeted to areas where the political party in power is supported by a large percentage of the electorate.

enclosed suggests that a political party with budgetary control will bias spending towards its base, not towards the median voter. This clearly runs contrary to the median voter theorem. Third, a generalized increase in budget bias over time would provide a potential source of electoral polarization. Indeed, in all probability, the stakes of each election for party faithful would rise with a generalized increase in budget bias. Fourth, exposing the bias in budgets may constrain political parties' ability to utilize budgetary redistribution in the future. As the transparency of budgetary bias increases, political parties would be less inclined to take part, which may make their policy choices more equitable.

The methodology that will be used to study the problem is both theoretical and empirical. The Structure and Theoretical chapters will offer a systematic study of several theoretical models that originated within the discipline. Models by Glaeser et al. (2002) and Glaeser et al. (2004) will be presented in detail with a few minor alterations. For example, this dissertation's model will extend Glaeser et al. (2002) linkages from to include political linkages. The models will focus on platform alterations, political transfers and monetary transfers. The timing of the use of each model within the election cycle will also be hypothesized. The models will then be rehashed within a structure that offers a more comprehensive approach, combining the separate models into one all-inclusive theoretical chapter.

Although the theory will be immensely important in creating the thesis, the bulk of the contribution within this dissertation will be empirical. In the empirical section, four hypotheses will be modeled and directly estimated. The first hypothesis will deal with political transfers. It will state that governmental budgets are disproportionately targeted by the political party with budgetary control toward budgetary departments that align

with that party's platforms. The second hypothesis—entitled the monetary transfers hypothesis—will explain that federal (state) intergovernmental transfers are targeted to states (counties) where the political party with budgetary control is supported by a large percentage of the electorate. These two budgetary propositions and the empirical work involved in testing their validity will be the central components of this dissertation.

In order to provide a more succinct study of budgetary redistributive instruments and electoral support, the substitutability between the two budgetary instruments (political and monetary transfers) and the timing in which these instruments are used within the election cycle will also be inspected. A hypothesis will be laid out, which will explain that there is a degree of substitution between political transfers and monetary transfers. This is primarily because they are both budgetary instruments and budgets are assumed to be fixed at time t.

Finally, the timing of when these budgetary instruments are used will also be inspected. This hypothesis will propose that a marginal increase in transfers will be greater in the beginning of the political cycle and decrease as the next election approaches. It will be presumed that budgetary instruments have long-term effects and, therefore, are more practically used at the outset of an election term. Thus, budgetary changes that are made closer to an election are less likely to have a large effect on an electorate. Instead, political parties tend to focus on non-budgetary platform alterations in the lead up to an election because these alterations have short-term effects and the non-budgetary alterations can be filtered to a base.

In order to test the first hypothesis on political transfers, we will use data from various sources. The data ranges from 1981 to 2006 and is in annual terms. The federal

budget expenditure data comes from the Department of the Treasury. The data is cross-sectional, targeting departmental recipients of the federal expenditures. After manipulation, this data will construct the dependent variable. The main independent variables of interest will be party control and party platforms. The data for party control were obtained from the U.S. Office of the Clerk. The U.S. platforms data were acquired from Budge et al. (2001) and Budge et al. (2006). Control variables for the political transfers' empirical study will also be used; this data were mostly obtained from the Bureau of the Census.

A number of data sources will also be used to test the second hypothesis on monetary transfers. The data for this study will range from 1977 to 2003. The time period ends in 2003 because the data is lagged by two years and fresh data for the dependent variable had not yet been released. Data on federal to state transfers and population will be manipulated to create the dependent variable. The data on federal to state transfers were obtained from the Bureau of the Census: Annual Survey of Government Finances and is defined as intergovernmental revenue by the state government from the federal government. The state and national population data were acquired from the Bureau of the Census. The main independent variables of interest for the monetary transfers' empirical model will be party control and past electoral support used as a proxy for partisanship). The data for party control were obtained from the U.S. Office of the Clerk. The electoral support data were acquired from Congressional Elections (Congressional Quarterly), the Guide to U.S. elections (Congressional Quarterly), and David Leip's Atlas of Presidential Elections.

The third and fourth hypotheses will be examined by manipulating the data above. For instance, in order to test the substitutional properties, we will run a correlation on the two aforementioned models. In order to account for the common party control variable in each model, we will also back out that variable. In other words, we will take the correlation of each dependent variable less the common party control variable.

In order to test the electoral timing hypothesis, we will rank the average bias used by political parties for the four years in the election cycle. This bias will be revealed through the dependent variables in both the political and monetary transfers' models.

1.2 Objectives

This dissertation has the following objectives:

1) Provide an overview of political party platforms. Present state electoral results. Analyze the developments and differences between the two central parties. Provide an overview of the U.S. federal budgetary process and recent budgets.

2) Review the seminal literature on budgetary redistributive instruments and electoral support. Extend the literature review to modern research.

3) With the help of existing research, create a theory that explains political parties' motives in budgetary redistribution.

4) Test the core elements of the theory using data on the federal budget and U.S. election results.

5) Discuss the results and implications.

CHAPTER 2

PLATFORMS, ELECTIONS AND BUDGETS

2.1 Introduction

This chapter contains a review of the central data components of this dissertation and their recent history. First, political party platforms are inspected and innovative literature that quantifies U.S. political party platforms is introduced and explained. Second, the chapter analyzes state-by-state electoral results. Attention is then turned to resulting alterations in budgetary control. Finally, we review the federal budgetary process and conclude the chapter.

2.2 Political Party Platforms

A party platform, also known as a manifesto, is a list of the principles, which a political party supports in order to appeal to the public for the purpose of having said party's candidates voted into office. This often takes the form of a list of support for, or opposition to, controversial topics. Individual topics are often called planks of the platform.

Historical U.S. Republican and Democratic party' platforms exist from the mid-1800s for each Presidential election. These documents are readily available[3]. However, the documents do not specifically note changes from the previous document, four years prior. Further, the issues covered in the documents are not quantifiable and could not be easily compared to the opposition's stance on a certain issue. In that sense, comparative mapping over time of party policy or platform movement was not available. That changed recently.

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[3] http://www.presidency.ucsb.edu/platforms.php

In 2001, *Mapping Policy Preferences—Estimates for Parties, Electors, and Governments 1945-1998* was published. This book uniquely enriched the science of studying political party platform or manifesto movement. It enriched the field by supplying the most detailed and extensive data available on the policies and preferences of political parties in twenty-five democratic countries over a long history. The authors added to the field again in 2006 by releasing *Mapping Policy Preferences II* and extending the list of countries and the existing data set to 2003.

The data included with the books centers on the platforms endorsed by political parties in their election programs; and extending to the preferences of electorates and governments, they cover areas at the heart of rational choice theory, and indeed of political economy, policy analysis, and comparative politics. The data are extended in time-covering most or all of the post-war period for the twenty-five countries. The data lend themselves to comparable time series analysis.

Our interest is in the U.S. political party data. The data is broken down by the Republican and Democratic parties. The basis on which the platform estimates have been collected and formed is textual. Policy has been characterized quantitatively by examining parties' and governments' own statements of policy; hence, the manifestos or platforms of each party. Content Analysis is the method utilized[4].

The coding procedure compromises a quantification (how many statements do parties make?) and a classification (what kind of statements do parties make?) of platforms. The coding unit in a given program is the 'quasi-sentence', defined as an argument. An argument is the verbal expression of one political idea or issue. A 'quasi-

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[4] Content Analysis is a method developed for the analysis of documents in the early 1930s in the United States.

sentence' is a set of words containing, one and only one, political idea. It stops at either the end of the argument or at a full stop (period).

A classification scheme with invariant general categories is used to cover the total content of platforms by identifying statements of preference expressed within the platforms. This classification scheme contains 56 different categories grouped into seven major policy domains. The categories and policy domains are included in Table 2.1.

Table 2.1
56 Platform Categories in Seven Policy Domains
Source: Mapping Policy Preferences (2006)
1. External Relations
101 Foreign Special Relationships: Positive
102 Foreign Special Relationships: Negative
103 Anti-Imperialism: Anti Colonialism
104 Military: Positive
105 Military: Negative
106 Peace: Positive
107 Internationalism: Positive
108 European Integration: Positive
109 Internationalism: Negative
110 European Integration: Negative
2. Freedom and Democracy
201 Freedom and Human Rights: Positive
202 Democracy: Positive
203 Constitutionalism: Positive
204 Constitutionalism: Negative
3. Political System
301 Decentralisation: Positive
302 Centralisation: Positive
303 Governmental and Administrative Efficiency: Positive
304 Political Corruption: Negative
305 Political Authority: Positive
4. Economy
401 Free Enterprise: Positive
402 Incentives: Positive
403 Market Regulation: Positive
404 Economic Planning: Positive
405 Corporatism: Positive
406 Protectionism: Positive
407 Protectionism: Negative
408 Economic Goals
409 Keynesian Demand Management: Positive
410 Productivity: Positive
411 Technology and Infrastructure: Positive
412 Controlled Economy: Positive
413 Nationalization: Positive
414 Economic Orthodoxy: Positive
415 Marxist Analysis: Positive
416 Anti-Growth Economy: Positive
5. Welfare and Quality of Life
501 Environmental Protection: Positive

502 Culture: Positive
503 Social Justice: Positive
504 Welfare State Expansion: Positive
505 Welfare State Limitation: Positive
506 Education Expansion: Positive
507 Education Limitation: Positive
6. Fabric of Society
601 National Way of Life: Positive
602 National Way of Life: Negative
603 Traditional Morality: Positive
604 Traditional Morality: Negative
605 Law and Order: Positive
606 Social Harmony: Positive
607 Multiculturalism: Positive
608 Multiculturalism: Negative
7. Social Groups
701 Labour Groups: Positive
702 Labour Groups: Negative
703 Farmers: Positive
704 Middle Class and Professional Groups: Positive
705 Underprivileged Minority Groups: Positive
706 Non-Economic Demographic Groups: Positive

The data for each of the categories and domains for the Republican and Democratic parties within the U.S. ranges from 1948-2004. The frequency of the data is available every four years, once the political parties' platform becomes available. The score for each year is the number of 'quasi-sentences' on that subject during that specific year.

Since this dissertation will be focusing on the last quarter century, one can inspect that data within the seven broader domains in that period to get an idea of where political party transfers have occurred within the U.S. during each four-year election. Figures 2.1 and 2.2 present the average quasi-sentence rankings for each party.

Figure 2.1: U.S. Democratic Party Platforms

'Quasi-sentence' Rankings
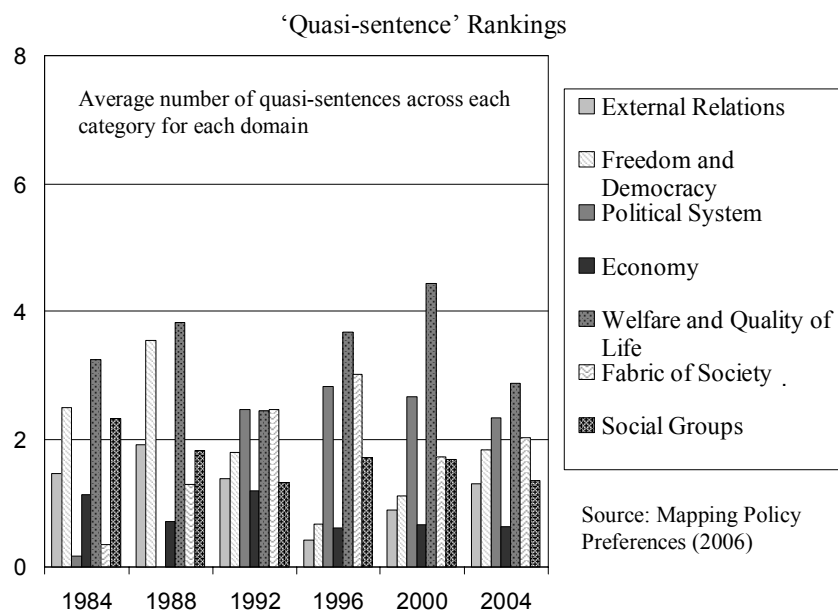
Figure 2.2: U.S. Republican Party Platforms

'Quasi-sentence' Rankings
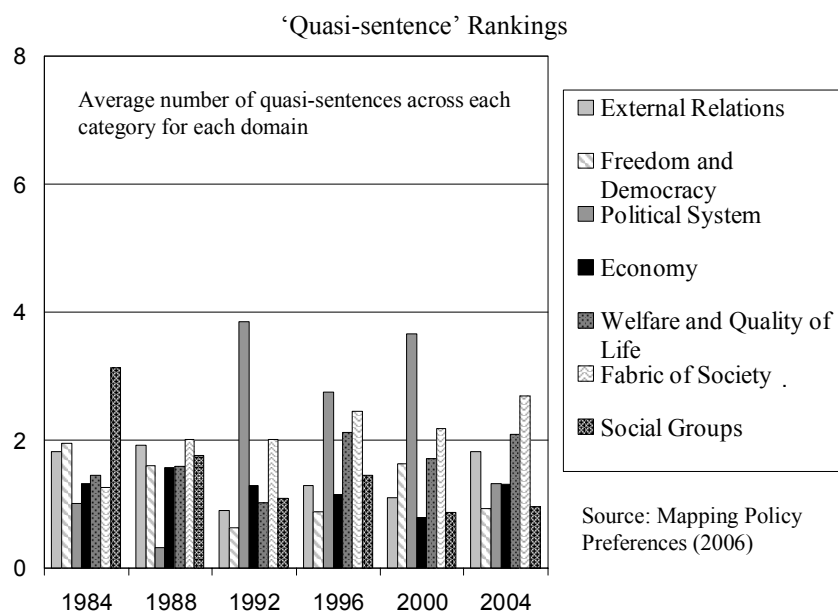
Over the twenty-year period, the Democratic platform tended to mention issues regarding 'Freedom and Democracy' and 'Welfare, Quality of Life and Social Groups'.

The Republican platform tended to mention issues regarding 'External Relations', 'Political System', 'Economy', and 'Fabric of Society'[5]. Nevertheless, the trends were very mixed. For instance, the Democratic platform mentions 'External Relations issues' more since the early nineties, while the Republican platform mentions 'Political System' less.

During the same period, the leading categories in terms of quasi-sentences for the Democratic platform were: Internationalism (Positive), Political Authority (Positive), Environmental Protection (Positive), Welfare State Expansion (Positive), Education Expansion (Positive) and Law and Order (Positive). The leading categories in terms of quasi-sentences for the Republican platform were: Military (Positive), Political Authority (Positive), Technology and Infrastructure (Positive), Traditional Morality (Positive) and Law and Order (Positive).

In terms of changes over the twenty-year span, Democrats largest increases were in National Way of Life (Positive), Economic Planning (Positive), and Political Authority (Positive). Republicans largest increases were in Foreign Special Relationships (Positive), Incentives (Positive) and Law and Order (Positive).

2.3 State by State Electoral Results

The alterations in platforms and the policy stances taken once in office undoubtedly affect electoral results. In terms of voting, some states remain loyal to one party. Others swing from party to party. The red, blue, and purple framework is frequently used to describe this process.

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[5] It should be noted that this paragraph, and the figures referenced, deals with the number of quasisentences within the broader domain. Therefore, it should not be taken as a policy stance on that domain. In order to gauge policy or platform stances on a specific issue, one must focus on quasi-sentence ranks within the domain. In other words, one must focus on a specific category.

Red states refer to those states whose residents predominately vote for the Republican Party. Blue states refer to those states whose residents predominately vote for the Democratic Party[6]. A purple state refers to a swing state where both Democratic and Republican candidates receive strong support without an overwhelming majority of support for either party.

Over the past twenty-five years, there have only been a few consistently red or blue states. In fact, only one state—Minnesota—was consistently blue (D won 100% of the time). Sixteen states, including Alaska, were consistently red from 1980 through 2004 (R won 100% of the time). The remainder were scattered in some shade of purple.

Figure 2.3: The Red, Blue and Purple States
Vote Share for Presidential Elections 1980 through 2004

- R won 100% of the time
- R won 66% or more
- R and D voting was mixed
- D won 66% or more
- D won 100% of the time

Source:
http://www.uselectionatlas.org/,
http://www.thegreenpapers.com/

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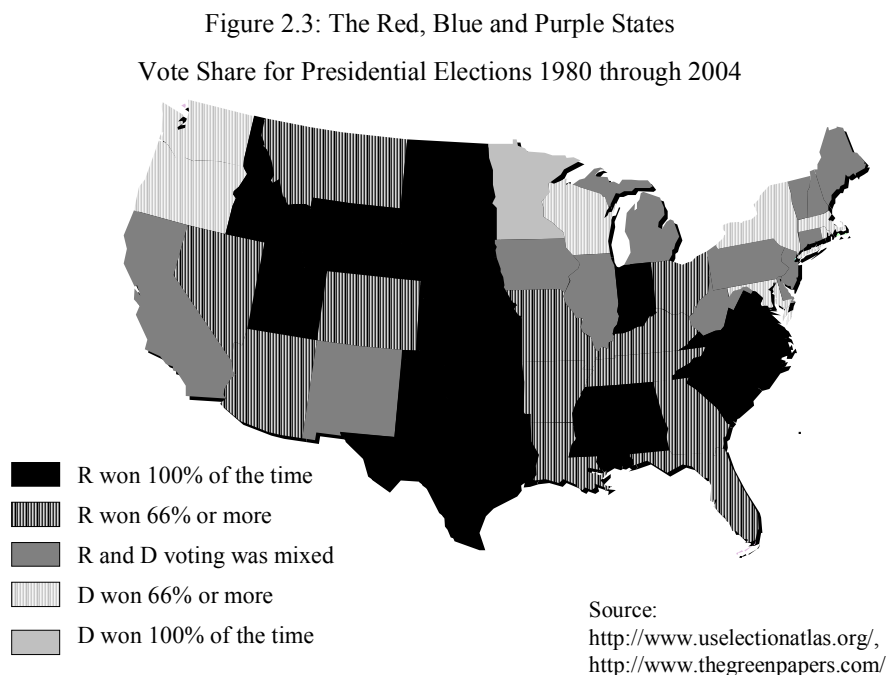
[6] According to the Washington Post, the terms red and blue states were coined by television journalist Tim Russert during his televised coverage of the 2000 presidential election.

The voting behavior in the purple shaded states has changed over time. The share of the purple shaded states that the Democratic Party won has grown significantly since the end of the 80s. This is most likely due to the support for President Bill Clinton and the highly polarized Presidential race is 2000. Nevertheless, many of these purple states could and are currently considered blue states. For example, from 1996-2004, Hawaii, California, Oregon, Washington, Wisconsin, Illinois, Pennsylvania, Maryland, Delaware, New Jersey, Vermont, New Hampshire, Connecticut, Rhode Island, and Maine were won by the Democratic Presidential nominee.

2.4 Federal Budgetary Control

The President and the Congress alter the federal budget. Therefore, party control of each branch is important in determining which party has federal budgetary control. There has been a lot of variability in the control of the federal budget over the past quarter century. In this section, we take a brief view of what has occurred from 1977 to 20034. As far as the executive branch goes, the Republican Party had 16 years with a party member in the White House. The Democratic Party had 12 years. Party control in the executive branch changed three times over this time span.

Table 2.2
U.S. Presidents
Source: http://www.thegreenpapers.com/

Date	President	Party Republican	Party Democrat
1977	Carter	0	1
1978	Carter	0	1
1979	Carter	0	1
1980	Carter	0	1
1981	Reagan	1	0
1982	Reagan	1	0
1983	Reagan	1	0
1984	Reagan	1	0
1985	Reagan	1	0
1986	Reagan	1	0
1987	Reagan	1	0
1988	Reagan	1	0
1989	Bush Sr.	1	0
1990	Bush Sr.	1	0
1991	Bush Sr.	1	0
1992	Bush Sr.	1	0
1993	Clinton	0	1
1994	Clinton	0	1
1995	Clinton	0	1
1996	Clinton	0	1
1997	Clinton	0	1
1998	Clinton	0	1
1999	Clinton	0	1
2000	Clinton	0	1
2001	Bush Jr.	1	0
2002	Bush Jr.	1	0
2003	Bush Jr.	1	0
2004	Bush Jr.	1	0

As mentioned earlier, the U.S. Congress is also involved in the budgetary process. Therefore, control of the two branches of Congress is important in determining the budgetary control.

Figure 2.4 Party Control of the U.S. Senate
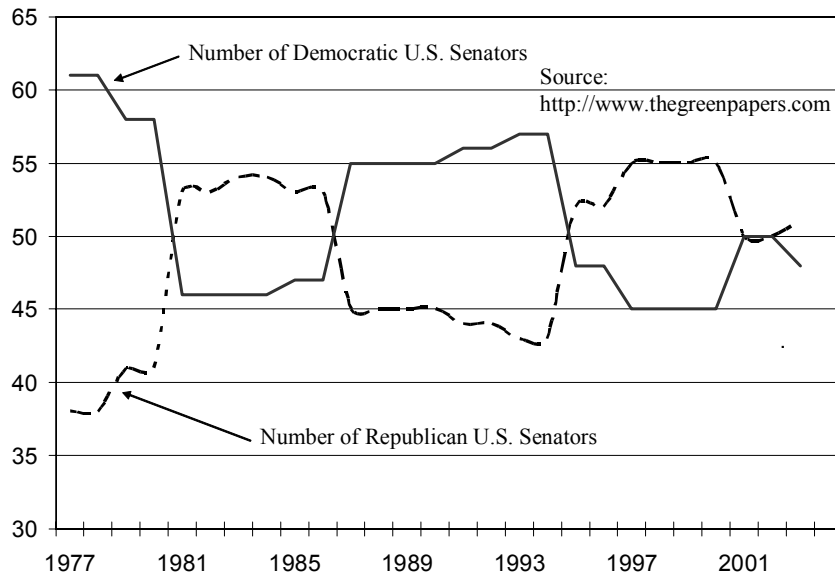
First, we review the U.S. Senate from 1977-2004 in Figure 2.4. The U.S. Senate is one of the two chambers of the U.S. Congress. There are 100 U.S. Senators. According to the figures, the Democratic Party held the majority in the Senate during the 70s. They lost the majority to the Republicans in the early 80s and gained it back in 1987. The Democrats had the majority until 1995, when the Republicans picked up 52 seats.

Figure 2.5 Control in the U.S. House of Representatives
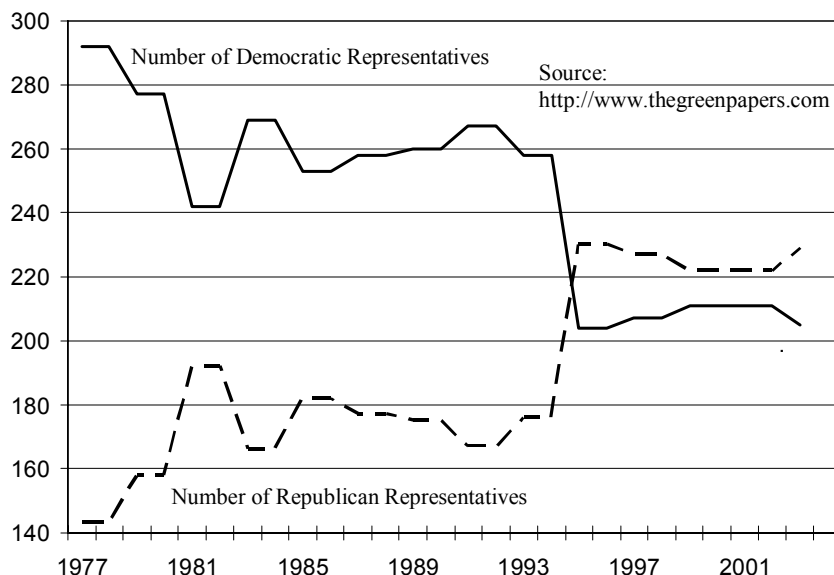
Second, we review the U.S. House of Representatives from 1977-2004 in Figure

2.5. The U.S. House of Representatives is the other chamber of the U.S. Congress. There

are 435 Representatives. According to the figures, the Republican Party has shown a

consistent upward trend in the House of Representatives, while the Democratic Party has

shown a consistent downward trend. Nevertheless, the Democratic Party held a veto-

proof majority in the House at the end of the 70s.[7] Therefore, the decline was not as vast

as the trends suggest because the Democrats were within striking distance of a majority

from the mid-90s to 2004.

2.5 Federal Budget Process

The Budget of the United States Government is a federal document that the

President submits to the U.S. Congress. The President's budget submission outlines

funding recommendations for the next fiscal year, which begins on October 1st. The

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[7] Since 2/3 vote is required to override, a veto-proof majority is 290 in the House and 67 in the Senate.

President's budget request constitutes an extensive proposal of the administration's intended spending and revenue plans for the following fiscal year. The budget proposal includes volumes of supporting information intended to persuade Congress of the necessity and value of the budget provisions. The budget request includes funding requests for all federal executive departments and independent agencies.

Congressional budget decisions are governed by rules and legislation regarding the federal budget process. The framework used by Congress in formulating the budget was established by the Budget and Accounting Act of 1921, the Congressional Budget and Impoundment Control Act of 1974, and by other budget legislation. House and Senate Budget committees each develop budget resolutions, which provide spending limits for the House and Senate Appropriations Committees' subcommittees, which then approve individual appropriations bills to allocate funding to various federal programs. After Congress approves an appropriations bill, it is sent to the President, who may sign it into law, or may veto it. A vetoed bill is sent back to Congress, which can pass it into law with a two-thirds majority in each chamber. Congress may also combine all or some appropriations bills into an omnibus reconciliation bill. In addition, the President may request and the Congress may pass supplemental appropriations bills or emergency supplemental appropriations bills.

Fundamentally, the budget resolution is structured along budget *functions*, or categories of spending. These functions are also known as departments. See Table 2.3.

Table 2.3
Budgetary Functions or Departments Source: The Congressional Budget Process: An Explanation
National Defense
International Affairs
General Science
Energy
Natural Resources and Environment
Agriculture
Commerce and Housing Credit
Transportation
Community and Regional Development
Education, Training, Employment and Social Services
Health
Social Security and Medicare
Grants to states for Medicaid
Income Security
Veterans' Benefits
Administration of Justice
General Government
Net Interest
Undistributed Offsetting Receipts

Functional categories often cut across agency lines. For example, the National Defense function includes certain Department of Energy programs as well as Department of Defense programs. Functions are further subdivided into "sub-functions." In addition, though these functions and sub-functions are included in a budget resolution, which determines how Congress considers budget related legislation, they have little correspondence to any committee jurisdictions. Functions are, however, useful in understanding the placement of any given account in the federal government. Each function, or department, within the budget may include "budget authority" and "outlays" that fall within the broad categories of discretionary spending[8] or direct spending[9].

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[8] Discretionary spending requires an annual appropriation bill, which is a piece of legislation. Discretionary spending is typically set by the House and Senate Appropriations Committees and their various

2.5.1 Spending by Budget Functions (or Departments)

The U.S. Federal Government collected an average of $1,348 billion from 1984-2004, while spending an average of $1,493 billion over the same time span, generating an average annual total deficit of $144 billion, which was added to the United States public debt. Since 1970, the U.S. Federal Government has run deficits for all but four years (1998-2001). Individual income taxes (45%) and Social Security/Social Insurance taxes (34%) are the primary receipt categories. Social Security, Medicare, and National Defense spending are the main spending categories (See Figure 2.6). Interestingly, income security and net interest are also leading areas of spending. The Departments of Energy and Commerce tend to get little funding.

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subcommittees. Since the spending is typically for a fixed period (usually a year), it is said to be under the *discretion* of the Congress. Some appropriations last for more than one year (see Appropriation bill for details). In particular, multi-year appropriations are often used for housing programs and military procurement programs.

[9] Direct spending refers to spending enacted by law, but not dependent on an annual or periodic appropriation bill. Most "mandatory" spending consists of entitlement programs such as Social Security benefits, Medicare, and Medicaid. These programs are called "entitlements" because individuals satisfying given eligibility requirements set by past legislation are entitled to Federal government benefits or services. Many other expenses, such as salaries of Federal judges, are mandatory, but account for a relatively small share of federal spending.

Figure 2.6 Average Federal Spending on Budgetary Departments 1984-2004
(in billions)
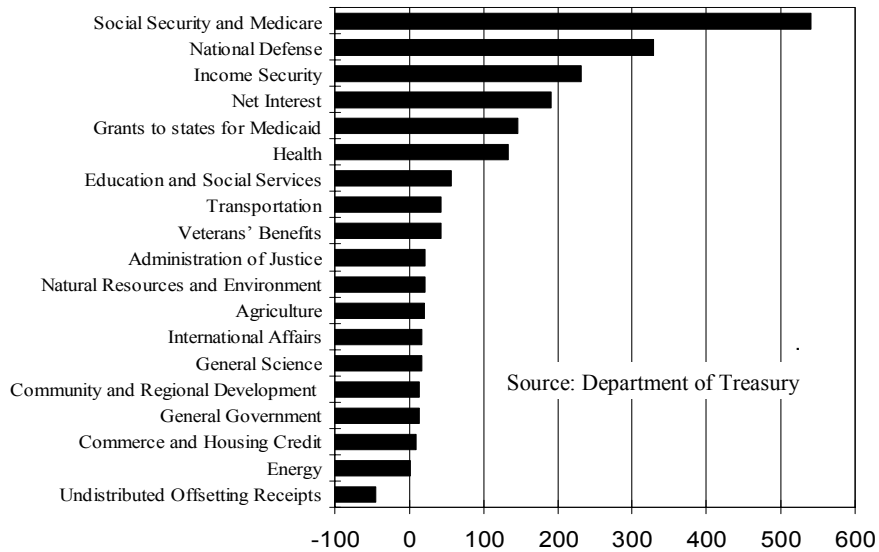
The leading growth categories were the Administration of Justice and the

Department of Health. General Government and Education are not far behind in terms of

growth. Whereas, funding for the Department of Energy has shrank over the twenty-year

span.

Figure 2.7 Growth in Federal Spending on Budgetary Departments 1984-2004
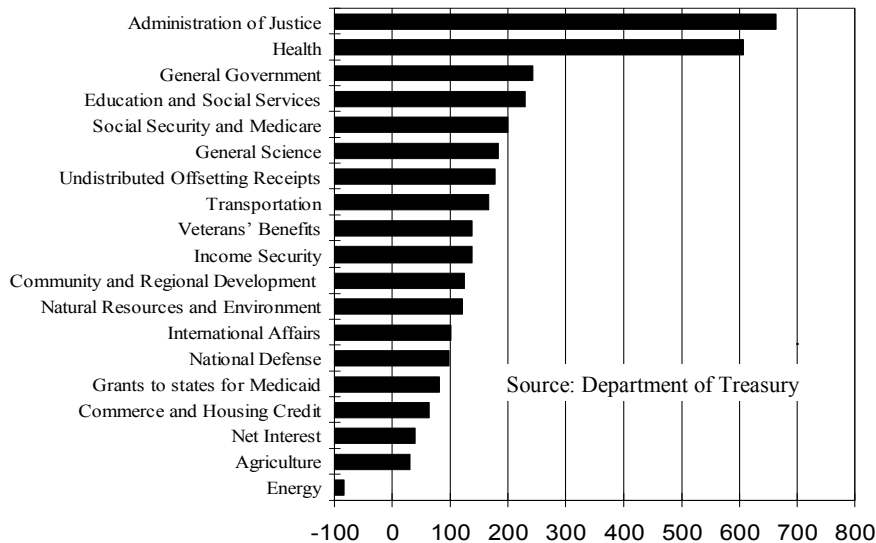
2.5.2 Intergovernmental Transfers

Portions of the monies spent on each function or department are sometimes transferred to state or local governments. In other words, the U.S. federal government counts as spending monies paid as grants to state and local governments. State and local government then spend these monies. This sort of spending is known as intergovernmental transfers.

According to data from the U.S. Census Bureau and the Department of Treasury, more than fifteen percent of federal outlays, one-third of state spending and forty percent of local spending are accounted as intergovernmental transfers. In order to avoid double counting, researchers typically look at state or local intergovernmental revenue from the federal government in order to gauge how much the federal government is spending on states or local areas via intergovernmental transfers. Figure 2 .10 contains map of the U.S which shows the states that have received the largest federal intergovernmental transfers.

Figure 2.8: Intergovernmental Transfers by State

Average Intergovernmental Transfer 1980 through 2004 (millions)

Greater than 380
260 < 380
160 < 260
75 < 160
Less than 75

Source: Annual Survey of
Government Finance
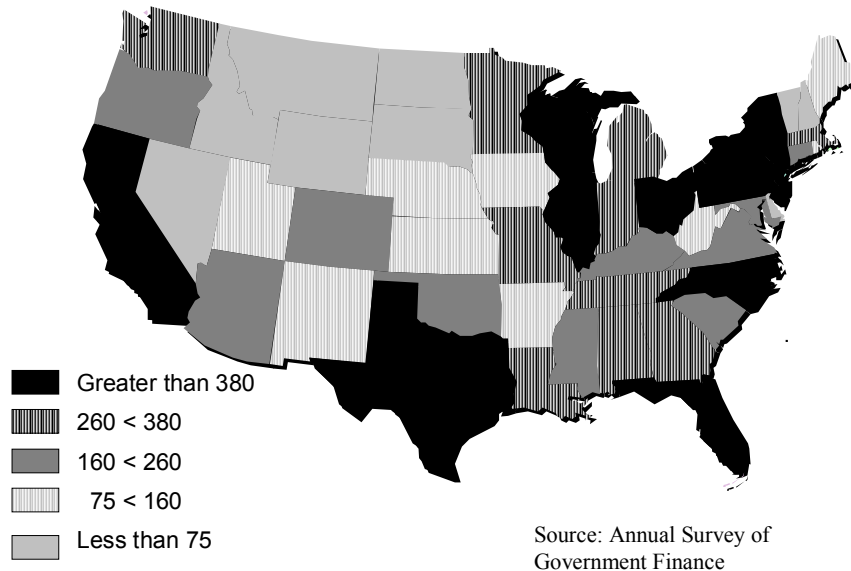
The results in Figure 2.8 are not terribly surprising. States with larger populations tended to receive more monies over the 25-year time span. Indeed, California, New York and Texas were the top three states. Meanwhile, Delaware, Vermont, and South Dakota were the bottom three. Adjusting the results by population makes the results much more interesting. The top five states in intergovernmental transfer revenues from the federal government per capita are Alabama, Wyoming, New Mexico, Virginia, and New York. The lowest five are North Dakota, Florida, Vermont, Arizona, and Texas. We will be inspecting these numbers, as well as the data put forth earlier in this chapter, in a more in-depth fashion in the empirical section of the dissertation.

CHAPTER 3

LITERATURE REVIEW

3.1 Introduction

This dissertation separates the literature review into two segments. To provide the

reader with greater context both a seminal and a recent section are constructed. The

seminal literature review covers the papers that developed the setting for the recent

contributions. Section 3.2 contains the seminal section. These influential pieces built the

discipline, and consequently, remain extremely relevant. The recent literature builds upon

the central themes in the seminal pieces and extends them in new varying directions.

Section 3.3 concentrates on literature concerning affiliations and linkages, monetary and

political transfers, techniques to alter an electorate and political party objectives. The

literature provided offers an essential tool in the creation of this dissertation's theoretical

approach and empirical methodology.

3.2 Seminal Contributions

The contributions reviewed below offer the initial approaches to studying the

subject matter discussed in this dissertation. The authors created the discipline and

shaped their respective fields. The seminal pieces in this review are divided into two

groups: public choice and public finance. The public choice element discusses the origins

of how economists studied voting behavior and political decision-making. The public

finance component discusses governmental policy and its affects. Specifically, the

Tiebout (1956) paper originated the topic of migrant movement amongst districts in

response to public finance policies, which gave grounds for the theory behind Glaeser et al. *Curley Effect* (2002).

3.2.1 Public Choice

Early economic models of economists attempted to reconcile the political behavior of individuals with the assumptions of rationality that supported economic theory. Hotelling (1929) analyzed how strategic considerations often lead competing stores to locate almost next to one another in the middle of town, even though consumers would be better off if they located on opposite sides of town. In general, Hotelling complained that buyers are confronted with excessive sameness. In a famous side comment, Hotelling suggested the same principal applied to political competition.

As a graduate student, Anthony Downs considered the hypothesis that government officials bring their own private motives to their public offices and as a result, public policies reflect their private goal-oriented behaviors. Downs' book, *An Economic Theory of Democracy* (1957), built on this, creating an all-inclusive theory of democratic decision-making that assumes rational, self-interested behavior on the part of political actors, including voters as well as party leaders. Although Downs' research focused on individuals, recent research includes how political parties and the special interests behind them can alter political actors' preferences, thereby contributing to the interest of the party through the politician. Downsian research benefits this dissertation by providing one explanation of the inefficiencies in governmental policies.

Downs (1957) was a significant contributor to what is now known as the "the median voter theory". The median voter theorem was first articulated in Duncan Black's 1948 article, *On the Rationale of Group- Decision making.* The theory proposed that if all

voters could be represented along one dimension, then politicians seeking to win the election would reduce the problem to the voter who is in the middle (or median). Capturing this voter would therefore, sway the election in the parties favor. This theory has been subsequently used to explain convergence of platforms in a two-party system.

Downs' (1957) analysis of political party equilibrium was created under a setting which anxiety was associated with majority rule instability. His dissertation advisor, Kenneth Arrow, developed this concept. Arrow (1963) was troubled with the normative principles, which a social choice function ought to satisfy, and established that several evident and essential principles were logically incompatible. In turn, Downs needed to counter the criticism. He did so by explaining that Arrow's criticism was not always applicable and even when it was appropriate, its' impact was restricted to a much narrower scope of choice than one might have presumed. Therefore, Downs argued that majority rule instability is less likely. Hence, Downs and Arrow fostered the argument around majority rule and its issues. This dissertation expands on this, pointing to some potential political tribulations in set theory of majority rule elections.

In 1962, Buchanan and Tullock wrote an influential book entitled, *The Calculus of Consent: Logical Foundations of Constitutional Democracy*. The authors analyze the traditional political science approach to voting and how the discipline viewed majority voting as the standard instead of unanimity voting. They explain that neither system is flawless since each involves opportunity costs. This piece presents the basic principles of public choice theory. While many political scientists define the political process as a system in which the policy decisions are viewed as a private interest versus public interest struggle, Buchanan and Tullock suggest that the public interest is simply the

aggregation of private decision makers. The authors explain that the tradeoffs can be part of a political market transaction, where voters strongly desiring a policy could purchase the acceptance of the opposition or provide concessions in turn. The essence is that log-rolling is to be expected. This dissertation extends this point, with a model that theorizes how parties are attempting to buy their constituents' votes by offering policies or monetary transfers in return.

In 1965, Mancur Olson wrote about how policy objectives sought by interest groups comprise public goods- free to those who choose not to contribute. Therefore, even interested citizens are motivated to free ride on lobbying efforts of others with similar policy goals. As a result, many shared interests go unrepresented. His work pointed out the use of selective incentives in many political organizations, the failure of some interests to organize effectively, and accordingly skewed public policies. This piece provides the building blocks for questioning how a redistributive bias affects an electorate. If many "free-ride" on policies they will still support the outcome and the method to achieve those policies. Therefore, they would be more likely to vote for the party that achieves their admired policy in the future. This work explains how mobilization, conversion, and migration could all be affected by policy decisions. Hence, a party's policy decisions may hold sway over the shape of the electorate.

3.2.2 Public Finance

It is clear that much Public Economics research was devoted to exploring the Public Choice side of the equation. There was also a plethora of research devoted to Public Finance. One seminal paper is of specific interest to this dissertation's problem. This paper was written by Tiebout (1956) and was entitled, *A Pure Theory of Local*

Government Expenditures. This article was a direct play on the preceding Samuelson (1954) article, *The Pure Theory of Public Expenditures*. Tiebout's primary theory was that the free-rider problem is eliminated when local governments offer goods to citizens who can migrate among divergent communities. If citizens are faced with an assortment of communities that put forward dissimilar types or levels of public goods and services, then each citizen will select the community that maximizes his or her utility. Individuals effectively disclose their preferences by "voting with their feet." Citizens with high demands for public goods will concentrate themselves in communities with high levels of public services and high taxes, while those with low demands will choose other communities with low levels of public services and low taxes. Competition among jurisdictions results in homogeneous communities, with residents that all value public services similarly. In equilibrium, no individual is made better off by moving, and the market is efficient. A political solution is not required to provide the optimal level of public goods.

This model is of vital importance to the direction and focus of this dissertation. Tiebout spotlights migration of individuals in response to public policy. The contribution this dissertation puts forth is partly based on this theory. However, this dissertation adds to the theory explaining that policy re-shapes the electorate through migration, conversion, and mobilization. Therefore, it may be in a political party's best interest to focus on policies that shape an electorate, particularly, around election season. Tiebout's (1956) model is at odds with Glaeser's (2002) "Curley Effect" in that the Curley Effect alludes to situations where policy-related migration has an inefficient outcome. All told,

Tiebout's study was fundamental in the construction Glaeser et al. (2005), which was essential in the construction of this dissertation.

3.3 Recent Works

The contributions reviewed below offer a more 'detailed' approach to the subject matter discussed in this dissertation. The studies are varied; but the whole contributes to the style and breadth of this dissertation's theory and also enhances the detailed methodology involved in this dissertation's empirical modeling. The recent works section begins with an analysis of Glaeser et al. (2005). This paper describes political strategies used in order to increase the relative size of a political base through distortionary, wealth-reducing policies. This dissertation's theory extends this definition beyond one politician and applies it to political parties as a whole.

Therefore, the second subsection (3.3.2) broadens the first by providing a detailed analysis of political parties as linkages. The third subsection (3.3.3) specifies and defines the first tool a party would be able to use—called monetary transfers—in order to influence an electorate. This section analyzes research devoted towards redistributive transfers—or what this dissertation defines as 'monetary transfers'. The fourth and fifth subsections (3.3.4 and 3.3.5) provide an analysis on platforms, and broaden this research to platforms utilized; or what this dissertation calls 'political' transfers.

3.3.1 Curley Effect

Glaeser et al. (2005), studies James Michael Curley's reign as a four-time mayor of Boston. Curley used wasteful redistribution directed toward his poor Irish constituents and provocative rhetoric to persuade more affluent citizens to emigrate from Boston,

thereby shaping the electorate in his favor. Consequently, Boston stagnated, but Curley continued winning elections. Curley's motivation for attempting to change an ethnically diverse city into a Gaelic beacon was apparent. He represented the poor Irish and they would vote for him. The city's rich non-Irish citizens loathed him because of his policies, his corruption, and his rhetoric. Yet, Curley continued his rhetoric and transfers with the goal of turning Boston into a city that would elect him repeatedly.

Glaeser and Shleifer (2005) call this political strategy of increasing *the relative size of one's political base through distortionary, wealth- reducing policies,* the Curley effect. This strategy is not unique to Curley, according to the authors. The paper discusses Detroit's Coleman Young, who drove white residents and businesses out of the city in his 24 years as mayor, and Zimbabwe's President Robert Mugabe, who abused the white farmers after his country's independence and openly encouraged their emigration at a huge cost to the economy, as two other examples. The Curley effect turns traditional views about the requirements for good government on their head. The effect relies on differentially taxing different groups of voters, so the incumbent leader can encourage emigration of one of the groups, and maximize the share of voters who support him. While benefiting the incumbent these taxes may actually impoverish the area and make the 'favored' and 'non-favored' worse off.

The Curley Effect has several important implications for this dissertation. The theory explains that politicians may have it in their best interest to redistribute wealth to their favored constituency. This redistribution will trigger a reaction in the local electorate, which may be favorable or unfavorable to the local economy. This dissertation will utilize the Curley Effect –*increasing the relative size of one's political base through*

distortionary, wealth reducing policies- and extend it to a larger setting, the United States. The theoretical model on monetary transfers provided in this dissertation will alter several other aspects of the Curley Effect. First, the leader will not be a single person; but rather political parties. Therefore, there are two groups to the model, since the U.S. has a two-party system[10]. Accordingly, there is one party with more control and on the other side; there is an alternative party with limited control. Each party seeks to maximize their support in an upcoming election. Second, this dissertation focuses on extending the model through the entire United States[11]. Third, the racial, national, and religious linkages are converted into simply political linkages[12]. Lastly, the transfers will not simply include a broad definition of transfers. Instead, our model narrows the definition somewhat, allowing the political party to utilize government to government (monetary transfers) or department to department transfers (political transfers).

3.3.2 Parties as Linkages

The social linkages—between one individual and another—accounts for much of the theoretical extension within this dissertation. James Curley utilized his Catholic and Irish linkages with his constituency in order to fuel his re-election campaigns. It is important to point out that linkages are not confined to religion and ethnicity.

Shayo (2005) points out that the social groupings extend to nationalities and wealth classes. Drawing on a vast empirical literature, the author offers a definition of

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[10] A two-party system is a form of party system where two major political parties dominate the voting in nearly all elections. As a result, all, or nearly all, elected offices end up being held by candidates endorsed by one of the major parties.

[11] Therefore, migration is not the sole effect considered. Instead, this dissertation's theory would alter the electorate in three ways: conversion, migration or mobilization. Nevertheless, it should be noted that this dissertation's purpose is to prove these budgetary redistributive techniques are being utilized, not to prove how specifically—be it conversion, migration or mobilization—they are affecting the electorate.

[12] The political linkages may include racial, religious, and even nationalistic linkages between the voters and a specific party.

social identification and an equilibrium concept where social identities are endogenously determined. He applies this framework to the political economy of redistribution in democracies, focusing on class and national identities. Shayo presents new empirical evidence that supports the main implications of the model, namely: (a) that identifying with one's nation is more likely among the poor than among the rich; (b) that controlling for income, national identification reduces support for redistribution and (c) that across democracies there is a strong negative relationship between the prevalence of national identification and the level of redistribution. The model points to common national threats and to diversity within the lower class as factors that may reduce redistribution and suggests the possibility that rising inequality may lead to less demand for redistribution.

Many authors have extended the social linkages to political parties. Social capital and political parties seem like a likely couple. Social capital is based on forging relationships between neighbors for any number of purposes. Campaigns and elections may also fall under this heading. Putnam (1993) argues that social capital is tied to civic engagement. In fact, Putnam (2000) explains how both social capital and civic engagement have been on decline over the past 40 years.

Weinstein (1999) suggests a direct linkage between political parties and social capital. The author argues that party mobilization leads to improved political participation. The paper demonstrates that aggregated levels of party contact in the American states strongly affect participation rates. The author also shows that party mobilization has a strong affect on group membership and informal socializing. Interestingly several theorists disagree, explaining that social capital may prove a

hindrance to a party's mission. Uslaner (2005) explains that too much political participation may push a party to ideological extreme and make it more difficult to win an election.

Regardless of a firm linkage between political parties and social capital formation, there is a clear link among political parties and the formation of group membership.[13] This will be an important part of dissertation because this dissertation theorizes that political parties will attempt to utilize this linkage and exploit it to their advantage.

Political parties' goals are to maximize their collective legislative capabilities while adhering to the party platform. Political parties play a role in electoral competition by providing signals of a candidate's political ideals to potential voters. Snyder et al. (2002) researches the function played by political parties in electoral competition, seeking to understand why parties exert discipline upon its members. In other words, the authors attempt to explain why parties' attempts do not strictly maximize legislative capability. The theory models parties as "brands" to voters and constructs parties as entities that provide a signaling device to voters. This signaling is effective because party membership in the model imposes costs, which screen out candidates who are not sufficiently close to the party's platform. The authors find that when parties' labels are very informative, the parties' platforms converge. The opposite holds true when party labels are not informative. Therefore, as parties are less able to screen candidates, their platforms move further apart.

Ansolabehere et al. (2005) study the elections that contain a divergence amongst party platforms and party candidates. More specifically, the authors attempt to answer

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[13] Putnam (1993), Putnam (2000), Weinstein (1999), Uslaner (2005), Seyd and Whitely (2002), Anderson and Young (2000).

why individual politicians would step away from party platforms. They explain that theoretical analyses of party platform choice commonly assume that parties act as teams to maximize their legislative representation. This assumption runs counter to another line of theorizing in which individual legislators maximize their own chances of winning reelection. To resolve this tension, they present a model of party platform choice that relaxes the assumption that parties are teams in the classical two-party spatial model. Platforms are chosen by majority rule among all legislators within a party. Politicians seek to win their own seats in the legislature, but they must run under a common party label. In both single member district and proportional representation systems, equilibrium platforms are shown to diverge substantially, with one party located near the 25th percentile of the voter distribution and the other near the 75th percentile, rather than converging to the median.

Voters utilize elections either to reward performance or to pick out qualified candidates. The two are not necessarily compatible. Synder et al. (2005) point out that the two may be incompatible because the retention of good types prevents citizens from using votes to discipline incumbents. They develop a model of repeated electoral competition that examines both incentives. In each period, a randomly drawn interest group attempts to "buy" an incumbent's policy choice, and a voter chooses whether to replace the incumbent with an unknown challenger. The model predicts that "above average" incumbents face little discipline, but others are disciplined increasingly—and re-elected at a higher rate—as the interest group becomes more extreme.

Parties seek to get their candidates elected and in doing so, maximize their representation in public office. Strategy comes into play because resources are scarce.

Therefore, parties attempt to maximize their representation by utilizing any tools at their disposal. Regional policy—, which consists of differing party policies across different regions—is important for parties as they attempt to maximize their supporters. Synder et al. (2004) points out how malapportionment of state legislatures before the mid-1960s changed the underlying assumptions of a party's maximization problem. The malapportionment gave urban and suburban voters much less representation than they deserved.

This paper documents that suburban and urban voters had markedly different policy preferences, party identifications, and partisan voting behavior than did rural areas, which were overrepresented. However, the authors point out that the patterns are not uniform. In the Northeast and North Central, the suburban and urban under represented areas were much more Democratic than rural areas. In the South and the West, the rural areas leaned more Democratic than the urban and suburban voters did. Policy preferences split differently in the Northeast and North Central than they did in the South and West. Urban and Suburban voters were much more liberal on social welfare and economic issues than rural voters in those areas were. In the South and West, there were few differences across locales. The urban and suburban areas had attitudes that are more liberal on only one issue throughout the nation: racial politics. Court-ordered reapportionment, thus, increased the political weight of liberals and Democrats in the Northeast and North Central, but not in the South and West. Consistent with Erickson (1973), reapportionment moved the median voter in all regions to the left on issues of civil rights and racial policy. This piece visibly points out how policy can shape an electorate.

Several theories explain how policy can shape an electorate by migration and mobilization. However, conversion can also affect electorates. Biais and Perotti (2002) provide a model of what they call "Machiavellian Privatization", and suggest that middle-class voters can be induced to shift voting preferences from left to right with a strategic privatization program allocating them enough shares. This piece directly focuses on a policy's impact on a voter's incentives to transfer parties.

Although policy may alter an electorate, it also has its costs. Alsesina (1995) explores how the political process in the United States influences the economy and how economic conditions influence electoral results. The author explains how the interaction between the President and Congress leads to the formulation of macroeconomic policy and how the American voters achieve moderation by balancing the two institutions. Fluctuations in economic growth are shown to depend on the results of elections and, conversely, electoral results depend on the state of the economy. Through utilization of the political business cycle model, the author explains that "timing" is an important element in the political policy. This dissertation will also inspect the timing of political policy.

3.3.3 Policy: Monetary Transfers

This dissertation establishes a theoretical model by combining some of the aforementioned authors' theories and adding new substance to the models. This dissertation's theory focuses on U.S. parties and U.S. elections. The central theme is that U.S. political parties will bias budgetary instruments (monetary and political transfers) towards their base when they have control of the budget in order to either reward loyal voters or bait future voters.

This dissertation forms a broad theory on political party's behavior and shapes it into an empirical test of some contemporary value. Generally, the more consistently one state votes with a specified party, the more "red" or "blue" they are thought to be. We suggest that a political party with budgetary power[14] could systematically bias transfers (redistribution) to states or counties (red or blue) that primarily that party into office. We test this by inspecting the provision of intergovernmental transfers from the federal government to state governments. An alternative would be to test the provision of transfers from state governments to their respective county governments[15]. Lastly, one could consider the provision of transfers from the federal government to county governments. The first test would be preferred because it would have the broadest implications, data is readily available, and previous research has studied state to county research.

For instance, Ansolabehere and Snyder (2003) examine the effects of party control of state governments on the distribution of intergovernmental transfers across counties from 1957 to 1997 and the results found within are vital to this dissertation. They find that the governing parties skew the distribution of funds in favor of areas that provide them with the strongest electoral support. This is borne out in two ways: (a) counties that traditionally give the highest vote share to the governing party receive larger shares of state transfers to local governments; and (b) when control of the state government changes, the distribution of funds shifts in the direction of the new governing party. They find no evidence that parties reward electorally pivotal counties- counties that are near the median of the state (median voter) or that have relatively high levels of

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[14] This dissertation discusses the aspects of budgetary power in subsequent sections and specifically describes the technique utilized here within for party control over budgetary power in the empirical section.
[15] This has already been tested by Ansolabehere et al (2003).

electoral volatility (high swings). Finally, they find that increased spending in a county increases voter turnout in subsequent elections. This suggests that parties have an electoral incentive to skew distribution of funds to influence future election results.

In this model, parties systematically transfer resources to counties that vote for them and away from those who vote against them. Therefore, the question is, does this occur on the federal level as well? In other words, does the Curley effect (defined as increasing the size of one's political base through distortionary, wealth-reducing policies) occur at both state and federal governmental level when observing the redistribution as a bias in transfers? This dissertation will attempt to answer these questions.

There is abundant research in the area of monetary transfers that can supplement the Ansolabehere and Snyder (2003) paper. For instance, Atlas et al. (1995) lends credence to the theory that politics is of importance in the dispersement of federal monies amongst states. Atlas et al. explain that researchers have paid considerable attention to the reasons for government growth over the past century (i.e. Peltzman, p. 80). Precious little research has been devoted to how the growing government "pie" is divided between the various political subdivisions of a nation. In this study, the authors examine the distribution of the United States Federal government's net spending across states. Their findings suggest that the per capita federal net spending obtained by the state is determined by both economic and political-institutional factors. That is, the secured per capita federal net spending depends not only on the concentration of interest groups within the state, but also on the structure through which these groups are represented in the political process.

Several studies ask what impact monetary transfers or redistribution has upon the electorate. For instance, Razin et al. (1998) finds the extent of taxation and redistribution policy is generally determined as political-economy equilibrium by a balance between those who gain from higher taxes/transfers and those who lose. In a stylized model of migration and human capital formation, they show -- somewhat against the conventional wisdom -- that low-skill immigration may lead to a lower tax burden and less redistribution than would be the case with no immigration, even though migrants (naturally) join the pro-tax/transfer coalition. Data on 11 European countries over the period 1974 to 1992 are consistent with the implications of the theory: a higher share of immigrants in the population leads to a lower tax rate on labor income, even after controlling for the generosity and size of the welfare state, demographics, and the international exposure of the economy. As predicted by the theory, the increased share of low education immigrants leads to the smaller tax burden.

Ansolabehere et al. (2002) examine the relationship between state legislative representation and public finances. *Baker v. Carr* and subsequent court cases led to the equalization of population in U.S. state legislative districts. Analysis of state transfers to counties finds strong evidence that the equalization of legislative representation had a large effect on the distribution of state resources. First, cross-sectional analysis shows that counties with relatively more legislative seats per person prior to redistricting received relatively more money from the state per person. Second, comparing counties before and after the court ordered redistricting; counties that lost seats subsequently received a smaller share of state funds per capita. They calculate that population equalization significantly altered the flow of state transfers to counties, diverting

approximately 7 billion dollars annually from formerly overrepresented to formerly underrepresented counties. In summary, the authors discuss the relative nature of state transfers to counties and find that counties with more representation tend to receive more funds.

Interestingly, Larcinese et al. (2006) counter the some to the theory provided above. They analyze the relationship between Congressional overrepresentation and federal budget allocation to the states during the period 1978-2002. Using different spending categories, they investigate whether small states, which are typically overrepresented in both the senate and the house, receive significantly more spending than the underrepresented large states. Contrary to existing studies, they find that defense and procurement spending are not influenced by overrepresentation, while less manipulable spending categories, such as entitlement grants and salaries, seem to be affected. However, once state specific trends – (largely due to population trends) are taken into account, they do not find any evidence of overrepresentation bias on federal spending. Hence, overall their results run against the hypothesis of small state advantage in the federal budget allocation.

Alston (2006) explains that the Brazilian Constitution of 1988 gave relatively strong powers to the president. Alston models and tests executive-legislative relations in Brazil and demonstrate that presidents have used pork as a political currency to exchange for votes on policy reforms. In particular, Presidents Cardoso and Lula have used pork to exchange for amendments to the Constitution. Without policy reforms, Brazil would have had greater difficulty meeting its debt obligations. The logic for the exchange of pork for policy reform, is that presidents typically have greater electoral incentives than members

of Congress do, to care about economic growth, economic opportunity, income equality, and price stabilization. Members of Congress generally care more about redistributing gains to their constituents. Given the differences in preferences and the relative powers of each, the legislative and executive branches benefit by exploiting the gains from trade. This paper deals with pork as a redistributive political currency, which is exchanged for votes, in line with the topic of this dissertation.

3.3.4 Policy: Political Transfers

In addition, to direct monetary redistribution (monetary transfers), general policy (or political transfers) can also affect an electorate. Glazer and Kondo (2005) explain that residents both enjoy the policies adopted in their cities, and choose those policies. If some people can better evaluate policies than others can, then the most perceptive people will be the most willing to move to the city with better policies, thereby making that city more likely to adopt good policies in the future. Such migration can cause agglomeration, with some cities prospering and others failing. Following this finding, but more specific to monetary transfers, Hansen and Kessler (2001) study how mobility and taxation interact. Their model explains why tax rates are lower in small countries than in large ones. People differ in their incomes, and migration arises from self-selection. In their model, the political equilibrium has rich people voting for low taxes and low grants; poor people vote for high taxes and high grants.

This dissertation will present a theoretical model on how parties decide which platforms to consider. Indeed, this dissertation directly tests policy transfers, or what we call political transfers.[16] Political parties tend to follow their platforms in what they

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[16] Political transfer is defined as redistribution from one budgetary department to another budgetary department.

consider important policy initiatives. For instance, the Democratic Party typically would prefer to enlarge the budget of the Education Department; whereas, the Republican Party would prefer to enlarge the budget of the Defense Department. The act of transferring monies from one of these budgets to the other is what we call a political transfer.

This dissertation also forms a theory on a political party's political transfer behavior and shapes it into an empirical test. The interest is in governmental departments. Generally, the more consistent one party's platform is towards a given department, the more that party will tend to transfer money to it once they obtain budgetary power. This can be tested empirically utilizing budgetary data and providing weights for political party platforms.

3.3.5 Politics: Platform Adjustments

Simple non-budgetary political policy, such as platform adjustments, may also affect the electorate[17]. The affects of this type of political policy will be distinct from budgetary redistributive policy because the political policy will not yet be a budgetary item. Despite the lack of budgetary prowess, the 'platform alteration'[18] will affect both the opposition and the party's members through mobilization, conversion, and perhaps migration.[19] A current example would be the Republican Party's attempts to push through a 'Gay Marriage Amendment'. Through this policy, the party was attempting to mobilize its base. However, this policy may also mobilize the opposition. Therefore, the political party weighs potential costs and potential benefits. For instance, this alteration may also

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[17] This is not necessarily a direct concern to this dissertation because platform alterations do not affect a budget in the immediate term. Only policy—which stems from a platform—affects budgets. These policies are political transfers. Nevertheless, in order to model what is occurring in the most appropriate manner, this dissertation does include platform alterations in its theory.

[18] I define a platform alteration as a rewarded politically-related platform adjustment from a political party, which is utilized to excite the party's base.

[19] The political transfer may be an item that will convince some voters to alter the preferences in some manner, and therefore, it may alter the voter utility function.

affect migration because those who are against gay marriage may *migrate* out of a specified state if the law is left to state control. The mention of a possible federal amendment banning gay marriage, may *mobilize* voters on either side of the issue to vote. These voters may be individuals who would have typically stayed home on election day. Lastly, the amendment could also *convert* preferences of members of either party, depending on their beliefs regarding the subject.

Platform alterations are also distinct from monetary or political transfers in that they are a short-term instrument. Generally, the platform alteration is a one-time subjective alteration that may have lasting impacts; whereas, monetary transfers, or political transfers will be a long- term phenomenon because they directly affect the budget. Platform adjustments are also more directly targeted to a party's base; whereas, transfers may apply to some outside the targeted base. Therefore, platform adjustments are simply another tool (although a non-budgetary tool) for parties in a attempts to alter the electorate.

Research on political party platform alterations is in bloom. Indeed, a number of papers have been released on the subject over the past few years. Glaeser et al. (2005), which studies strategic extremism, is a key contribution. That theory is sligthly altered and used in this dissertation's theoretical model chapter to explain platform alterations and political transfers. The paper on strategic extremism explains that party platforms differ sharply from one another, especially on issues with religious content, such as abortion and gay marriage. The authors theorize that religious extremism in the U.S. is used to win elections. The theory explains why party platforms diverge, explicitly countering the median voter theorem. According to the piece, strategic extremism

depends on an important intensive margin where political parties want to induce their core constituents to vote and the ability to target messages to those core constituents.

Glaeser et al. (2006) argues against the view that suggests America is becoming more politically polarized. The paper points out that America has always been polarized and policy is simply becoming increasingly religious and cultural. Glaeser et al. explain that the division of America into red and blue states misleadingly suggests that states are split into two camps, but along most dimensions, like political orientation, states are on a continuum. By historical standards, the number of swing states is not particularly low, and America's cultural divisions are not increasing. However, despite the flaws of the red state/blue state dichotomy, the author explains it does contain two profound truths. First, the heterogeneity of beliefs and attitudes across the United States is enormous and has always been so. Second, political divisions are becoming increasingly religious and cultural. The rise of religious politics is not without precedent, but rather returns us to the pre-New Deal norm. Finally, Glaeser et al. suggest that religious political divisions are so common because religious groups provide politicians the opportunity to send targeted messages that excite their base.

The fact that religious groups are used through the methods suggested in Glaeser et al. (2006) is pertinent to this dissertation's conception of 'platform alterations'. The theory is important because religious groups are affective 'filters' for parties to utilize in order to send selective messages to their base. Religious groups offer a filter for a party to mobilize and excite its base without necessarily affecting the opposition. A party's goal is to put out a platform or policy that the group (in this case religious grouping) favors and will then filter to its members. Unions may also be an effective filter.

Ansolabehere et al. (2005) counters Glaeser, claiming that the electorate is primarily motivated by their wallets. This paper explains that beneath the red and blue state pattern, lays a polarized electorate, especially over hot-button moral issues, and these moral issues allegedly lead low income Americans to vote against their economic interests. The authors clarify that little in the ANES and GSS surveys squares with that interpretation of the American public. Individuals' policy preferences on moral and economic issues can account for differences in voting between Red-state and Blue-state voters. However, economic issues, not moral issues, have a much greater impact on voters' decisions. As a result, even though there is a somewhat larger divide between the states on moral issues, economic issues account for more of the difference between "regularly Republican" and "regularly Democratic" states. Moreover, that difference is quite small. Economic issues also create strong centrifugal force in American politics. The great mass of the American electorate holds centrist positions on economic policies. Because the weight of economic issues is so much higher in elections than moral issues, the electoral outcomes are more in line with the distribution of economic preferences than moral preferences.

Economists may see this and claim preferences over economic policies appear to dominate in voters' decision-making. However, the Ansolabehere et al.'s analysis exposes a deeper problem. The relationship between economic policy preferences and economic self- interest is weaker than commonly supposed by political economists. Those with higher income tend to hold more economically conservative views, but the distribution of economic policy preferences of lower-income and higher-income Americans do not differ much. Ultimately, individuals' beliefs about what is the right or

fair economic policy for the nation are difficult to explain. They are only related weakly to one common indicator of self- interest – income – and they are nearly uncorrelated with cultural issues. Since these policy preferences appear to be one of the main forces driving voting behavior, however, explaining them is clearly a key question in American political economy.

The two papers mentioned above provide guidance for what this dissertation theorizes. Similarly, this dissertation will focus on either monetary (or economic) and political (or moral) policy. Ansolabehere et al. (2003) and Glaeser (2002) (2005) both debate what variables shape an electorate more drastically: monetary issues or moral issues. Although we will discuss the moral side via platform alterations, this dissertation will focus on budgetary instruments (monetary transfers and political transfers) and attempt to empirically prove that parties are actually utilizing the instruments.

3.4 Limitations of Existing Literature

The literature surveyed and presented on parties' utilization of electoral instruments are largely limited in their depth. Despite important papers by Ansolabehere et al. (2003) and Glaeser et al. (2002), the study of political party instruments is in its' infancy. In the meantime, the question—do parties actually utilize these instruments?— remains largely unanswered. Several attempts, including Ansolabehere and Snyder's Party Control and the Distribution of Public Expenditures, illuminate pieces of the puzzle. However, this interesting paper was narrow in its approach, considering it limited its' focus to state and county transfers. The larger and more prominent piece—federal to state transfers—was not considered.

Meanwhile, interesting theoretical models were developed. For instance, Glaeser et al. (2002) examined a number of linkages when forming the theoretical argument for monetary redistribution to a specified grouping. However, he did not include party affiliation as a noteworthy linkage grouping. This dissertation focuses on this linkage or member grouping.

Lastly, this dissertation theorizes that political parties use non-monetary political policy in order to excite their base. Several studies were developed, which focus on red and blue states, and explain that morals and economics are both important elements in the electoral process. Yet, no literature to this author's knowledge attempted to model both of these elements and, thereby, prove that they are both important elements in the political process.

CHAPTER 4

STRUCTURE

4.1 Introduction

The dissertation combines various segments of theory into a several broad

hypotheses. Consequently, a chapter specifically explaining the structure of the theory is

pertinent. The first section in this chapter provides an overview of the theoretical models

that follow in the Chapter 5, synthesizing the models into one central theoretical concept.

The second section in this chapter highlights the hypotheses, which developed from the

theory. These hypotheses will be empirically tested in Chapter 6.

4.2 Theoretical Structure

The model has an infinite[20] amount of periods and each period has three stages:

the *lead up,* the election, and the *aftermath*. There are two players: R and D. Each player

is a political party[21]. The election game is infinitely repeated following each period by the

two players. Each party is given an endogenous probability of attaining quality

candidates who are relatable to potential voters. Nature begins the game by granting one

party with better candidates. By allowing nature to begin the game, we can get the ball

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[20] We would like to thank Dr. Dimitrios Diamantaras for his helpful comments on this section. It should be noted that at first glance the infinitely repeated game structure presented in this chapter does not match up with the non-repeating underlying models presented in the following chapter. We would like to explain why it appears that way on the surface. Since, we are attempting to gauge the 'Timing" in which transfers are used over an election cycle, a model that adds the element of time was pertinent. The models presented in Chapter 5 do not repeat. However, they are part of system of models, and therefore, the "Structure" or overall system does repeat. In order to capture the time element, we specifically focus on the overall model "Structure" to start. Afterwards, we look at the underlying elements (presented in the next chapter), which are unique and have static models.

[21] For ease, one can think of the two party system as the Republican and Democratic parties. However, the model could be extended to include more parties.

rolling per se through open acknowledgment that one party will begin with better odds of winning the election.

After nature decides the quality of candidates, political parties do their best to maximize the electorate in subsequent elections. Considering budgetary power is not yet in play—both parties are assumed to begin the first period on an even playing field, parties will use platforms to try to influence an electorate. This is called the *lead up* stage. These platforms will alter the electorate in favor of one party. This party will win budgetary control in the *election* stage. Following, the election the victorious party will use their budgetary power to attempt to influence the electorate in subsequent periods. This stage is known as the *aftermath* stage.

As the next election approaches, the cycle repeats; parties become less concerned with alterations of budgetary instruments and more concerned with monetarily transparent variables. Indeed, parties realize that the alteration of budgetary instruments incites a longer term responses by voters. Therefore, in the *lead up* stage, parties once again prepare for the next *election* by altering platforms in order to maximize vote share. The switch from the *aftermath* to the *lead up* stage does not occur at a routine time in an election cycle; instead, it occurs as soon as a party's expected marginal benefit of using a platform alteration exceeds its marginal cost. In between the switch from *aftermath* of period 1 and the *lead up* of period 2, each party is once again granted a probability of attaining likable candidates. Both the *aftermath* and *lead up* stages have influence over the results of successive *elections*. The figure below (Figure 4.1) explains the timing of the process more concretely.

Figure 4.1 Timing Process
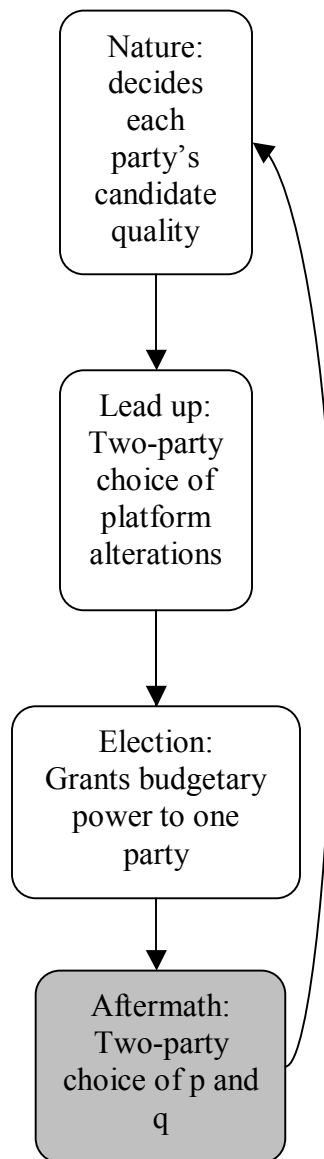
The party granted more power through the *election* will yield more control over the budget. That party will be able to influence this budget in the *aftermath* stage through the use of two variables[22]. The two variables at use to those with budgetary power are q (or monetary transfers) and p (or political transfers). A monetary transfer (q)[23] is defined here as a redistributive dollar transfer from a government to a specific grouping[24]. A political transfer (q) is defined here as a redistributive budgetary transfer from one area of expenditure to another[25].

A political party can alter q to favor those who have supported their election bid. Likewise, a party may utilize p to influence the allocation of budgetary monies, typically following the party platform. The more the party in power can target their core constituents with q and p, the more readily the variables will work in solidifying a vote from core constituents in future elections. Although the purpose of this dissertation is not to theorize how exactly parties' utilization of budgetary instruments would affect an electorate, theories do abound. Most research tends to explain that budgetary redistribution can affect an electorate in three ways: migration, mobilization, and conversion. Political parties will utilize q, or monetary transfers, in order to shape the electorate in their favor—regardless of how exactly it would affect the electorate. Once power changes hands, the political party will alter the direction of bias in q to favored groupings.

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[22] This thesis is precisely what will be empirically tested in an upcoming chapter.

[23] The variable q is used in the notation because it formalized in Glaeser et al. (2002) et al. (2004) theoretical work.

[24] In this paper a monetary transfer is a transfer from one government to another government.

[25] In this paper a political transfer is a transfer from one department of the government to another department.

In return, the favored groups may mobilize in the subsequent election in order to continue receiving said share of q. Moreover, the variation of q may also affect the electorate through migration and conversion. Citizens may migrate in or out of a specified area, if that area is receiving more or less of a share of q. Citizens may also change their mind about a party and convert due to the increased or decreased amount of q received. A more thorough discussion on a party's choice of q is located in succeeding sections.

The party's usage of p, or political transfers, may also alter subsequent elections. Once there is a power change, a political party may alter the direction of bias in p towards their favored policies or departments that could more readily institute these policies. The shift in budgetary funds to a specific department and the underlying policy preference attached will typically follow the *current* party platform. It is important to highlight that p would follow the *current* platform because parties may also alter their platforms as they approach the next election.

In return for the biased political transfers, the citizens who believe strongly in those policies may mobilize in subsequent elections in order to keep the bias in p effective. Political transfers may also affect the electorate through migration and conversion. For instance, if a political party R controls the budget in state *A* and directs more budgetary funds towards policy *i* than policy *j* for a sustained amount of time, an individual who belongs to party D may find it worthwhile to move out of state *A* and into state *B* where party D is in control and typically directs funds towards policy *j*. Moreover, an individual could also alter their opinion about a specific platform and convert to a

party, which transfers more heavily towards said policy. Future sections of the dissertation hold a more thorough discussion on a party's choice of p.

Each political party will maximize electoral support using choice variables p and q in the *aftermath* stage. The party may use q and p as substitutes to facilitate desired electoral results. It also worth stressing that both the q and the p variables will be strictly dependent upon the amount of budgetary power said party has at the time of the *aftermath*.

Prior to the *lead up*, each party is endogenously granted a probability of having quality candidates who can relate their party's message accurately and articulately to the voting audience. As the *election* approaches, parties become increasingly focused on short-term non-budgetary tools. Once a party's expected marginal benefit of an increase in p or q is exceeded by the marginal benefit of any potential shift in platform, the *lead up* stage has been reached. The parties then decide to implement a specific platform alteration by weighing its expected costs and benefits. More specifically, once the expected marginal benefit of a platform change exceeds the expected marginal cost, the party will partake in a platform alteration. This alteration may affect the party's position on p (or political transfers) going forward[26]. Following the *lead up*, an *election* is held. In the *election* stage, both parties' degree of budgetary power is decided for the subsequent stage. Therefore, the *election* is the beginning of the next stage (or the *aftermath*).

The next period begins directly following the aftermath. This next period will also consist of a *lead up*—where parties alter platforms in order to use a short term instrument in their favor in the upcoming election—and an *aftermath*—where parties

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[26] This is because political transfers will be a function of platforms.

alter p and q to attempt to influence the upcoming election. Once again, following the *aftermath* stage, the cycle repeats, and the game is repeated infinitely.

4.3 Empirical Structure

The primary objectives of the studies that follow are to implicitly indicate that political parties utilize instruments in order to hold sway over an electorate. Regardless of whether the parties objective is rewarding voters from a past election, manipulating voters in a future election, or both; the theory presented in the previous section makes clear that it can be in political parties' best interest to bias their power in the direction of their base. According to the theory presented, a political party can go about this process in three ways; altering political platforms, altering political transfers and altering monetary transfers. In this section, we will be more precise in our definitions of each variable. However, first a discussion on political platform alterations is needed.

4.3.1 Budgetary Instruments

High frequency alterations in a political platforms are difficult, if not impossible, to properly quantify. Political party platforms are updated every four years. So, in order to quantify annual (or high-frequency) platform alterations, one would need access to the suitable survey data; otherwise, the data would be inherently bias. Even if the proper survey did exist, the results would be disputed and may create problems with self-selection. To provide an example, a Republican may think that a slight change in a Democratic platform is not as quantifiably large as a slight change in the same Republican platform and vice versa. In order to avoid the difficulties with the subjectivity of political platform alterations and due to high-frequency data limitations, this

dissertation does not to directly test the *lead up* stage theory. Instead, the empirical section focus is on the budgetary instruments.

It should be noted, however, that other studies have empirically proven that platform alterations are utilized to influence elections. For instance, Glaeser (2004) points out that political parties utilize extreme platforms in order to attempt to excite their respective base prior to an election. Although the model in the *lead up* stage will not be directly studied empirically, it will be studied indirectly. If one recalls, the political transfer will be a function of platforms. Therefore, the four-year political party platforms will be taken into account in the empirical data, which is utilized to study political transfers[27].

Once again, this dissertation's empirical focus is on budgetary variables, as opposed to non-budgetary variables. Consequently, the stage of primary concern for this empirical study will be the *aftermath* stage.

Studying the *aftermath* stage will offer a number of contributions to the fields of public choice, public finance, and even economic development. First, a model for political transfers will be created, discussed, and tested, utilizing the U.S. federal budget. To this author's knowledge, no such study has been attempted. Second, although studies such as Ansolabehere (2003) and Larcinese (2005) have studied party control and the allocation of intergovernmental transfers, we will incorporate a different approach and extend the panel studied. Third, we will test whether these two budgetary variables are

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[27] It should be mentioned that a shift in platforms large enough to severely alter trends in policy for a political party from decade to decade rarely happen. However, large shifts and even party flip-flops in party platforms have occurred over time. Generally, the length of time for parties to take a 180 degree turn on platforms for a specific issue is several decades at a minimum. Therefore, due to the limited history of our data and the limited scope of our platform specification, our tests may not sufficiently pick up platform alterations. Nevertheless, we will utilize some form of platform declaration in the political transfers' model.

used as substitutes. Lastly, we will model the timing of the *aftermath* stage, in order to prove that political parties will make the largest adjustments to either monetary transfers or political transfers as soon as they can alter the budget. The forementioned sequence of empirical estimations will test the entire theory presented in this chapter.

4.3.2 Hypotheses

At this point, a formal statement of the hypotheses this empirical study will test is significant. Following the theory presented in Chapter 4 and given what has been mentioned in the preceding section, the testable hypotheses may be summarized as follows:

H1: *Political Transfers*- Incremental changes in government budgets are disproportionately targeted toward administrative departments that can advance the important platform issues of the party with budgetary control.[28]

H2: *Monetary Transfers*- Federal intergovernmental transfers are targeted toward states where a significant proportion of the electorate supports the political party with budgetary control.

H3: *Substitution*: Political transfers and monetary transfers are substitutes since both are part of the budgetary process controlled by the party in power.

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[28] Note: Party alignment in the budgetary process will allow for more budgetary control.

H4: *Timing*: The marginal change in overall (both monetary and political) transfers will be greater at the beginning of the political cycle, and will decrease incrementally as the election approaches.

Hypothesis 1 states that political transfers will be biased towards party platforms, depending on the degree of budgetary power that a party possesses. Hypothesis 2 states that intergovernmental transfers will be biased towards areas that supported the current administration, depending on the degree of power that a party possesses. Hypothesis 3 states that there is a degree of substitutability between political and monetary transfers. Hypothesis 4 states that the *aftermath* stage—where alterations in political transfers and monetary transfers are made—is held directly after the election and not prior to it.

CHAPTER 5

THEORETICAL MODELS

5.1 Introduction

This chapter, which explains the theoretical modeling, is divided into several

sections in order to present the underlying theory in the most succinct manner. The

sections model the specifics. All models focus on party policies and their affects on the

electorate. Three models will be presented: a platforms model, a political transfers[29]

model, and a monetary model[30]. The monetary model deals with economic redistribution

between a party and a specific geography. With this type of transfer, non-party members

may free-ride if they are in a member district while their opposition is in control of the

budget. In other words, the supplementary monetary redistributive bias may flow from

the party in power to some members who voted for the opposition party, provided they

live in a sector that overwhelmingly voted for the party in power. There is limited

opportunity for the party in power to redistribute monies selectively to their party

members, regardless of the proxy for monetary redistribution[31]. However, the monetary

redistribution is not selective[32].

Conversely, platform alterations and the political transfers that follow will

generally be more selective. These policies are also aimed to motivate and reward the

party's base. Political transfers will be more direct considering they pertain to a specific

party platform. Therefore, policies are targeted towards party members only. Although

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[29] A political transfer is defined as a redistributive budgetary transfer from one area of expenditure to another.
[30] A monetary transfer is defined as a redistributive budgetary transfer from one government (i.e. the federal government) to another (i.e. a state government).
[31] This dissertation focuses on intergovernmental transfers as the sole proxy for monetary redistribution. However, taxes could also be utilized by parties to bias redistribution amongst groupings.
[32] I define a 'selective' bias as a discriminating policy bias which only affects its target recipient.

the policies selected will be directed to the targeted core constituency, they may equally upset the opposition. Consequently, the platform filtration-process is a prominent issue for political parties. Parties may want to alter a platform; however, they would want to do so in a manner that would excite their base without disturbing the opposition. Additionally, a political platform alteration will not affect the budget, while monetary transfers and political transfers would affect the budget.[33] This will have important implications in the political transfers' model.

There is a sectional arrangement for this chapter. The next section (Section 5.2) presents a platform alterations model. Section 5.3 offers the reader a short section on the election and its affects on the models to follow. Section 5.4 puts forth a political transfer's model. Section 5.5 presents the monetary redistributive model. Section 5.6 discusses the implications—commenting briefly on the connection of the theoretical models presented—and concludes the chapter.

5.2 The Lead Up: *Political Platforms Model*

5.2.1 Model.

The following model[34] describes the theory behind the *lead up* stage. More specifically, a model is presented describing political parities decision making in regards to alterations of political platforms. In this model, there is a vote contest between two parties, labeled D and R. The two parties' select a policy proposal to maximize the difference between its votes and the votes of its competitor. Subsequent to the party's choice, a set of voters see the platform alteration; other voters do not see the platform

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[33] Although the theoretical section includes platform alterations, this dissertation's focus is on budgetary instruments.
[34] This model directly follows Glaeser et al.'s (2004) study.

alteration. Therefore, asymmetric information is featured in this model[35]. Citizens who do not see the platform alteration base their votes on their prior beliefs about party platforms. Rational beliefs are not a prerequisite for the model, but rational beliefs are permitted. Citizens gain utility from voting for politicians whose platforms are close enough to their intentions, and utility from voting against politicians whose platforms are dissimilar from their own desires. Voting also involves a cost. However, the costs differ across the voting breadth. Individuals decide to vote if the utility gains outweigh the costs.[36]

In the model, there exists an *n*-dimensional policy space characterized by $[-1, 1]^n$. This policy space is divided between two political parties, Democrats and Republicans. The model refers to policies with negative values as staunch Democrat positions and policies with positive values as staunch Republican positions[37]. Voters have preferences represented by a principle point in this space, and parties propose platforms, which are also positioned in this space. Distribution of citizens' ideal policies along each dimension of the policy space is independent and symmetric around the origin. As the origin represents the preferred policy of the median voter, the model refers to the distance between the origin and parties' proposed policies as the extent of alteration within a

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[35] It is also well documented that asymmetric information is a noteworthy aspect in voting decisions, Duggan (1997).

[36] With the assumption that citizens get utility from voting, the model avoids the tribulations behind why people vote. A justification for this assumption is that voters' decisions are emotional, not based on any estimation of how their votes will impact government policy (Schuessler, 2000). One could also interpret the alterations to voter utility from voting as reflecting voters' utility under different policy regimes (Glaeser et al. 2005). Yet, this would require policy proposals to be binding. This specification would be consistent with politicians maximizing the probability of victory if, for example, each party's vote totals were affected by exogenous shocks whose sum is uniformly distributed. The model therefore takes it to be an approximation of politicians' objective function in a deterministic context such as the one we analyze and that individuals don't understand the irrelevance of their vote to political outcomes.

[37] Democrats are associated with negative values in this space and Republicans are associated with positive values in order for the reader to picture the one dimensional view where a median policy would be located at zero and Democrat positions would be located to the left and Republican positions would be located to the right.

platform. Each citizen is also characterized by a cost of voting, c, which is independent of policy preferences and characterized by cumulative distribution function Z (c). Below the model's timing is discussed.

(5.1) All citizens have a belief $\bar{x}^P \in [-1,1]^n$ about the political platform of each party P, and potentially an informational affiliation with one or both parties.

(5.2) Parties simultaneously choose platforms in the space $\bar{x}^P \in [-1,1]^n$ to maximize their margin of victory, and these platforms are observed by a fraction $\bar{\theta}$ of the party's affiliates, and by a fraction $\theta \leq \bar{\theta}$ of non-affiliates. Citizens who do not observe the platform maintain their initial beliefs $\bar{x}^P$ about party platforms.

(5.3) The election is held and citizens decide whether to vote and if so for which party. The model is solved recursively starting at period 3 and the voting decision. Each citizen receives utility from voting for party P equal to:

$$S_P = B - \sum_{i=1}^n \mu_i M\left(\left|\hat{x}_i^P - x_i^*\right|\right) \text{ where } \sum_{i=1}^n \mu_i = 1$$

where B measures the emotional enlargement from showing support for one's favorite policy vector x^*, the weights μ represent the salience of each dimension of the policy space in citizen's minds, and $M(.)$ is a rising, convex and bounded function. The function $M(.)$ captures the fact that citizens will receive less utility if they vote for a candidate

whose perceived policy platforms: $\hat{x}^P$, differ from their own ideal platforms. People also receive utility from voting against party P equal to:

(5.4) $\quad O_P = -\gamma S_P$

where $\gamma \geq 0$.

If γ equals one, then individuals compare the losses from each of the two candidates. Different values of γ will reflect one's feeling about whom they vote for or vote against depending on whether γ is less than or greater than one. The gain from voting equals:

(5.5) $\quad V(x^*, \hat{x}^D, \hat{x}^R) = (1 - \gamma)B + \max\left\{\gamma \sum_{i=1}^{n} \mu_i M\left(\left|\hat{x}_i^D - x_i^*\right|\right) - \sum_{i=1}^{n} \mu_i M\left(\left|\hat{x}_i^R - x_i^*\right|\right)\right\}$

which is less than an upper bound $\overline{V}$. Conditional on voting, people will support the party that is closer to their ideal platform, and as the act of voting imposes a cost c, people will vote when

(5.6) $\quad c \leq V(x^*, \hat{x}^D, \hat{x}^R)$

The model presumes that c has full support on the interval $[0, \overline{V}]$, so that there are always voters who withhold for every possible vector of voter preferences. Parties expect that voters will make their voting decisions in this way and, in period 2 of the game, they

select their proposed policy to maximize their votes minus their opponent's votes, taking

the opponent's proposed policy as given[38]. The model assumes that citizens have prior

beliefs about the parties' platforms, but it does not assume that these beliefs are incorrect.

The model's results do not rely on any assumptions about the values of these prior

beliefs; it only requires the possibility that individuals who observe a politician's

platform can have their beliefs changed.

The model makes two assumptions about functional forms to simplify calculations:

Assumption 1:

 The loss function[39] is quadratic.

$$(5.7) \quad M\left(\left|\hat{x}_i^P - x_i^*\right|\right) = (\hat{x}_i^P - x_i^*)^2$$

Assumption 2:

 The distribution of the cost of voting is uniform.

$$0 \qquad if \qquad c < 0$$

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[39] A loss function is defined in economics as a function that maps and event (here a policy choice) onto a real number representing the economic costs or regret (here the difference) associated with the event.

(5.8) $\quad Z(c) = \{ \quad\quad\quad c/V \quad if \quad\quad c \in [0, \overline{V}]$

$$1 \quad if \quad c > \overline{V}$$

The quadratic loss function implies:

(5.9) $\quad \overline{V} = (1 - \gamma) B + 4\gamma.$

The models assumptions have several implications. Since functional forms for preferences are costly, the model loses the ability to consider the empirical implications of different forms of loss functions. Bearing in mind loss functions are not directly observable, this problem may not be too unsympathetic. The assumption of a uniform distribution of voting costs also constrains the model. In proposition 4 below, the implications of a more general distribution are considered. Now the model moves to when parties' platforms diverge from the preferences of the median voter.

5.2.2 Platform Alterations as a Result of Voters' Preferences

The model begins by considering preference-based justifications for platform alterations. To simplify matters, a one-dimensional policy space and perfect information is assumed, so $\theta = \overline{\theta} = 1$. Given these assumptions, extremism can still result if $\gamma < 1$. This means that voters worry more about the policies of the nominee that they vote for, than the policies of the nominee that they vote against. In this case, parties are going to have an incentive to diverge from the median policy because of the turnout margin. By moving further from the center, the party's platform comes closer to the favored policies

of some inframarginal voters and these voters are increasingly induced to vote. Yet,

moving away from the center has two negative effects: losing voters in the middle and

increasing turnout among the opponent's supporters. Nevertheless, since $\gamma < 1$, the affect

on the opposing party's turnout will be less than the affect on the party's own turnout.

The asymmetric impact on one's own supporters and the supporters of one's opponents

makes extreme platform alterations a possibility:

(5.10)   Proposition 1:

If $\theta = \bar{\theta} = 1, 0 < \gamma < 1$, then the equilibrium platform choices of the two parties will

diverge from the origin and each other whenever voters' preferences are sufficiently

heterogeneous. The distance between the two policies and the origin is monotonically

decreasing in γ and increasing in the heterogeneity of voters' preferences (as measured by

the mean deviation of their distribution).

This proposition highlights that voter preferences are sufficient to produce

extremism and that this model generates a natural comparative static showing that

platform extremism is linked to voter heterogeneity[40]. The model, however, also explains

that there are at least three reasons for questioning the robustness of this approach. First,

there is no particular reason why $\gamma < 1$ is a natural assumption. The standard assumption

in the rational choice theory has always been that voters contrast the two politicians and

consider the comparative benefits of voting for one or the other, which would be captured

by assuming that $\gamma = 1$. Moreover, recent popular literature suggests that many

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[40] This has important implications for further study. If political transfers are linked with heterogeneity of voters, objective empirical testing of political transfers may be a possibility.

Democrats are provoked to vote more by hatred of Republicans—and vice versa—than by fondness for Democrats, suggesting that for at least these voters $\gamma > 1$. Second, this assumption generates the testable hypothesis that voter turnout will be highest for voters whose policy choices exactly match those of the candidates, not for voters in the extreme tails of the ideological distribution. Lastly, the amount of heterogeneity required for the proposition to hold is actually extreme. For example:

(5.11)   Corollary 1:

When $\bar{\theta} = \theta$, extremism cannot emerge if the density of voters holding a given preference is monotone non-increasing away from the origin…

$(x \leq y \Leftrightarrow f(x) \geq f(y) \forall x, y \in [0, 1])$.

This corollary explains that extremism in platform alterations is only practical if densities rise away from the origin. Therefore, according to this model extremism is incompatible with any single-peaked distribution and with the uniform distribution. Explanations for extreme platform alterations are based solely on voters' preferences do exist, but the model highlighted here illustrates some of the difficulties with these explanations. Extreme platforms as the result of voters' information are now inspected.

5.2.3 Platform Extremism as a Result of Voters' Information

Political parties will typically utilize extreme platform alterations if they suspect that it will have a stronger positive impact on the party's own supporters than it has a negative impact on the opponent's voters. In the previous section, differential impact

occurs because people are more concerned about the characteristics of the candidate they support than the characteristics of the candidate they oppose. In this section, differential impact occurs because the politician's supporters are increasingly aware of changes in the politician's platforms. This differential awareness might occur because individuals pay more attention to their own candidate, but it can also result from politicians strategically target their platforms. Talk radio, direct mailing, TV ads in particular markets, speeches to party faithful, and the use of allies—like religious leaders or unions—to broadcast information to a particular group are used to alter voter preferences. Therefore, the model requires politicians to have some ability to provide their own supporters with more information about proposed platform.

Thus, the model no longer assumes that $\theta = \bar{\theta} = 1$ so that the reader can reflect on information differences and hereafter assume that $\gamma = 1$. This assumption means that voters care only about comparative platforms. In this section, the model also assumes that there is only one policy dimension. As such, a voter whose ideal policy is x_i^* and who perceives the two parties as offering policies $\hat{x}_i^R$ and $\hat{x}_i^D$, will perceive net benefits of

(5.12) $\quad 2\, x_i^*(\hat{x}_i^R - \hat{x}_i^D) - (\hat{x}_i^R)^2 + (\hat{x}_i^L)^2 - c$ of voting for the Republican candidate R.

When $\hat{x}_i^R > 0 > \hat{x}_i^D$, then benefits of voting for the Republican candidate always increase with x_i^* and the net benefits of voting for the Democratic candidate always decline with x_i^*.

Given these assumptions about voting behavior, if a party has some core affiliates who are more likely to be aware of the party platform, and if those affiliates do not have views that perfectly mirror those of society as a whole, then the median voter result disappears:

(5.13)   Proposition 2:

A party with a positive measure of affiliates will adopt a platform that coincides with the position of the median voter if and only if there is no informational difference between affiliates and non-affiliates ($\bar{\bar{\theta}} = \theta$) or there is no difference between the ideal policies of the average affiliate and the average voter.

The proposition details that any informational difference amongst voters is enough to break down the median voter theory. The model now considers the platform decision of a party with Republican affiliates. A natural measure of platform extremism is the value of x^R which captures the distance between the party's platform and the ideal platform of the median voter. Unsurprisingly, perfectly symmetric results apply to the Democratic Party when its average supporter is less conservative than the average voter is.

(5.14)   Proposition 3:

If party affiliates are on average better informed about the party platform ($\bar{\bar{\theta}} > \theta$) and more conservative than non-affiliates the party will adopt a Republican platform so $x^R >$ 0. The party's platform alteration (i.e. the value of x^R) is increasing in its ability to

convey information to its affiliates ($\bar{\theta}$), and decreasing in its tendency to convey information to non-affiliates (θ). The value of x^R increases as the number of party affiliates increases (holding their average ideal policy constant) and increases as the average ideal policy within party affiliates becomes more conservative (holding the number of party affiliates constant). If Republican Party affiliates include all citizens i for whom $x_i^* > 0$ and no others, then the party's platform alteration is increasing in the heterogeneity of voters' preferences (as measured by the mean deviation of their distribution).

Three basics flow from this proposition. First, the proposition indicates that any party whose members are more conservative than the national norm will tend to choose a conservative platform[41]. This outcome will be accurate even if both parties have an information advantage in reaching conservative voters. In that case, both parties will choose conservative platforms, so the first result highlights that platforms will cater to groups that are attentive. The second result in the proposition yields comparative statistics on the extent of platform alterations or extremism.

A political party's usage of extreme platforms—or extreme platform alterations— is more likely when the information asymmetry between affiliates and non-affiliates is greater. If messages are heard universally, it would reduce extreme platform alterations relative to an environment in which these political messages are only heard by the target audience. The amount of party affiliates will also affect platform alterations. When there is only a small segment of affiliates that support the platform alteration, then it makes little sense for a political party to accommodate them by taking the new position.

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[41] The opposite (i.e. progressives) would hold true as well. The model uses conservatives as an example.

Therefore, the number of party affiliates and the political gains from appealing to them are positively correlated. The amount of extremism will also rise with the amount of sorting or filtering into the affiliate group. As the group that is particularly aware of changes to party platforms becomes more extreme, then policies will also become more extreme. The last part of the proposition makes the further assumption that everyone whose views are right of center is a party affiliate. In that case, extremism rises with the heterogeneity of voters' preferences.

Party platforms will get more extreme as the range of preferences in the population increases. Further comparative-static results can be obtained by generalizing the distribution of the cost of voting. Specifically, the uniform distribution is modified by adding a point mass in the origin, representing a group of people who always turn out to vote. The larger this group, the closer the outcome is to the median-voter result:

(5.15)   Proposition 4:

If the distribution of the cost of voting is generalized to include a point mass $z_0 \in [0, 1]$ of voters with zero cost of voting as well as a uniform density of voters

$z(c) = \dfrac{1 - z_0}{V} \ \forall c \in [0, \overline{V}]$, extremism can only emerge if $z_0 < 1$ and its extent (i.e. the value of x^R) is monotone decreasing in z_0.

5.2.4 Discussion and Implications

The model, which was laid out in the section above, details and explains that political parties may find it in their best interest to alter platforms—even to the point of taking extreme platforms—in order to maximize their chance of being elected. The model

is specifically important in that it explicitly shows that the median voter theorem does not always hold. Indeed, there are times when a political party may find that on the margin the benefit of a new platform may outweigh the benefit of holding an old platform.

5.3 The Election

Following the *Lead Up* stage an *Election* will be held. Both parties compete in the election. Each seeks to maximize their share of votes in the election. In this model only past policies, recent platform alterations, and idiosyncratic features of each of the parties candidates affect voters' decision functions. Past policies are assumed to be captured in the budgetary instruments of the model—, which will be commented on in more detail in the section directly following this one. Recent platform alterations can also affect an electorate. This was highlighted in detail in the previous section. Lastly, idiosyncratic features of a certain candidates may make them more likeable or relatable to the voting base. The model accounts for this by assuming that each party has an independent probability of attaining quality candidates. Therefore, in this model the probability of attaining valuable candidates is exogenous.

5.4 The Aftermath: An Overview of Budgetary Variables (p and q)

Parties maximize political support utilizing a number of techniques. The parties have three variables at their disposal: political platforms, political transfers, and monetary transfers. As mentioned in a previous section, parties may use platforms, such as a stance on a gay marriage amendment, in order to influence voters. The party with budgetary control can also use budgetary instruments in order to hold sway over the electorate.

Indeed, the controlling party can utilize forms of monetary redistribution, such as a bias in intergovernmental transfers, to influence voters. Moreover, the party may use political transfers, such as transfers to a specific government department, which follows a platform stance, in order to influence an electorate. A specific party's control over two of these tools (monetary redistribution and political transfers) is constrained by voter approval. In other words, if voters continue to approve of the party they will remain in office and continue to yield a high degree of control over either transfer. However, if voters disagree with the party's actions, they may decide to change their perception of the party and thus elect more members of the opposition. This would clearly affect the dynamics of who are in control of the budgetary (monetary transfer and political transfer) variables; in contrast, platform alterations would not necessarily be constrained by budgetary power. Therefore, platform extremism may have budgetary implications (i.e. the political transfers that may follow), while not be constrained by a party's budgetary power. Whereas, the action on a platform—the political transfer—can be viewed as a budgetary item.

It is important to highlight the fact that political transfers are a function of party platforms. The political party could alter its platform at any point. Once in power, the party has the choice whether or not to wield their power and attempt to exercise this platform. In doing so, budgetary items may be altered. The alteration of budgetary elements is the political transfer. As mentioned earlier, parties may choose to become extreme with a platform and not exercise that platform once in power. All told, the political transfer model will directly follow the platform extremism model put forth in

Section 5.2 because political transfers will stem from the platforms a party submits in the *lead up* stage.

Moreover, the budgetary variables (monetary and political transfers) and platform extremism have distinguishing features. First, transfers will spillover onto some non-supporters, while platform extremism is more easily targeted. Second, transfers are less likely to energize the opposition, while platforms energize both opposition and supporters if the information is similar. Third, platforms are easier to change, while transfers take more time and effort. Lastly, the affects of transfers on an electorate may be long term whereas political platform alterations will have a short-term affect.

5.5 The Aftermath: Political Transfers' Model

Up until now, we highlighted party platforms and how they may influence an election. The model has not yet provided an analysis of 'platforms put to use' or in our terminology—political transfers. The preferences of the parties will have an effect on the policy outcomes. Therefore, as mentioned earlier, political transfers (p) will be a function of platform choices. This section presents a model on political transfers[42]. It should be noted that these transfers would take place in the *Aftermath* stage along side the monetary transfers (which will be discussed in detail in the next section).

5.5.1 Political Transfers Model

This section contains several assumptions that should be mentioned at the outset. The model assumes that politicians compare their own policy preferences against their desire to not to oppose their party's platforms. The model also assumes that politicians' choices in the election are not impacted by these ex-post considerations. This assumption

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[42] This model directly follows Glaeser et al. (2004)

is acceptable if politicians' preferences are lexicographic and their optimal desire is to win the election.

After the election, the party in budgetary control implements certain policies by weighing: the personal preferences of the politicians in office, and the political cost (or benefit) of being seen to deviate from (or adhere to) one's electoral platform. Consequently, the model explains that political transfers will be enacted if the expected benefits outweigh the expected costs, and the platforms attached are something the politicians believe in. The theoretical model assumes:

$$(5.16)\ U_p(x) = G - \beta \sum_{i-1}^{n} v_i L(|x_i - x_i^*|) - (1 - \beta) \sum_{i=1}^{n} v_i L(|x_i - x_i^P|)$$

where $\sum_{i=1}^{n} v_i = 1$

where x^* denotes the preferences of the politician and x^P his electoral platform, and $L\ (.)$ is an increasing and strictly convex function on $R+$ such that $L\ (0) = 0$. We assume[43] that R-party politicians have preferences that are equally conservative on all issues x*:

$x_i^* = x_R^* \geq 0 \ \forall i = 1...n$ while analogously D-party politicians have preferences that are equally progressive on all issues x*: $x_i^* = x_D^* \geq 0 \ \forall i = 1...n$.

For simplicity, suppose that $L\ (.)$ is quadratic, so that $L(z) = z^2$ for all z. Then considering the standard case where party R's platform is unambiguously right-wing and

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[43] This is a very strong assumption and does not necessarily hold in the current political environment.

party D's platform is unambiguously left-wing $(x^R \geq 0 \wedge x^D \leq 0)$, the first-order

condition for a maximum immediately proves the following:

(5.17) Proposition 5: The enacted policy is a linear combination of the electoral platform

and the elected politician's ideal policy

$$x = \beta x_P^* + (1 - \beta)x^P \quad \forall i = 1....n$$

where *P* denotes the party of the electoral winner. Therefore, the enacted policy is more

extreme on one issue than on another if and only if the electoral platform is.

5.5.2 Discussion and Explanations

The preceding model explains that political transfers—or enacted policies—will

depend on individual characteristics of party politicians, party control, and party

platforms. When aggregated and synthesized into our model, individual characteristics of

party politicians can be thrown out because they are endogenous in our model and not in

the political party's control. Therefore, when we look at the model through the political

party's perspective, political transfers will depend on party platforms and budgetary

control.

5.6 The Aftermath: Monetary Transfers Model

In this section, we discuss a political party's usage of monetary transfers in the

Aftermath stage. As previously mentioned, the parties can alter monetary transfers once

they gain some budgetary power in the *Election* stage. Hence, in the *Aftermath* stage

monetary transfers and political transfers are used interchangeably in order to maximize core constituents' utility, and thereby, secure future votes in the upcoming election. A specific party's budgetary control over two of these tools (monetary redistribution and political transfers) is constrained by voter approval.

While the political transfers' model stemmed directly from the party platforms model, the monetary transfers' model will be self-contained. The original model[44] is extended from one politician to an entire political party. Moreover, the model used in this dissertation broadens the racial, nationalistic, and religious linkages between a politician and a constituency to include political linkages.

5.6.1 Monetary Transfers Framework[45]

The theoretical monetary model focuses on a specific elected party. This elected party chooses a level of redistribution from disfavored to favored group, depending on their level of sway in the budgetary process. This level of redistribution is notated as q. Here, q is zero with no redistribution and is positive when an elected party favors their own group. The central question is whether an elected party chooses q>0 as opposed to q=0?

The model explains that the level of control in redistributive choice (hence choice of q) will depend on the amount of sway the elected party has over the budget. One can think of q as being a function of party power, or Φ. Therefore, $q = f(\Phi)$ describes the fact that a divided government will not have as much sway over q as a homogenous government. The level of Φ can be considered exogenous at this point.

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[44] The model stems from Glaeser et al.'s (2002) Curley Effect
[45] Note: This framework is based on Glaeser (2002), although the framework is adapted to political parties. Glaeser utilizes Grossman and Helpman (2001) *Special Interest Politics* framework.

The benefit of redistribution to an elected party's group is a function of the *ratio* of the number of voters in the competing group to the number of voters in the elected party's group or π. For this dissertation, this variable could be thought of as the number of registered voters in the elected party over number of registered voters in the opponent's party; or this could be thought of as those who voted for the elected official's party in the last election over the number of voters for the opponent's party in the last election. Either of these will clearly change as population changes. Hence, π will be dependent upon population.

If each member of the other group is taxed q, then each member of the elected group receives

(5.18) $\tau \pi q$

where $\tau < 1$ is a parameter capturing waste involved in redistribution.

In this model, redistribution is always assumed to be inefficient, therefore it makes the whole community worse off because it wastes resources. Elected officials can influence the composition of the electorate (or shape the electorate) as people migrate, convert, or mobilize in response to the elected party's choice of q in a specified geography. In other words, there is a competition among local governments, and the elected party's choice of q will influence this.

5.6.2 Voter Model

There are several central elements in the model's voting framework. First, voters care about the party platform and, therefore, the platform of the candidates. Glaeser and Shleifer (2005) explain that this reflects the prospective feature of voting, since identity

of a candidate predicts his future policies. Second, the parties' past policies influence voters as well. This is a retrospective feature of the voting decision.

Voter's preferences for a party depend on three components: group membership, past policies, and idiosyncratic support for the candidate. Components are delineated as follows:

1. The *idiosyncratic* component of voter preferences is captured by assuming that each voter receives utility j from supporting the incumbent against the opponent, where j is symmetrically distributed around zero with density f(j) and cumulative distribution F(j), where f(.) is single-peaked and converges to zero as j goes to positive or negative infinity.

2. The *group membership* component of voter preferences is captured by assuming that voters also get utility from party membership and policies. If a leader from the voter's own party is elected, the voter receives utility of v0/2. If a leader from the other party is elected, the voter receives utility of -v0/2: These preferences are independent of past policies and are best thought of as representing a pure taste for one's own party platform.

3. Finally, individual preferences respond to the incumbent's *past policies*. In particular, members of the party in power get utility of $v1(\tau\pi q)$ if that party is reelected, where v1(0)=0 and v1'(.)>0. Members of the opposition party get utility of $-v1(q)$ if the incumbent party is reelected. The influence of past policies can be thought of as retrospective voting, as government patronage to buy votes, or as a measure of ''consistency'' of policies over time.

Policies determine the outcome of the election in two ways. First, q has a direct effect coming through the tastes of the two groups. Second, q influences the composition of the electorate.

This monetary model assumes that the opponent comes with incumbent's own party platform with a fixed probability p, and from the other party platform with probability 1 - p.

Following the *Curley Effect* model as well as Grossman and Helpman (2001)[46], and assuming that j is uniformly distributed on the interval [-a/2, a/2], then an increase in q (from zero) increases the share of support for the incumbent party if and only if

$$(5.19) \quad \frac{-\pi(0)vo}{\pi(0)(1+\pi(0))} > \frac{(1-\tau)vl'(0)}{2(1-p)}$$

This condition gives the basic logic the Glaeser's (2002) *Curley Effect*. The effect occurs when the impact of policies on the shape of the electorate (i.e. $-\pi(0)$) is large, when party preferences (i.e., v0) are important, and when the waste involved in redistribution (i.e. $(1-\tau)vl'(0))$) is not too extreme.

The incumbent party pursues more redistribution if more people vote along party lines, if past choices have little direct effect on voters' preferences, if redistribution entails less waste, and if redistribution has a greater effect on the shape of the electorate. Parties are less likely to engage in costly redistribution toward their group when their opponent is more likely to come from their own platform.

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[46] This process is also explained in detail in Glaeser et al. (2002).

5.6.4 Distinctions and Explanations

The theoretical model just presented contains a few distinctions from the *Curley Effect* model, which focuses on racial memberships, national affiliation, and religious association. It spotlights party affiliation, as being another sort of bonding between political official and constituency. This dissertation points to party affiliation as being a sort of membership that can build deep social capital, similar to the consensus proposed in the *Curley Effect*. In fact, political party affiliation may even be stronger in some cases, because elements of racial, national, and religious affiliations are all undertones involved in one's choice of party affiliation.[47]

The budgetary process is also a large distinction. Considering the *Curley Effect* was mainly theoretical, it never touched on the budgetary process. This dissertation extended the model to include a budgetary process. It is common sense that when there is an all Republican budgetary committee the Republican states would benefit. The same holds true for a completely Democratic committee. A split in the process would constrain either party from redistributing to their respective supporters.

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[47] Please see Chapter 3: The Literature Review to for academic support to this claim.

CHAPTER 6

EMPIRICAL MODELS

6.1 Introduction

This chapter, which presents the econometric models and their results, is separated into seven sections. The hypotheses that were derived from the theory presented in Chapters 4 and 5 are restated in the following section. The subsequent sections describe the specific models. All models focus on party policies and their affects on the electorate.

Two main models deal with variables for budgetary redistribution: a political transfers' model (Section 6.3) and a monetary transfers' model (Section 6.4). The political transfers' model deals with the affects that party power has on the budgets of specific departments within a government. The monetary model deals with economic redistribution between a party and geographic areas that have shown more electoral support. We then test whether political parties utilize these tools as substitutes (Section 6.5) and study the timing (Section 6.6) over the political cycle in which the tools are used. Chapter 6 ends with a concluding section (Section 6.7) summarizing all of our empirical models' findings.

6.2 Overview

The empirical models were developed to test the four hypotheses described in Chapter 4. To review, we will be constructing models to testing the following hypotheses:

H1: *Political Transfers*- Incremental changes in government budgets are disproportionately targeted toward administrative departments that can advance the important platform issues of the party with budgetary control.[48]

H2: *Monetary Transfers*- Federal intergovernmental transfers are targeted toward states where a significant proportion of the electorate supports the political party with budgetary control.

H3: *Substitution*: Political transfers and monetary transfers are substitutes since both are part of the budgetary process controlled by the party in power.

H4: *Timing*: The marginal change in overall (both monetary and political) transfers will be greater at the beginning of the political cycle, and will decrease incrementally as the election approaches.

To first test these hypotheses, more formalized definitions of the dependent variables are required. We define political transfers as incremental budgetary movements from one department of government to another. For example, if the Democratic Party has budgetary power, they are likely to take money out of budgets for departments that are typically aligned with high Republican funding (i.e. National Defense) and transfer those monies into budgets for departments that are typically aligned with high Democratic funding (i.e. Education). These transfers will depend on how much power the party has over the budget and the party's platforms. They could also be utilizing monetary transfers

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[48] Party alignment in the budgetary process will allow for more budgetary control.

in order to manipulate electoral support. These types of transfers represent incremental movements in intergovernmental transfers towards states where the political party has a large amount of voting support. For example, following the election of a Republican (Democratic) administration, it is expected that areas that have shown voting support for Republicans (Democrats) would receive more funds. If Hypothesis H2 is correct, then monetary transfers depend on how much power the party has over the budget and the party's electoral results across the scope of the electorate.

A political party can influence all levels of government (federal, state, local) within a democratic society. If the political party gains power of the federal budget, it will alter the budget by shifting funds in favor of its platform. Moreover, the political party can also shift funds towards areas (states) with governments that have show more electoral support. By shifting funds to these areas, the political party will influence governmental expenditures at the next hierarchical step down (state governments) in the same way by altering political and monetary transfers at that (state to local) level as well. In this dissertation, the top of the hierarchy[49] is inspected.

6.3 Political Transfers

The following section describes the empirical model that will be used to test the political transfer hypothesis. The theory states that political transfers will be dependent on budgetary control and party platforms. The model incorporates the theory into a testable empirical model, which includes several controls to ensure that the results are

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[49] We will focus only on the federal budget, rather than analyzing state budgets. However, studies such as Ansolabehere et al (2005) have studied state to county budgets.

robust and avoid bias. We begin the section with an explanation of the data used in the political transfers' model.

6.3.1 Construction of the Data

Altogether, nine variables are included in the political transfers' model. Most of the data was obtained from the Bureau of the Census; however, other sources are also cited. The complete list of variables is in Table A of the Appendix. The empirical specification of the political transfer model centers on three variables: the dependent variable, political transfers, or *P*, budgetary control, or *C* and political party platforms, or ρ.

Dependent Variable - P (Political Transfers):

The data on U.S. budgetary expenditures—which plays a central role in defining political transfers or *P*—are obtained from the Department of the Treasury. The data utilized in this research is outlays (all types) by budgetary function[50]. The expenditure data are based, in part, on legislation, which appropriates funds to be spent.

The political transfers, or *P*, towards each cabinet department are examined relative to the cabinet departmental average. Therefore, let *j* be a typical department in the U.S. for year *t*.

(6.1)   For each variable *P*, define the new variable $\widetilde{P}$ as $\widetilde{P}_{jt} = P_{jt} / \overline{P}_t$, where

$$\overline{P}_t = 1/n \sum_{j=t}^{n} P_{jt} \; .$$

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[50] We also refer to budgetary function as budgetary department.

Given the setup above, the dependent variable is federal political transfers to department j relative to the average federal political transfer over all department js. This is the department $j's$ share of political transfers in year t relative to the average spent across departments in year t. If a department receives funds in proportion the average, then this measure equals 1. This construction method for the dependent variable is preferred in order to account for variation across different departments.

Independent Variable - C (Party Control):

The data for party control, which is used in the construction of the variable C, was obtained from the U.S. Office of the Clerk. Additional information on Presidents and Congress was collected from the website site http://www.thegreenpapers.com/.

We define the nation as being under Republican control[51] if (i) The president is a Republican and the Republican Party has a majority in both legislative chambers or (ii) Republicans have a veto-proof majority in both legislative chambers.[52] If a party has majority control at time t then the score for C will be a 1. If the president's party has no majority in the house and the senate or there is no veto-proof majority, then C will be 0.

Considering the incremental nature of budgetary increases, we use a moving average of past control[53]. For example, an 8 year period[54] in which the country was under the Republican Party's control (C is 1) for 4 or more years is a period of Republican

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[51] Democratic control is defined identically.
[52] Veto-proof describes votes with a margin sufficient to override, a veto-proof majority is 290 in the house and 67 in the Senate.
[53] We use an eight-year moving average and follow the rationale noted in Ansolabehere et al. 2003.
[54] The eight-year window was chosen because it seems to reflect the notion that budgeting occurs incrementally and short-term changes in control affect the distribution of funds. Ansolabehere et al. 2003 explain that a lag of at least two years is necessary because the immediate budget is set by the prior government. According to that paper, the authors received recommendations by Professor Inman (MIT) to make the horizon longer than eight years because programs are long-lived and changes occur at a glacial pace. They decided on eight-years because they didn't want to smooth too many short-run shocks.

Control. Periods of Democratic Control are defined analogously. Periods that are not controlled by the Republican or Democratic Parties are defined as Divided Control.

Independent Variable - ρ *(Platforms):*

The data used to create the variable for political party platforms, or ρ, was obtained from Budge et al. (2001) and Budge et al. (2006).[55] The data are available from each book's CD-ROM. The CD-ROM contains party policy position data by country, across-party, and across-time. The construction of this data was described in detail in Chapter 2. The data describes party policy positions across seven domains; external relations, freedom and democracy, political system, economy, welfare and quality of life, fabric of society and social groups. Each domain has several platforms and a numerical score based on each party's manifesto. The score is derived from the amount of quasi-sentences[56] enclosed within the party's manifesto. Scores can be negative or positive, depending on the party's stance (be it positive or negative) on a specific platform.

The ρ_{jt} variable is constructed using time series data, which are obtained from Budge et al. (2001) and Budge et al. (2006). The variable is constructed as follows:

$$(6.2) \quad \rho_{jt} = \frac{\varphi_{jt}^{D}}{\left(\varphi_{jt}^{D} + \varphi_{jt}^{R}\right)}$$

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[56] Quasi-sentences are defined as a single sentence that mentions a platform on a specific subject within a manifesto.

Where φ_{jt}^{D} is the Democratic Party's quasi-sentence rank, which was obtained from

Budge et al. (2001) and Budge et al. (2006). φ_{jt}^{R} is the Republican Party's quasi-sentence

rank. Since the quasi-sentence rank (φ) on policies does not directly match up with the

U.S. Departments (or j), a link to the policies covered in the data with the departments is

required. We list the 56 policies with quasi-sentence data found in Budge et al. (2001)

and Budge et al. (2006) in Table 6.1 below.

Table 6.1
Platform Categories or φ
Source: Mapping Policy Preferences (2006)
1. External Relations
101 Foreign Special Relationships: Positive
102 Foreign Special Relationships: Negative
103 Anti-Imperialism: Anti Colonialism
104 Military: Positive
105 Military: Negative
106 Peace: Positive
107 Internationalism: Positive
108 European Integration: Positive
109 Internationalism: Negative
110 European Integration: Negative
2. Freedom and Democracy
201 Freedom and Human Rights: Positive
202 Democracy: Positive
203 Constitutionalism: Positive
204 Constitutionalism: Negative
3. Political System
301 Decentralization: Positive
302 Centralizations: Positive
303 Governmental and Administrative Efficiency: Positive
304 Political Corruption: Negative
305 Political Authority: Positive
4. Economy
401 Free Enterprise: Positive
402 Incentives: Positive
403 Market Regulation: Positive
404 Economic Planning: Positive
405 Corporatism: Positive
406 Protectionism: Positive
407 Protectionism: Negative
408 Economic Goals
409 Keynesian Demand Management: Positive
410 Productivity: Positive
411 Technology and Infrastructure: Positive
412 Controlled Economy: Positive
413 Nationalization: Positive
414 Economic Orthodoxy: Positive
415 Marxist Analysis: Positive
416 Anti-Growth Economy: Positive
5. Welfare and Quality of Life

501 Environmental Protection: Positive
502 Culture: Positive
503 Social Justice: Positive
504 Welfare State Expansion: Positive
505 Welfare State Limitation: Positive
506 Education Expansion: Positive
507 Education Limitation: Positive
6. Fabric of Society
601 National Way of Life: Positive
602 National Way of Life: Negative
603 Traditional Morality: Positive
604 Traditional Morality: Negative
605 Law and Order: Positive
606 Social Harmony: Positive
607 Multiculturalism: Positive
608 Multiculturalism: Negative
7. Social Groups
701 Labor Groups: Positive
702 Labor Groups: Negative
703 Farmers: Positive
704 Middle Class and Professional Groups: Positive
705 Underprivileged Minority Groups: Positive
706 Non-Economic Demographic Groups: Positive

The max rank in quasi-sentences (φ) received by all of the above is 16.2 and the min score is 0. The data for (φ) ranges from 1948-2004[57]. Now that we have laid out the platform data in Table 6.1, we need to link those platforms to budgetary departments or budgetary functions. However, first we should introduce the 19 budgetary departments in Table 6.2.

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[57] The entire data set can not be used due to data limitations for the spending variables.

Table 6.2
Budgetary Departments or J's   Source: The Congressional Budget Process: An Explanation
National Defense
International Affairs
General Science
Energy
Natural Resources and Environment
Agriculture
Commerce and Housing Credit
Transportation
Community and Regional Development
Education, Training, Employment and Social Services
Health
Social Security and Medicare
Grants to states for Medicaid
Income Security
Veterans' Benefits
Administration of Justice
General Government
Net Interest
Undistributed Offsetting Receipts

The budgetary departments or js that are highlighted in green, do not have $\varphi's$ to accurately match (or link) up with. Therefore, the Departments of Energy, Transportation, Community and Regional Development and Health are not included. Additionally, the general government, net interest, and undistributed offsetting receipts had to be excluded. Fortunately, most of these departments do not tend to be highly correlated with either political party's platforms.[58] Since we are excluding seven js, we are left with twelve js to link.

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[58] The Department of Health is the exception. This department would most likely receive more funding from the Democratic Party. Unfortunately, the platform data did not include anything that would accurately capture the Department of Health. Therefore, it had to be excluded.

The most difficult aspect of setting up the data is finding platforms that correlate with departments. To provide an example, if j is national defense then there are a number of $\varphi's$ to choose from to create a ρ_j. In this case, there is a "Military: Positive" and "Military: Negative". As we mentioned, each of these categories has a number (or rank) attached, which refers to the amount of times the word "military" is mentioned "positively" or "negatively" in the platform document (they call this amount of quasi-sentences in the manifesto). In order to capture both the positive and negative platforms, we can simply subtract the two numbers for each party, and multiply the result by two in order to inflate the number back towards an average position. However, military is somewhat simplistic relative to other budgetary departments. We will comment more on the model setup for the φ_{jt} variable in the following section.

As we indicated in equation (6.2), the variables (φ_{jt}^D and φ_{jt}^R) are utilized to make up the final ρ_{jt}. In order to make our analysis more clear, we provide a description for the constructs used for the creation of all φ_{jt} variables in the Appendix. Since there are 12 js, there will be 12 constructs for the creation of φ_{jt}. Some of these constructs will be unique; some will be routine. For now, we show only the first of these constructs. Please refer to Appendix B in order to reference the rest of the constructs.

Construct #1: National Defense.

Platforms 104 (Military Positive) and 105 (Military Negative) link up with the National Defense department.[59] Since National Defense spending coincides with a positive view on the military, we can do the following for each party:

$$\varphi_{jt} = (\text{p}104 - \text{p}105)*2$$

Where:

j is National Defense

t is time

p104 is the quasi-sentence rank for a positive view of the military.

P105 is the quasi-sentence rank for a negative view of the military.

We multiply by two in order to inflate the number, so it is more easily compared to the original quasi-sentence ranking system. The process above for φ_{jt} is repeated for both parties, so we end up with a φ_{jt}^{D} and a φ_{jt}^{R}.

Once we have completed the linkage and construct all applicable φ_{jt}, we use equation (6.4) to develop the ρ_{jt} variable. After this variable has been created, we take an eight-year moving average[60].

Control Variables - X:

A few control variables are also included in the empirical model to account for changes in the economy and military deployment since these two factors might affect the amount of political transfers going to a specific department. Indeed, in some cases,

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[59] The Platform number (in this case Platform 104 and 105) can be found in the table containing Budge et al. (2001) and Budge et al. (2006) 56 platform categories, which is embedded above.
[60] An eight-year moving average is used on all right-hand side variables. Please refer to footnotes 56 and 57 for the rationale.

economic/geopolitical factors may overwhelm party preferences. The following are included in the model to test whether there was any affect on the level of transfers: (a) inflation—as measured by the Consumer Price Index (CPI), (b) the unemployment rate, (c) population, (d) real GDP and (e) a dummy variable for war[61]. An eight-year moving average of each of these variables was taken, because budgets are altered incrementally[62]. All of the economic indicators and demographic data was obtained through Moody's Economy.com's databases: Data Buffet and Free Lunch.

The control variable *CPI* measures the rate of inflation. The source of this data is the Bureau of Labor Statistics (BLS). The second control variable is *Unemployment*. The *Unemployment* variable measures the unemployment rate in the U.S. The source of this data is the BLS. The third variable is *Population*, which measures the population in the U.S. The source of this data is the Bureau of the Census. The fourth control variable is *Real GDP*. The *Real GDP* variable measures the amount of inflation-adjusted output in the U.S. The source of this data is the Bureau of Economic Activity (BEA). Lastly, we created a variable for *War*. There were three real periods of war or escalation during our data set range (1984-2004). The first was the Cold War. This would last from the outset of our data set to 1989. The second was the Iraq War, which lasted from 1990-1991. Lastly, the War on Terrorism started in 2001 and is ongoing.

6.3.2 Theory and Expectations

The theory stated in the previous chapter hypothesized that political transfers or P_j will increase if a specific party has more budgetary control or C and that party's platform or ρ agrees with increasing funds to department j. The model is derived from

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[61] The wars included were the Cold War, the Iraq War and the War on Terrorism.
[62] Please note footnotes 56, 57 and 63 for further clarification.

the underlying theoretical structure and provides the ability to empirically test the salient points of the model.

According to the theoretical model, the bias or redistribution (P in this model) to a specific department will positively correlate with both C (budgetary control of a specific party) and ρ (platform). The strength of sign is expected to vary between control and platforms. We expect platforms to play a larger role, and therefore, receive a greater beta weight because the platform variable or ρ_{jt} involves a direct link (via j) to political transfers to departments or P_{jt} [63].

The motivation for party usage of P is its effects on the electorate. Political parties may view the biased use of P as a reward to a loyal base or as a motivational factor to that base to come out and support them in subsequent elections. A potential voter's reaction to alterations in P will depend on how P would affect their individual utility function. This model's purpose is to prove that a redistributive use of P is being utilized by political parties, not how the base responds to it.

The following Tables, which directly look at the mean of the dependent variable across different platforms and different conditions of party control—provide support for the underlying hypotheses.

Table 6.3 defines Party Control as the party in question having more than 53% of C at time t. Table 6.3 defines Platform as the party in question having more than 53% of ρ at time t. Divided Control and Divided Platform are defined as anywhere in-between 47% and 53%, for C and ρ, respectfully. Table 6.3 indicates that the mean is the highest

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[63] Budgetary control, or C, is not grouped by j, or departments; whereas, platforms, or ρ, are grouped by j. In other words, budgetary control is the same for each t in each j, while platforms vary for each t in each j grouping.

when Party Control is divided and the platform in question is firmly Democratic (over

53%). This does not completely follow the theory presented. However, it is clear that

Divided Platform and Divided Control tend to have a lower mean dependent variable,

which directly follows the theory presented.

Table 6.3	*Political Transfers Mean Dependent Variable Breakdown A*		
	Republican Platform	Democratic Platform	Divided Platform
Republican Control	0.944	1.124	0.287
Democratic Control	0.783	0.944	0.116
Divided Control	0.812	1.436	0.232

Table 6.4 defines Party Control as the party in question having more than 53% of

C at time t. However, Table 6.4 differs from Table 1 by defining Party Platform as the

party in question having more than 50% of ρ at time t. Therefore, Divided Control is

defined as anywhere in-between 47% and 53%, for C. Table 6.4 does not contain Divided

Platform, similar to our model. Table 6.2 indicates that the mean is the highest when

Party Control is divided and the platform is Democratic (over 53%). This does not

directly follow the theory presented. However, it is apparent that Republican Platforms

receive more funding when Republicans are in control. This directly follows our theory.

Table 6.4	*Political Transfers Mean Dependent Variable Breakdown B*	
	Republican Platform	Democratic Platform
Republican Control	0.962	1.124
Democratic Control	0.794	0.944
Divided	0.833	1.436

Control		

Table 6.5 provides the clearest support for the theory. Table 6.5 defines Party

Control and Platforms as the party in question having more than 50% of C or ρ at time t.

Therefore, both Divided Control and Divided Platforms are dropped. Although Table 6.5

still shows Democratic Platforms, receive attention from during Republican Control. The

Table also indicates that the mean dependent variable tends to be higher when a party has

more than 50% of C and more than 50% of ρ. This directly follows the theory presented.

Table 6.5	Political Transfers Mean Dependent Variable Breakdown C	
	Republican Platform	Democratic Platform
Republican Control	0.959	1.385
Democratic Control	0.78	1.196

6.3.3 Empirical Model

Now that we have formally described the variables included in our analysis and

spelled out our expectations, we can turn to the specification of the model. Equation

(6.2), below, represents the empirical specification of the political transfers' model[64].

$$(6.3) \ \widetilde{P}_{jt} = a_0 + a_1(C_t) + a_2(\rho_{jt}) + X_t + e$$

Where $\widetilde{P}$ is the department j's share of the total budget at time t. For example, P

could be the "National Defense" portion of the total federal budget at time t.

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[64] According to the theory presented in Chapter 5, the specification of the stochastic equation to be estimated should be linear.

The independent variable C accounts for the degree of party alignment in budgetary control. Alternatively, this variable measures much control a specific party has over the budget in question. In this federal transfers' model, the federal budget is the focus.

We next consider the independent variable ρ. ρ_t is a proxy for the party's platform at time t. We hypothesize that a political party is more likely to transfer governmental funds towards departments that follow its platform. The variable ρ_{jt} is a party's platform at time t for department j.

Lastly, X is a vector of control variables. These controls include the CPI, Employment, Unemployment Rate, Real GDP and a dummy variable for WAR.

6.3.4 Results

At this point, the empirical model for political transfers has been defined (6.3) and we will begin discussing the estimation results[65]. To recap, the theory is that a party in power will disproportionately transfer federal monies to federal departments that are linked to the party's existing platform.

Several underlying variations of the political transfers' model can be posited and estimated depending on what one considers the most robust approach. The first approach was highlighted above in equation (6.3). However, below we broaden the control variable X notation to include all control variables:

(6.4) $$\widetilde{P}_t = a_0 + a_1 C_t + a_2 \rho_t + a_3 CPI + a_4 Unemp + a_5 Pop + a_6 RGDP + a_7 War + e$$

This equation, estimated using Panel Least Squares, yields the following results.

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[65] We use EViews 6.0 for all econometric work included in this dissertation.

Table 6.6	
Equation 6.4 Results: *Political Transfers (1981-2004)*	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C	-0.030 (2.326)
ρ	1.852*** (0.374)
CPI	0.037 (0.039)
Unemp	0.042 (0.521)
Pop	0.0001 (0.0001)
RGDP	0.001 (0.002)
War	0.045 (0.304)
R-square (within)	0.102
Number of Observations	237.000
* = significant at the .05 level	
** = significant at the .01 level	

The estimated model does not conform to expectations. Only one of the two main independent variables of interest has the correct sign. The ρ or Platform variable does

have the correct sign, as well as an excellent t-stat. The *C* or Budgetary Control variable does not have the correct sign and it is not significant. The controls are also not significant. That said, the signs on the control variables fell in line with expectations.

In summary, the model indicates that, political parties do bias intergovernmental transfers towards departments that align with their platform. Nevertheless, it appears that budgetary control is of no consequence.

There are some econometric issues, which should be noted. First, the R^2 is relatively low[66]. A low R^2 is common and not a concern given that we are working with panel least squares[67], however.

Second, there were issues with heteroscedasticity in the original regressions. Since, heteroskedasticity was detected in the originals, heteroskedasticity-corrected models were created using Gretl econometric software[68]. The results of the heteroskedascitiy-corrected regressions are enclosed within the tables above and the tables below. The empirical results for the non-heteroskedasticity corrected regressions were almost identical in significance, fit and coefficient size and direction.

Given the results, construction of a correlation matrix is applicable in order to examine whether there were any high correlations amongst independent variables. We construct a correlation matrix below in order to inspect collinearity.

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[66] It is difficult to compare R^2 from cross-sectional model with R^2 from time-series models. Since, panel data is essentially both cross-sectional and a time-series, the R^2 value does not deserve too much focus.
[67] Our models' fit is much more robust than Ansolabehere et al's tests on state to county transfers.
[68] Gretl corrects for heteroskedasticity by first running the original regression and saving the residuals. The logs of the squares of these residuals then become the dependent variable in an auxiliary regression; independent variables of regression are the original independent variables plus their squares. The fitted values from the auxiliary regression are then used to construct a weight series, and the original model is re-estimated using weighted least squares.

Table 6.7			Political Transfers' Correlation Matrix				
	P	Rho	C	CPI	UNEMP	POP	WAR	RGDP
P	1	0.41	-0.01	-0.11	0.11	-0.12	0.13	-0.12
Rho	0.41	1	0.05	-0.12	0.12	-0.12	0.13	-0.12
C	-0.01	0.05	1	-0.04	0.03	-0.07	0.01	-0.07
CPI	-0.11	-0.12	-0.04	1	-0.97	0.99	-0.82	0.99
UNEMP	0.11	0.12	0.03	-0.97	1	-0.97	0.79	-0.97
POP	-0.12	-0.12	-0.07	0.99	-0.97	1	-0.82	1
WAR	0.13	0.13	0.01	-0.82	0.79	-0.82	1	-0.8
RGDP	-0.12	-0.12	-0.07	0.99	-0.97	1	-0.8	1

The correlation matrix highlights some problems with correlations amongst independent variables. According to the correlation matrix, all of the correlation issues are with control variables. These variables can easily be removed from the model. Below we remove several variables and re-estimate the equation.

We can remove the control variables *CPI, UNEMP* and *POP*, as many of these variables appear to be correlated. Therefore, the new equation would is

$$(6.5) \quad P_t = a_0 + a_1 C_t + a_2 \rho_t + a_3 RGDP + a_4 War + e$$

This equation yielded the following estimation results:

Table 6.8	
Equation 6.5 Results: *Political Transfers (1981-2004)*	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C	0.64 (2.044)
ρ	2.05*** (0.391)
RGDP	-0.0001 (0.0001)
War	0.136 (0.231)
R-square (within) *Number of Observations* * = significant at the .05 level ** = significant at the .01 level	0.1 165

The estimation results continue to show that platforms are the lone significant variable. In this version of the model, the coefficient and t-statistic for ρ have improved. Although, the sign for *C* is what was expected, it is not significant. The controls remain insignificant.

In summary, the model indicates that political parties do bias intergovernmental transfers towards departments for which they have shown greater support. The R^2 remains low. As we mentioned before, this statistic is expected to be low given the panel structure. At this point, we can rule out the suspected problem of high correlations

among independent variables and state that the truncated model seems on par with the

original model. The results presented show limited support for our theory. Additional

tests are warranted, however. We now estimate the coefficients magnitude by

normalizing the variables and obtaining beta weights.

The methodology for standardizing each normal random variable x to a standard

normal random variable z was as follows

(6.6) $z = \dfrac{x - \mu}{\sigma}$

where μ is the mean of x, and σ is the standard deviation of x.

Equation (6.4) is estimated once again. However, this time it is estimated with

normalized independent variables. The results are as follows:

Table 6.9	
Equation 6.4 Normalized Results: *Political Transfers (1981-2004)*	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	Estimation Results
C_Normalized	-0.005
	(0.113)
ρ _Normalized	0.297
	(0.201)
CPI_Normalized	0.727
	(1.48)
Unemp_Normalized	-0.423
	(0.9524)
Pop_Normalized	1.28
	(9.607)
RGDP_Normalized	-2.35
	(8.74)
War_Normalized	-0.037
	(0.069)
R-square (within)	0.047
Number of Observations	237
* = significant at the .05 level	
** = significant at the .01 level	

The beta weights show that ρ _normalized is much larger than the weight of

C_normalized. This implies that the ρ _normalized is more important than C_normalized

in terms of its affects on *P*. Nevertheless, all explanatory variables are still now

insignificant.

We can now show the results once we extend the normalization to equation (6.5)'s independent variables. The results are as follows:

Table 6.10	
Political Transfers (1981-2004)	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C_Normalized	0.035 (0.103)
ρ _Normalized	0.447** (0.205)
RGDP_Normalized	-0.112 (0.149)
War_Normalized	-0.228 (0.161)
R-square (within)	0.05
Number of Observations	165
* = significant at the .05 level	
** = significant at the .01 level	

The table yields similar results to Table 6.8. All signs are the same, and coefficients are now beta weights. Even with the normalized independent variables, the control variable (*C*) is not significant. Nevertheless, the theory that political parties bias political transfers based on platforms appears to hold under most alterations to the model. That said, control does not appear to matter for political transfers.

6.3.5 Structural Change

We should also test structural change to the model throughout the time series. Dummy variables are a good method to test for structural change. In some cases, the researcher has a priori information that indicates that unusual events were experienced in a particular time period. In the context of this dynamic model, we do not want to merely exclude those observations, since that would create episodes of missing data. Instead, one can "dummy" the period of the event, which then allows for an intercept shift (or, with interactions, for a slope shift) during the unusual period. The tests for significance of the dummy coefficients permit us to identify the importance of the period, and justify its special treatment. For these dummies, we do not take a moving average in order to account for direct shocks recorded during a specified time period.

The unusual events we will inspect are large-scale shifts in party control. To provide an example, if a party picks up a large amount of budgetary control over a one-year period, the model should account for that gain. So, we will inspect shifts in party control. Table 6.11 shows the results of party control from 1981 to 2004[69]. For each election year reported, we took the number of elected representatives (President, House, Senate) for each party in year t-1 less the number in year t. For the presidential election, that number was converted into a percentage. For the Senate and House elections, it was a bit more difficult considering there are 100 and 365 representatives. In most cases, the difference was the same except for a positive or negative sign. For these cases, we simply took the absolute value and divided it by the number of representatives and then converted the number in to a percentage.

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[69] It is important to note that control does not change in the election year. Elections are held in November of a specific year, the party change actually occurs in the following January of the next year. You will see this reflected in the dates above.

There were several cases where other parties (mostly likely independents) picked up or lost seats—these cases are shaded below. To deal with those situations, we simply averaged the absolute two-party change, and converted the result into a percentage. In conclusion, the reader will see the year-to-year party control changes reported below.

Table 6.11		
Political Transfers' Party Control Change, % Change Year Ago, Absolute Value		
Shaded Cells: Averaged in cases where independent party picked up or lost seats		
Date	Presidential Control Change	House Control Change	Senate Control Change
---	---	---	---
1981	100%	9%	3%
1982	0%	0%	0%
1983	0%	7%	0%
1984	0%	0%	0%
1985	0%	4%	0%
1986	0%	0%	0%
1987	0%	1%	2%
1988	0%	0%	0%
1989	0%	1%	0%
1990	0%	0%	0%
1991	0%	2%	0%
1992	0%	0%	0%
1993	100%	2%	0%
1994	0%	0%	0%
1995	0%	15%	2%
1996	0%	0%	0%
1997	0%	1%	1%
1998	0%	0%	0%
1999	0%	1%	0%
2000	0%	0%	0%
2001	100%	0%	1%
2002	0%	0%	0%
2003	0%	2%	0%
2004	0%	0%	0%

Converting the Presidential percentages into dummies is straightforward. However, the House and Senate percentages will need a cut off. We report all changes of

5% or more for House elections as a 1. We report changes of 2% or more for Senate

elections as a 1[70]. Table 6.12 reveals the resulting dummy variables.

Table 6.12			
Political Transfers' Party Control Dummies			
Date	Presidential Control Change	House Control Change	Senate Control Change
1981	1	1	1
1982	0	0	0
1983	0	1	0
1984	0	0	0
1985	0	0	0
1986	0	0	0
1987	0	0	1
1988	0	0	0
1989	0	0	0
1990	0	0	0
1991	0	0	0
1992	0	0	0
1993	1	0	0
1994	0	0	0
1995	0	1	1
1996	0	0	0
1997	0	0	0
1998	0	0	0
1999	0	0	0
2000	0	0	0
2001	1	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0

These dummies are then placed into equations (6.4) and (6.5). The results are

provided in the Appendix. The results of this estimation suggest that there are no

significant slope or intercept shifts in the non-normalized equations (6.4) and (6.5). Event

when the equations are normalized, there are no significant slope or intercept shifts.

Therefore, we do not need to concern ourselves with structural shifts in the model.

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[70] House change threshold is recorded as less than the Senate change threshold because there is potential for larger alterations in the House given the fact that there are more members of the House relative to the Senate.

6.3.6 Interaction

We should also point out that there appears to be no interaction between the two key right-hand side variables (ρ and C). In statistics, an interaction is a term that is added when the effect of two or more variables is not simply additive. Such a term reflects that the effect of variable depends on the values of one or more other variables. We assumed that there may be an interaction because party control and shifts of budgets to areas that correlate with party platforms may go hand-in-hand. No significant interaction emerged in the analysis. Since no equations highlighted a significant interaction, we can rule out an interaction between the RHS variables. The results of these equations are also located in the Appendix.

6.3.7 Conclusion

The estimation results for this model were not terribly robust. The theory that a party in power will disproportionately transfer monies to departments that correlate with their platform did not hold under empirical testing. Nevertheless, we did learn that political transfers are positive correlated with platforms. On net, the 'political transfers' portion of the theoretical model did not support the underlying hypothesis.

6.4 Monetary Transfers

Intergovernmental transfers compose a large amount of programs and an exorbitant amount of spending. According to data from the U.S. Census Bureau and the Department of Treasury, more than fifteen percent of federal outlays, one-third of state spending and forty percent of local spending are accounted as intergovernmental transfers. Figure 6.1 shows the growth rate in total state intergovernmental revenues

(nominal) from the federal government since 1977. Considering the level of state intergovernmental revenues from the federal government was $343 billion in 2003 or 16% of all federal government outlays, this is obviously a large portion of US tax dollars. Therefore, further scrutiny into what occurs with this money is warranted.

Figure 6.1: U.S. Total State Intergovernmental Revenues
Revenue Growth, % change year ago
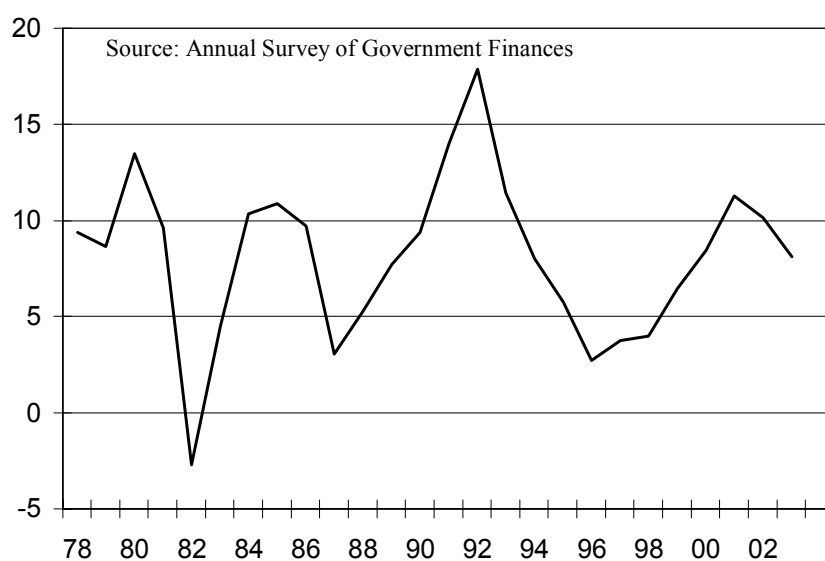
In this section, an original model tests the hypothesis that party control of the federal government along with partisanship of state governments leads to intergovernmental transfers from the federal government to the state governments. The model is based on the underlying theory that a party in power will disproportionately transfer monies to areas that have shown more support. This is known as a monetary transfer. The process will not occur quickly; rather the expenditures will change slowly. In other words, if the Republican Party is in control of a budget, they will increase transfers to areas that have supported them. This process will switch if the Democratic

Party gained control of the budget. It should also be noted that the theory presented in Chapters 4 and 5 alludes to the largest marginal alteration occurring as soon as the budget changes hands. In other words, the transfer alteration will be largest towards the beginning of the political term and decrease slowly as the next election approaches[71]. This is covered in more detail in Section 6.6.

The budget will be an important element in the model considering this chapter will study federal transfers to state governments. The federal budget will be the sole budget involved in the monetary model. The hypothesis tests whether the party that has control of this budget will bias intergovernmental transfers to areas that have shown the largest electoral support. This hypothesis stems from the theoretical models and additional sources.[72]

The goal of the monetary transfer bias is to assist the party in shaping the electorate for the upcoming election. According to the theory, the transfer may shape the electorate through conversion, mobilization, and migration. Each of these would affect the party's share of the electorate over time. There are both ex ante and ex post reasons a party would utilize transfers. The party may want to reward loyal areas or bribe areas to remain loyal. Regardless, the goal of this monetary transfers' model is to prove that parties are utilizing transfers, not to assert how the party hopes to shape the electorate (whether ex ante or ex post). The theory provided in the previous chapters suggests that parties will attempt to bias transfers towards those who support the party more.[73]

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[71] This is the basis for the *aftermath* stage and will be tested explicitly towards the end of this chapter.
[72] Larcinese et al. (2005) and Levitt and Snyder (1995)
[73] This contradicts the median voter theorem and implies that there is a benefit in divergence or polarization of an electorate for political parties.

Therefore, party specific state electoral results will be important in distinguishing which states are red or blue[74] at time t.

6.4.1 Construction of the Data

Altogether, eleven variables are included in the monetary transfer model. Most of the data was obtained from the Bureau of the Census; however, other sources are also cited. The complete list of variables is in Table A of the Appendix. The empirical specification of the monetary transfers' model centers on three variables: the dependent variable, monetary transfers, or Q, budgetary control, or C and vote share, or V.

Dependent Variable - Q (Monetary Transfers):

The data on federal to state transfers—which along with population data, help make up per capita-transfers or Q—are taken from the Bureau of the Census: Annual Survey of Government Finances. The data utilized in this research is the state intergovernmental revenues from the federal government. The United States Bureau of the Census conducts an Annual Survey of Government Finances, as authorized by law under Title 13, United States code, Section 182. This recurrent survey work deals primarily with the finances of state and local governments. The annual sample survey data, collected in non-Census years, has coverage that parallels that of the Census of Governments, i.e., revenue by source, expenditure in considerable functional detail, indebtedness, and debt transactions, and financial assets by type.

State Government Finances provides a comprehensive summary of annual survey findings for state governments. The Census Bureau conducts a Census of Governments at five-year intervals and an annual survey for the intervening years. The Census of Governments data is used for the state to county transfers and the Annual Government

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[74] Where red is a primarily Republican area and blue is an area that primarily supports Democrats.

Finance data is used for federal to state transfers. The statistics cover government financial activity in four broad categories of revenue, expenditure, debt, and asset. Data on intergovernmental revenues by source were used in the models below.

The data on population is also taken from the Bureau of the Census. Population estimates are for resident population. The resident population of a state includes all resident (both civilian and Armed Forces) living in the state. The geographic universe for the resident population is the 50 states and the District of Columbia (although D.C. is excluded in our study because it receives no federal transfers). It excludes Puerto Rico and outlying areas under United States jurisdiction. The resident population also excludes U.S. citizens residing abroad.

National population estimates are derived using the decennial Census data as benchmarks, as well as data available for births and deaths, immigrants, armed forces, net movement between Puerto Rico and the mainland U.S., and federal employees abroad. Estimates for states and smaller areas are based on series such as births and deaths, school statistics from State departments of education, and Federal income tax returns. Revisions are made back to the data of the last decennial estimate with each year's release.

There are a number of problems with analysis of transfers; therefore, the data requires adjustments in order to troubleshoot econometric issues. First, areas differ in population and the amount of total intergovernmental transfers. For comparability, this model follows the model created by Ansolabehere (2003), but extends the time series and also expands the model by incorporating it to federal to state transfer; whereas, the

aforementioned authors specifically focus on applying the technique to state to county transfers.

We begin by adjusting the federal to state transfer data and creating a dependent variable. The per-capita transfers, or Q, towards each state is examined relative to the U.S. average. Therefore, let i be a typical state in the U.S. for year t.

(6.7) For each variable Q, define the new variable $\tilde{Q}$ as $\tilde{Q}_{it} = Q_{it} / \overline{Q}_t$, where

$$\overline{Q}_t = 1/n \sum_{i=t}^{n} Q_{it} .$$

Given the setup above, our dependent variable is per-capita federal transfers relative to the nationwide average. Moreover, this is the state's share of federal transfers relative to the state's share of national population. If a state receives funds in proportion to its share of the population, then this measure equals 1. If a state receives a score, greater than 1, then that state received more per-capita than the countrywide average. A state received proportionately less than the countrywide average if it receives a score less then 1. This construction method for the dependent variable is preferred in order to account for variation across different states. In Figure 6.2, we average the per-capita transfers across each state/year and plot the results.

Figure 6.2: Growth in Q at the Federal to State Level
Per capita Transfers / Avg. Per Capita Transfers
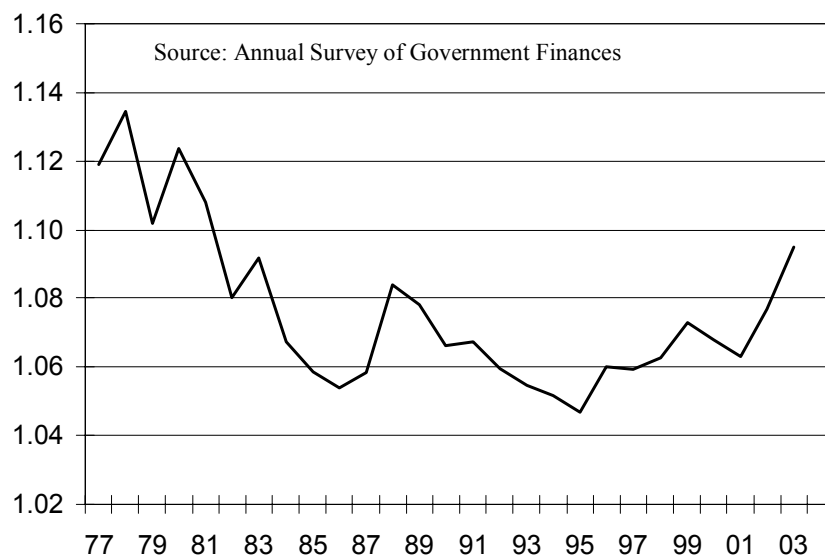
Independent Variable - C (Party Control):

The data for party control, which is used in the construction of variable *C*, was already defined in section 6.3.1. It is defined analogously in Section 6.4.

Independent Variable - V (Vote Share):

The data on election results, which makes up the variable *V*, has been obtained from Congressional Elections (Congressional Quarterly), the Guide to U.S. elections (Congressional Quarterly), the remaining data was obtained from David Leip's Atlas of Presidential Elections (2008) (http://www.uselectionatlas.org/). David Leip's Atlas of Presidential Elections provides state-wide data, even containing data on registration and voting-age population turnout. Data on voter turnout, which makes up the variable *VT*, was located from the same sources.

The variable *V* will be the relative partisanship of a state's citizenry. The definition of V starts by averaging the state-level two-party vote received by the *Democratic* Party's candidates in all races for president and state governor over the preceding 8 years. Then the variable is transformed as a share of total votes. The final specification of V is presented in terms of percents. We refer to this component as *Democratic Vote.* The same 8-year window is used for partisanship and control. In order to address the state's partisanship, this dissertation uses Closeness to 50-50 and Standard Deviation of Democratic Vote. These are two noteworthy measures for addressing the partisanship of a specific area. The Closeness to 50-50 is the absolute deviation of the Average Democratic Vote from 50%. The variable Standard Deviation of Democratic Vote is the standard deviation of the Democrats two party share over the preceding 8 years in all races for president and governor.[75]

When estimated with the rest of the model, we expect that the coefficient for the independent variable V will be positive, with a higher magnitude than that which is registered for the independent variable C[76].

Another variable of consideration is the amount of voter turnout within a specified region—or *VT*. This variable is simply the average state-level two-party vote for both parties in all races for president and state governor over the preceding 8-year span. This variable is then adjusted for population.

Control Variables - X:

Lastly, a number of non-political factors will affect the amount of monetary transfers. Since many transfers are for education, poverty, health, and welfare programs,

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[75] The standard deviation is taken around the state mean, not 50%.
[76] We expect a larger magnitude for the V coefficient because we believe that vote share will have a heavier weight in determining where the monies will flow.

controls (the variable X) are incorporated into the model. The following are assumed to affect the level of transfers and are included in X: school aged population, median per-capita income, poverty rates, percent of elderly, the percent of African Americans, the amount of military institutions, and lastly, transfer receipts. Finally, due to "incremental budgeting", state population may negatively affect the levels of expenditures. Therefore, we adjust certain variables for population.

For the most part, the selection of these control variables is based on previous studies[77]. Most control variables are adjusted for the state's population; therefore, most are in per capita terms. All of the economic indicators and demographic data was obtained through Moody's Economy.com's databases: Data Buffet and Free Lunch.

The first control variable is *Education*. The *Education* variable measures the number of public elementary and secondary education students within a state. The data on education is provided by the Bureau of the Census and the Department of Education. This data is adjusted for population and is, therefore, in per capita terms.

The second control variable is *Poverty*. The *Poverty* variable measures the percentage of individuals living in poverty. The poverty rate is more clearly defined as the percentage of individuals living below the poverty line as a percentage of total population within a given area. The Bureau of the Census provides data on poverty rates.

The third control variable is *Race*. The *Race* variable measures the amount of African Americans within a specific area. The Bureau of the Census provides data on population by race. This data is in per capita terms.

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[77] Ansolabehere et al. (2003) utilize similar control variables.

The fourth control variable is *Age*. The *Age* variable measures the amount of the population that is 65 or older within a specified area. The Bureau of the Census provides data on population by age. This data is per capita terms.

The fifth control variable is *Income*. The *Income* variable measures the amount of personal income within a specified area. The Bureau of Economic Analysis: Regional Economic Information System provides data on population by income. This data is in per capita terms.

The sixth control variable is *Transfers*. The *Transfers* variable measures the amount current transfer receipts of individuals from governments within a specified area. The Bureau of Economic Analysis: Tables CA35 and SA35 provides data on population by income. This data is in per capita terms.

The seventh control variable is *Military*. The *Military* variable measures the amount military employment within a specified area. Moody's Economy.com provides estimates on military employment using data from the Bureau of Labor Statistics, Bureau of Economic Analysis, and Bureau of the Census. This data is in per capita terms.

6.4.2 Theory and Expectations

The theory stated in the previous chapter explained that monetary transfers or Q_j will increase if a specific party has more budgetary control or C and that party's vote share or V_j agrees with increasing funds to state j. This model directly follows that theory and we will empirically test it. According to the theoretical model, the bias or redistribution (Q in this model) to a specific area will positively correlate with both C (budgetary control of a specific party) and V (partisanship of that state). The strength of sign is expected to vary between control and vote share. We expect vote share plays a

larger role, and therefore, receive a greater beta weight because the vote share variable or V_{jt} involves a direct link (via j) to monetary transfers to state or Q_{jt}.

The motivation for party usage of Q is its effects on the geographic electorate. Political parties may view the biased use of Q as a reward to a loyal base or as a motivational factor to that base to come out and support them in subsequent elections. A potential voter's reaction to alterations in Q will depend on how Q would affect their individual utility function. This dissertation's purpose is to prove that a biased use of Q is being used by political parties.

The following tables, which directly look at the mean of the dependent variable across different voting patterns and different conditions of party control—provide support for the underlying hypotheses.

Table 6.13 defines Party Control as the party in question having more than 53% of C at time t. Table 6.13 defines Party Vote as the party in question having more than 53% of V at time t. Divided Control and Divided Vote are defined as anywhere in-between 47% and 53%, for C and V respectfully. Table 6.13 indicates that the mean is the highest when Republicans have over 53% of Party Control and Democrats have over 53% of Vote Share. This does not follow the theory presented. However, the next highest mean dependent variable score does follow the theory; here, Democrats have over 53% of both Party Control and Vote Share. As one looks over the table, it is clear that Divided Vote and Divided Control tend to have a lower mean dependent variable, which directly follows the theory presented.

Table 6.13	Monetary Transfers Mean Dependent Variable Breakdown A		
	Republican Vote	Democratic Vote	Divided Vote
Republican Control	1.056	1.184	1.057
Democratic Control	1.139	1.136	0.985
Divided Control	1.119	1.025	1.025

Table 6.14 defines Party Control as the party in question having more than 53%

of C at time t. However, Table 6.14 differs from Table 1 by defining Party Vote as the

party in question having more than 50% of V at time t. Therefore, Divided Control is

defined as anywhere in-between 47% and 53%, for C. Table 6.14 does not contain

Divided Vote, similar to our model. Table 6.2 indicates that the mean is the highest when

Republicans have over 53% of Party Control and over 53% of Vote Share. This directly

follows the theory presented.

Table 6.14	Monetary Transfers Mean Dependent Variable Breakdown B	
	Republican Vote	Democratic Vote
Republican Control	1.119	1.053
Democratic Control	1.061	1.086
Divided Control	1.092	1.080

Table 6.15 provides the clearest support for the theory. Table 6.15 defines Party

Control and Vote share as the party in question having more than 50% of C or V at time t.

Therefore, both Divided Control and Divided Vote are dropped. Table 6.15 shows that

the mean dependent variable is the highest when a party has more than 50% of C and more than 50% of V. This directly follows the theory presented.

Table 6.15	Monetary Transfers Mean Dependent Variable Breakdown C	
	Republican Vote	Democratic Vote
Republican Control	1.120	1.061
Democratic Control	1.066	1.085

6.4.2 Monetary Transfers Empirical Model

Now that we have formally described the variables included in our analysis and spelled out our expectations, we can define our federal to state monetary transfers' model. Equation (6.8), below, represents the empirical specification of the political transfers' model[78].

$$(6.8) \quad \tilde{Q}_{jt} = a_0 + a_1(C_t) + a_2(V_{jt}) + X_t + e^{79}$$

Where Q is the state's share of federal transfers relative to the state's share of national population and has been formally defined above. For example, Q could be the New York's portion of the total federal transfers at time t.

The independent variable C accounts for the degree of party alignment in budgetary control. Alternatively, this variable measures much control a specific party has

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[78] According to the theory presented in Chapter 5, the specification of the stochastic equation to be estimated should be linear.

over the budget in question. In this federal transfers' model, the federal budget is the focus.

We next consider the independent variable V. V_{jt} is the difference in state's Democratic vote from 0.5 at time t. We hypothesize that a political party is more likely to transfer governmental funds towards states that have voted for it in the past. The variable V_{jt} is a vote share at time t for department j.

Lastly, X is a vector of control variables. These controls include school-aged population, median per-capita income, poverty rates, percent of elderly, the percent of African Americans, the amount of military institutions, and finally, transfer receipts.

6.4.3 Results

To recap, the theory is that a party in power will disproportionately transfer monies to areas that have shown more support. Several underlying variations of the monetary model can be posited and estimated depending on what one considers the most robust approach. The first approach was highlighted above in equation (6.8). However, below we broaden the control variable X notation to include all control variables:

$$(6.9) \quad \widetilde{Q}_{jt} = a_0 + a_1 C_t + a_2 V_{jt} + a_3 VT_{jt} + a_4 Age_t + a_5 Edu_t + a_6 Income_t + a_7 Mil_t + a_8 Pov_t... \\ ... + a_9 Race_t + a_{10} Transfers_t + e$$

This equation, estimated using Panel Least Squares, yields the following results.

Table 6.16	
Equation 6.9 Results: Monetary Transfers (1977-2003)	
Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V	0.7355*** (0.203)
C	0.611*** (0.125)
VT	-0.0001*** (-0.0001)
Age	-7.036*** (0.393)
Education	-0.0017** (0.0006)
Income	-0.0001*** (-0.0001)
Military	8.093*** (1.10)
Poverty	-0.0013* (0.002)
Race	-0.859** (0.0777)
Transfers	0.301*** (0.013)
R-square (within) *Number of Observations* ** = significant at the .05 level* *** = significant at the .01 level*	0.56 1350

As one can see, the model holds up. The two main independent variables of interest have the correct sign with excellent t-statistics. The voter turnout variable also has the correct sign, although the coefficient is very small.[80] The theory on voter turnout is that as more people turnout per capita in a specific state, less funds to attempt to mobilize an electorate will be needed.

The controls contain mixed results. For instance, the coefficient signs for the Age and Race variables were not positive, which was not expected. That said, the signs on the most other control variables fell in line with expectations.

In summary, the model indicates that, when in power, political parties do bias intergovernmental transfers towards states that show more support. Therefore, if one is comfortable with these results, the null hypothesis can be rejected.

Nevertheless, there are some factors we should clarify. First, the R^2 is relatively low. This is to be expected given that we are working with panel least squares[81], however.

Second, there were issues with heteroskedasticity in the original regressions. Since, heteroskedasticity was detected in the originals, heteroskedasticity-corrected models were created using Gretl econometric software[82]. The results of the heteroskedascitiy-corrected regressions are enclosed within the tables above and the

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[80] We will address the magnitude of these coefficients later in the chapter using beta weights.
[81] Our models' fit is much more robust than Ansolabehere et al's tests on state to county transfers.
[82] Gretl corrects for heteroskedasticity by first running the original regression and saving the residuals. The logs of the squares of these residuals then become the dependent variable in an auxiliary regression; independent variables of regression are the original independent variables plus their squares. The fitted values from the auxiliary regression are then used to construct a weight series, and the original model is re-estimated using weighted least squares.

tables below. The empirical results for the non-heteroscedasticity corrected regressions were almost identical in significance, fit and coefficient size and direction.

Given our results, a construction of a correlation matrix is applicable in order to highlight whether the high explanatory power and impressive t-statistics were due to high correlations among independent variables. We construct a correlation matrix below in order to inspect collinearity.

Table 6.17

Monetary Transfers' Correlation Matrix

	Q	V	C	VT	Age	Edu	Income	Military	Poverty	Race	Transfers
Q	1	0.26	-0.01	-0.29	-0.3	0.28	-0.04	0.34	0.02	-0.22	0.04
V	0.26	1	-0.02	-0.2	-0.28	0.25	-0.07	0.24	-0.13	-0.13	-0.12
C	-0.01	-0.02	1	0.02	0.05	-0.14	0.27	-0.01	-0.1	0	0.19
VT	-0.29	-0.2	0.02	1	0.09	-0.28	0.18	-0.29	0.04	0.22	0.14
Age	-0.3	-0.28	0.05	0.09	1	-0.55	0.13	-0.47	0.04	-0.06	0.36
Edu	0.28	0.25	-0.14	-0.28	-0.55	1	-0.46	0.18	0.28	-0.17	-0.44
Income	-0.04	-0.07	0.27	0.18	0.13	-0.46	1	-0.16	-0.45	0.01	0.88
Military	0.34	0.24	-0.01	-0.29	-0.47	0.18	-0.16	1	-0.01	0	-0.27

The correlation matrix highlights very few serious problems with relationships amongst independent variables—none of which are significant enough to declare our previous results inaccurate. According to the correlation matrix, all of the correlation issues are with control variables. These variables can easily be removed from the model. Below we remove several variables and re-estimate the equation.

Due to the high correlation, the *Edu* and *Income* variables should be removed. After doing so, the new equation would is

$$(6.10) \quad \tilde{Q}_{jt} = a_0 + a_1 C_t + a_2 V_{jt} + a_3 VT_{jt} + a_4 Age_t + + a_5 Mil_t + a_6 Pov_t + a_7 Race_t + a_8 Transfers_t + e$$

This equation yielded the following estimation results:

Table 6.18	
Equation 6.10 Monetary Transfers (1977-2003)	
Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V	1.009*** (0.193)
C	0.304** (0.131)
VT	-0.0001*** (-0.0001)
Age	-4.51*** (0.328)
Military	3.92*** (1.30)
Poverty	0.0199*** (0.0017)
Race	-0.82*** (0.081)
Transfers	0.114*** (0.006)
R-square (within) *Number of Observations* ** = significant at the .05 level* *** = significant at the .01 level*	0.48 1150

The estimation results look good. The two main independent variables of interest have the correct sign. In fact, the coefficient and t-statistic for V have increased. However, both the magnitude of the coefficient for C has decreased. The voter turnout variable has the correct sign with an excellent t-statistic, but the coefficient is minute. The controls signs showed a bit of an improvement, but remain mixed once again. As before, some make theoretical sense, others do not.

In summary, the model indicates that when in power political parties do bias intergovernmental transfers towards states that show more support once again. Therefore, according to these results, the null hypothesis can be rejected.

Nevertheless, the issues with the R^2 have actually worsened. At this point, we can rule out the suspected problem of high correlations among independent variables and state that the truncated model does not work as well.

Overall, the results presented thus far appear to support the theory, but it is note worthy to check the weights of importance for each independent variable. We now estimate the coefficients magnitude by normalizing the variables and obtaining beta weights. The methodology for standardizing each normal random variable x to a standard normal random variable z was as follows

(6.11) $z = \dfrac{x - \mu}{\sigma}$

where μ is the mean of x, and σ is the standard deviation of x. Equation (6.8) is now estimated once again. However, this time the equation is estimated with normalized independent variables. The results are as follows:

Table 6.19	
Equation 6.9 Normalized Results: Monetary Transfers (1977-2003)	
Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V_normalized	0.026*** (0.007)
C_normalized	0.019*** (0.005)
VT_normalized	-0.087*** (0.009)
Age_normalized	-0.057*** (0.007)
Education_normalized	0.017 (0.011)
Income_normalized	-0.144*** (0.013)
Military_normalized	0.075*** (0.011)
Poverty_normalized	0.025*** (0.008)
Race_normalized	-0.053*** (0.006)
Transfers_normalized	0.22*** (0.012)
R-square (within)	0.39

Number of Observations	1350
* = significant at the .05 level	
** = significant at the .01 level	

The table yields similar results to Table 6.16. All signs are the same, yet coefficients are now beta weights. The beta weights show that V normalized is roughly two times the weight of C normalized. Moreover, now all explanatory variables except for *education* are significant. Thus far, the theory still holds up with the normalized variables.

We can now show the results once we extend the normalization to equation (6.9)'s independent variables. The results appear in Table 6.20.

Table 6.20	
Equation 6.10 Normalized Results: Monetary Transfers (1977-2003)	
Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V_nomalized	0.051*** (0.007)
C_nomalized	0.012** (0.006)
VT_normalized	-0.115*** (0.008)
Age_Normalized	-0.082*** (0.005)
Military_normalized	0.019 (0.0127)
Poverty_normalized	0.075*** (0.007)
Race_normalized	-0.064*** (0.007)
Transfers_normalized	0.116*** (.007)
R-square (within) *Number of Observations* ** = significant at the .05 level* *** = significant at the .01 level*	0.42 1150

The table yields similar results to Table 6.18. All signs are the same, and
coefficients are now beta weights. The beta weights show that V normalized is roughly
five times the weight of C normalized. Moreover, now all explanatory variables except

for *military* are significant. Therefore, the theory appears to hold even under the truncated version of the model to the model.

6.4.4 Structural Change

In some cases, the researcher has a priori information that indicates that unusual events were experienced in a particular time period. In the context of this dynamic model, we do not want to exclude those observations, since that would create episodes of missing data. Instead, one can "dummy" the period of the event, which then allows for an intercept shift (or, with interactions, for a slope shift) during the unusual period. The tests for significance of the dummy coefficients permit us to identify the importance of the period, and justify its special treatment. The unusual events we will inspect are large-scale shifts in party control. To provide an example, if a party picks up a large amount of budgetary control over a one-year period, the model should account for that gain. So, we will inspect shifts in party control.

Table 6.8 shows the results of party control from 1977 to 2003. For each election year reported, we took the number of elected representatives (President, House, Senate) for each party in year t-1 less the number in year t. For the presidential election, that number was then converted into a percentage. For the Senate and House elections, it was a bit more difficult considering there are 100 and 365 representatives. In most cases, the difference was the same except for a positive or negative sign. For these cases, we simply took the absolute value, divided it by the number of representatives, and then converted the number in to a percentage. There were several cases where other parties (mostly likely independents) picked up or lost seats—these cases are shaded below. To deal with those situations, we simply averaged the absolute two party change, and converted the

result into a percentage. In conclusion, the reader will see the year-to-year party control

changes reported below.

Table 6.21			
Monetary Transfers' Party Control Change % change year ago, Absolute Value			
Shaded Cells: Averaged in cases where independent party picked up or lost seats			
Date	Presidential Control Change	House Control Change	Senate Control Change
1977	100%	0%	0%
1978	0%	0%	0%
1979	0%	4%	1%
1980	0%	0%	0%
1981	100%	9%	3%
1982	0%	0%	0%
1983	0%	7%	0%
1984	0%	0%	0%
1985	0%	4%	0%
1986	0%	0%	0%
1987	0%	1%	2%
1988	0%	0%	0%
1989	0%	1%	0%
1990	0%	0%	0%
1991	0%	2%	0%
1992	0%	0%	0%
1993	100%	2%	0%
1994	0%	0%	0%
1995	0%	15%	2%
1996	0%	0%	0%
1997	0%	1%	1%
1998	0%	0%	0%
1999	0%	1%	0%
2000	0%	0%	0%
2001	100%	0%	1%
2002	0%	0%	0%
2003	0%	2%	0%

Converting the Presidential percentages into dummies is straightforward. However, the House and Senate percentages will need a cut off. We report all changes of 5% or more for House elections as a 1. We report changes of 2% or more for Senate elections as a 1. Table 6.22 reveals the resulting dummy variables.

Table 6.22			
Monetary Transfers' Party Control Dummies			
Date	Presidential Control Change	House Control Change	Senate Control Change
1977	1	0	0
1978	0	0	0
1979	0	0	0
1980	0	0	0
1981	1	1	1
1982	0	0	0
1983	0	1	0
1984	0	0	0
1985	0	0	0
1986	0	0	0
1987	0	0	1
1988	0	0	0
1989	0	0	0
1990	0	0	0
1991	0	0	0
1992	0	0	0
1993	1	0	0
1994	0	0	0
1995	0	1	1
1996	0	0	0
1997	0	0	0
1998	0	0	0
1999	0	0	0
2000	0	0	0
2001	1	0	0
2002	0	0	0
2003	0	0	0

These dummies are then placed into equations (6.8) and (6.9). The results are provided in the Appendix. The results of this estimation suggest that there are no significant slope or intercept shifts in the non-normalized equations (6.8) and (6.9). Event

when the equations are normalized, there are no significant slope or intercept shifts.

Therefore, we do not need to concern ourselves with structural shifts in the model.

6.4.5 Interaction

We should also point out that there appears to be no interaction between the two key right-hand side variables (V and C). In statistics, an interaction is a term that is added when the effect of two or more variables is not simply additive. Such a term reflects that the effect of variable depends on the values of one or more other variables.

No significant interaction emerged in the analysis, except for when equation (6.8) is normalized. As we mentioned earlier, this equation had issues with correlations in some of the control variables. Since, no other equations pointed to a significant interaction, we can rule out an interaction between the RHS variables some certainty. The results of these equations are also located in the Appendix.

6.4.6 Conclusion

The estimation results were robust. The null hypothesis can be rejected. The theory that a party in power will disproportionately transfer monies to regional areas that have shown more support is proven to hold under empirical testing. Therefore, the monetary transfers' portion of the theoretical model can be considered quite robust.

6.5 Substitution

In this section, we estimate whether the two dependent variables tested in the previous two sections, (political and monetary transfers) are positively or negatively correlated. If the variables are positively correlated, the variables have no obvious substitutional properties and appear to be compliments. If the variables are negatively correlated, the variables do appear to be substitutes. According to our theory, political

transfers and monetary transfers act as substitutes because they are both budgetary instruments. Therefore, we expect that there will be a negative correlation between the two variables.

6.5.1 Data Manipulation

In order to make comparisons possible, we need to cut the data sets so the years included are identical. The monetary transfers' data set ranged from 1977-2003. The political transfers' data set ranged from 1984-2004. Consequently, the data sets overlap from 1984-2003. The remaining entries were removed.

Given the fact that both variables are panels, adjustments are necessary. For instance, the monetary transfers' data is arranged by state and the political transfers' data is arranged by department. In order to account for each respective panel, we average each panel in each year t. The result will be a vector of monetary transfer means for each year t, which can be compared to the resulting vector of political transfer means for each year t. In other words, we eliminate the panel aspect of the data and are left with 20 observations. The resulting vectors are included in Section D in the Appendix.

6.5.2 Correlation

We can now inspect the strength and direction of the linear relationship between the two variables: monetary transfers (q) and political transfers (p). In doing so, we compute the correlation coefficient. The formula used to calculate the correlation coefficient is as follows:

$$(6.12) \quad Correl(Q,P) = \frac{\sum (Q - \overline{Q})(P - \overline{P})}{\sqrt{\sum (Q - \overline{Q})^2 \sum (P - \overline{P})^2}}$$

After we run the correlation, we obtain the following result:

Table 6.23
Correlation Coefficient Breakdown A
Mean Political Transfer (*p*) in Year t
Mean Monetary Transfer (*q*) in Year t
Correl(Q,P)   -0.2788

As expected, the correlation is negative between the two variables. However, we should take the correlation test one step further. The political transfer model (shown in equation 6.13 below) and the monetary transfer model (shown in equation 6.14 below) had one common independent variable, which was budgetary control (or *C*). The data for this variable was identical across models for each year *t*; this is highlighted in equations 6.13 and 6.14 below.

$$(6.13) \quad P_{jt} = a_0 + a_1 C_t + a_3 \rho_{jt} + X_t$$

$$(6.14) \quad Q_{jt} = a_0 + a_1 C_t + a_3 V_{jt} + X_t$$

Since the variable is common across both models, we can make correlation coefficient more robust by subtracting that budgetary control variable value (which should be multiplied by budgetary control coefficient produced by each model) at each year *t* from the political transfer mean at each year *t* and the monetary transfer mean at each year *t*.

The subtraction of the common budgetary control variable is justified because the budgetary control variable was not significant for the political transfers' model. In order to properly gauge the substitutional properties of the monetary and political transfers, it is important to subtract that key independent variable out. After we run the correlation with the new adjusted variables, we obtain the following result:

Table 6.24	
Correlation Coefficient Breakdown B	
Mean Political Transfer in Year t less (Budgetary Control Mean in Year t * Coef.)	
Mean Monetary Transfer in Year t less (Budgetary Control Mean in Year t * Coef.)	
Correl(Q,P)	-0.3234

Once again, the relationship is negative between the two variables. According to this analysis, monetary transfers and political transfers are substitutes.

6.5.3 Conclusion

Whether we adjust for the identical budgetary control variable or not, the resulting correlation coefficient is negative. Therefore, we can state that there is a negative relationship between political transfers and monetary transfers. Moreover, we can reject the null hypothesis. The theory that political transfers and monetary transfers act as substitutes is proven to hold under this empirical analysis.

6.6 Timing

In this section, we will test the 'timing' hypothesis. The hypothesis states that a marginal increase in aggregate transfers (both p and q) will be greater in the beginning of the political cycle and decrease as the next election approaches. We will first need to formulate a methodology for testing this theory.

6.6.1 Grouping Methodology

The first step is to lay out the election cycle. We group each date t used in the analysis above into one of four categories (due to the four-year presidential election cycle):

1. The first category will be 'election year'. This will be the year of the U.S. Presidential election (an example would be 1980).

2. The second category will be 'year after election' (an example would be 1981).

3. The third category will be 'mid-term'. This will be the year of the U.S Congressional Midterm elections (an example would be 1982).

4. The fourth category will be 'year before the election' (an example would be 1983).

We then group monetary transfers' dependent variables (q) for each year t and political transfers' dependent variable (p) for each year t into to each category. This step is somewhat tricky because both monetary transfers and political transfers are dated using the U.S. governments' fiscal year, which does not coincide with the calendar year. The U.S. governments' fiscal year runs from October 1 of the previous calendar year and ends on September 30 of the year in which it is numbered. Since "election day" is typically on the Tuesday following the first Monday of November, the "election year" will still coincide with the general calendar election year. Therefore, 1984 the calendar year would be 1984 the fiscal year and so on.

In the following two sections, we lay out each four-year election cycle by type of transfers (political and monetary). We divide the sections into levels and percent change year ago[83]. Afterwards, we test our theory by comparing the mean dependent variable of a combination of transfers for each step of the election cycle. We then obtain results and explain our conclusion.

6.6.2 Timing Data: Levels

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[83] Percent change year ago $= (\frac{x_{t-1} - x_t}{x_{t-1}}) * 100$

In order to gain a better perspective of our data, visual aids may be helpful. First, we can visually inspect the level data for the mean dependent variable—monetary transfers. Keep in mind when we view the charts below that the first date specified is the 'election year' and so on. For instance, 1976 was an election year, 1977 was the 'year after the election, 1978 was the 'mid-term' election and 1979 was the 'year before the election'. According to the charts below, one can see there tends to be a downward trend to the level of monetary transfers as time progresses through the election cycle. Nonetheless, the trends are volatile in the middle of the cycle. For specific, trend information one can refer to the final chart—Monetary Transfers: Average. This chart takes an average across all election periods.

Monetary Transfers:

Figure 6.3 Monetary Transfers: Election Period 1 (1977-1979)
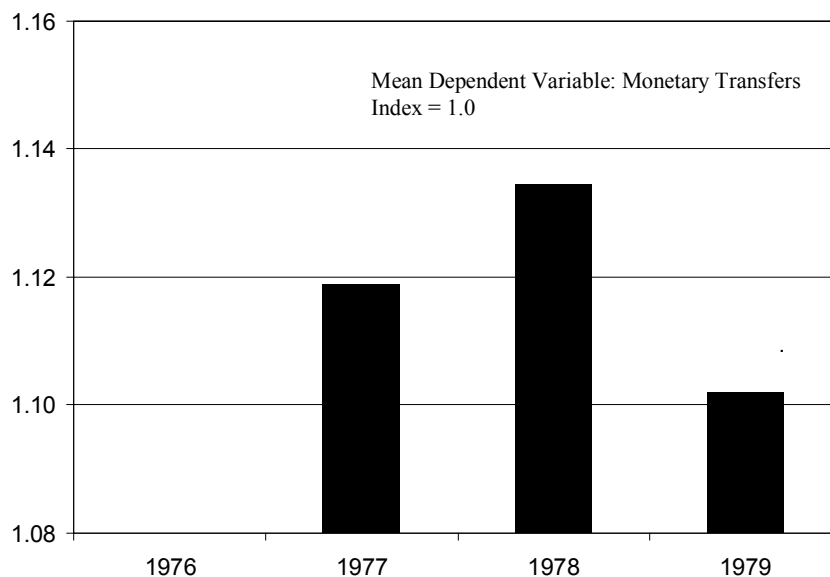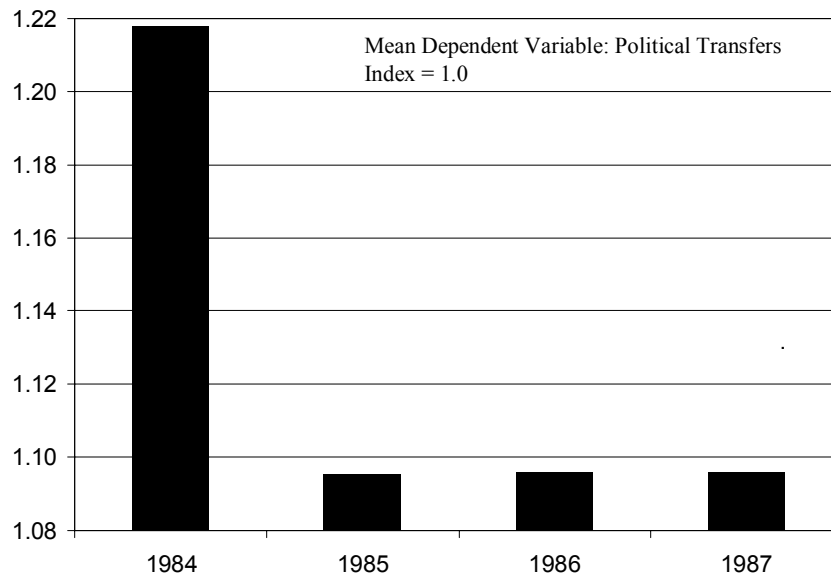
Figure 6.4 Monetary Transfers: Election Period 2 (1980-1983)

Mean Dependent Variable:
Monetary Transfers
Index = 1.0
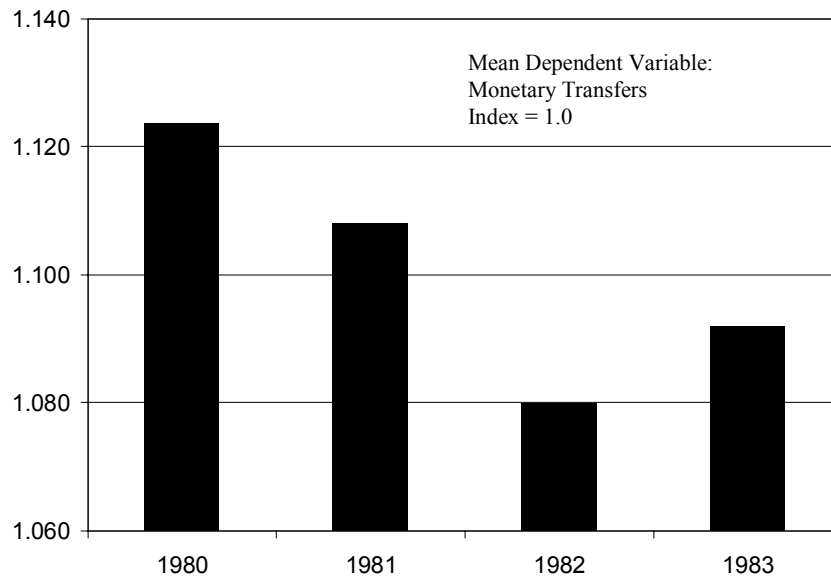
Figure 6.5 Monetary Transfers: Election Period 3 (1984-1987)

Mean Dependent Variable:
Monetary Transfers
Index = 1.0
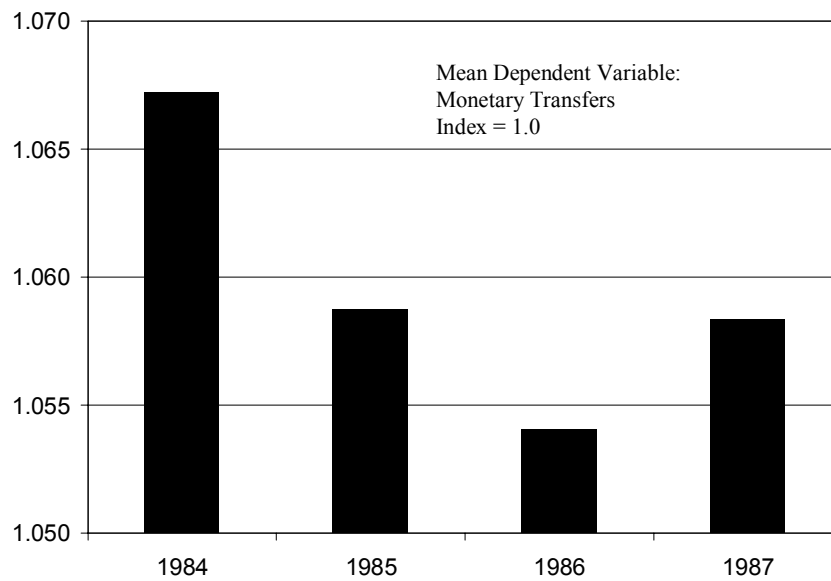
Figure 6.6 Monetary Transfers: Election Period 4 (1988-1991)

Mean Dependent Variable: Monetary Transfers Index = 1.0
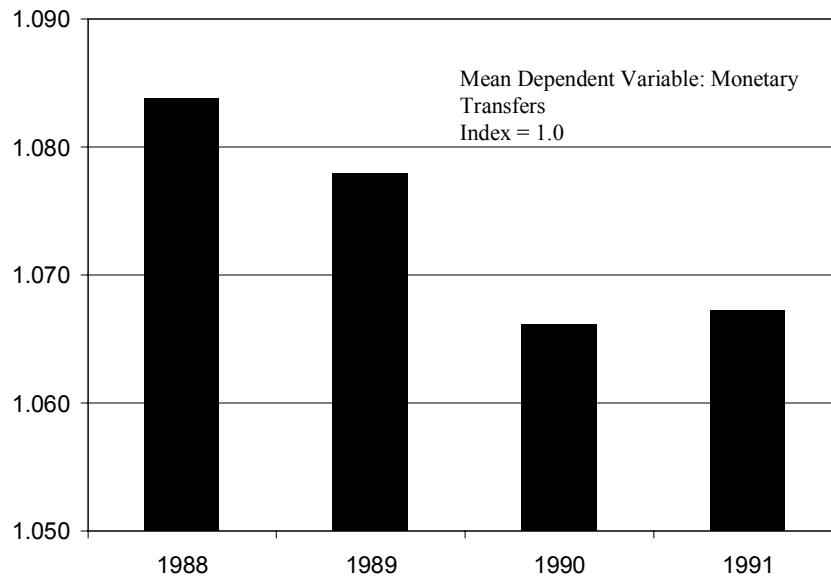
Figure 6.7 Monetary Transfers: Election Period 5 (1992-1995)
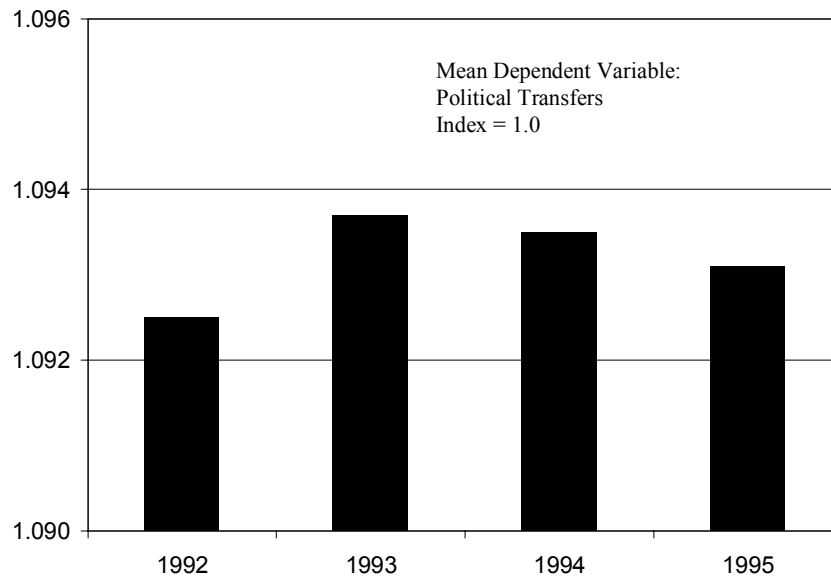

Mean Dependent Variable: Monetary Transfers Index = 1.0
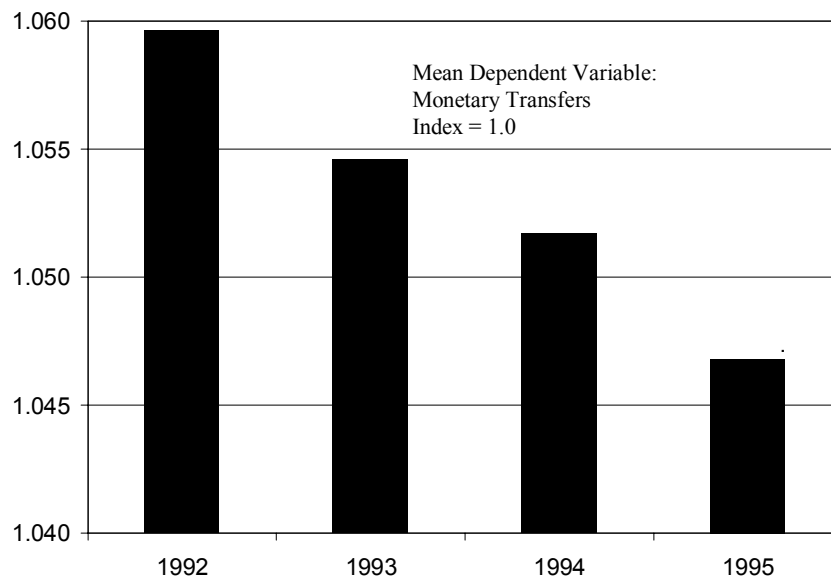
Figure 6.8 Monetary Transfers: Election Period 6 (1996-1999)
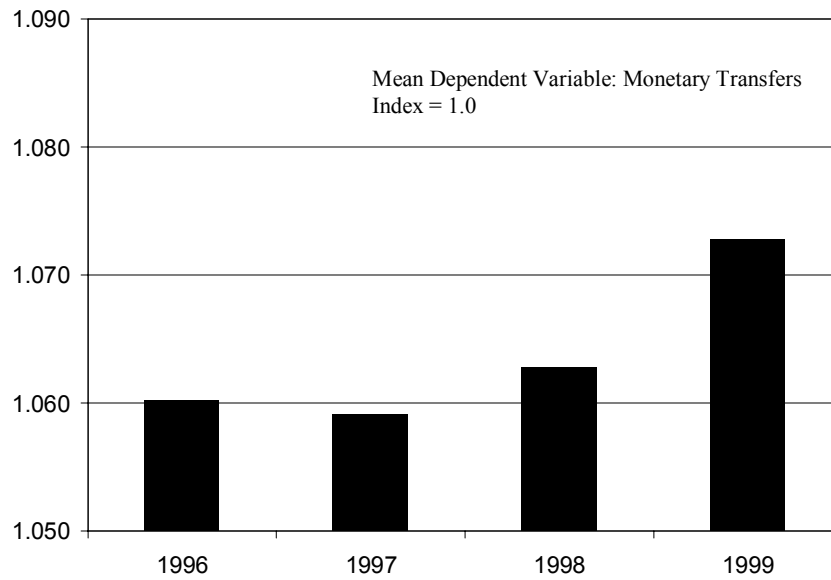
Figure 6.9 Monetary Transfers: Election Period 7 (2000-2003)
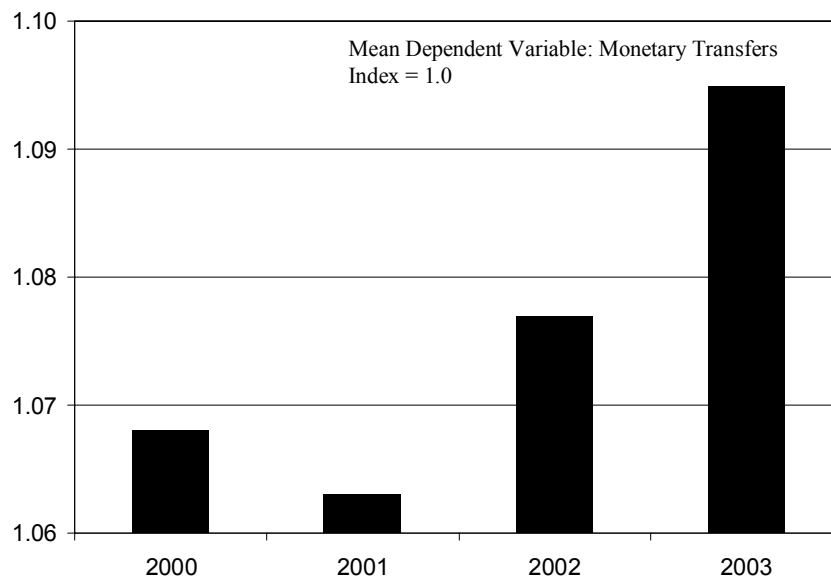
Figure 6.10 Monetary Transfers: Average
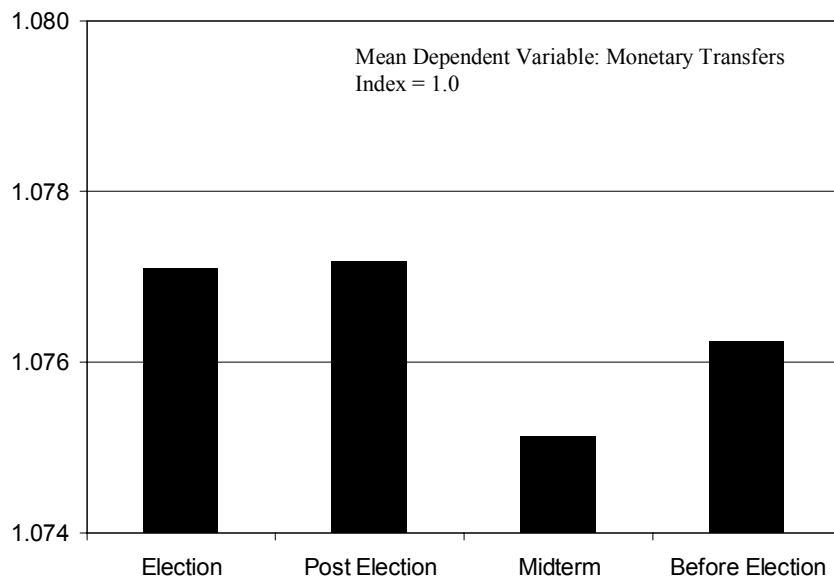
Now, we visually inspect the levels of political transfers across the election cycle. According to the charts below, one can see there tends to be a downward slope to the level of monetary transfers right after the election year. However, there is an upward slope as time progresses through the election cycle. For broad trend information, one can refer to the final chart—Political Transfers: Average. This chart takes an average across all election periods.

Political Transfers:

Figure 6.11 Political Transfers: Election Period 1 (1984-1987)

Mean Dependent Variable: Political Transfers
Index = 1.0

Figure 6.12 Political Transfers: Election Period 2 (1988-1991)

Mean Dependent Variable:
Political Transfers
Index = 1.0
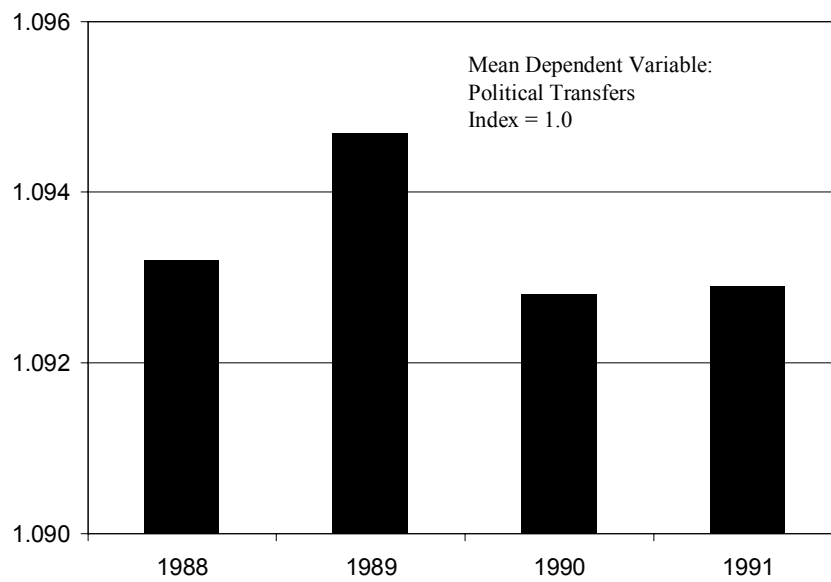
Figure 6.13 Political Transfers: Election Period 3 (1992-1995)

Mean Dependent Variable:
Political Transfers
Index = 1.0

Figure 6.14 Political Transfers: Election Period 4 (1996-1999)

Mean Dependent Variable: Political
Transfers
Index = 1.0
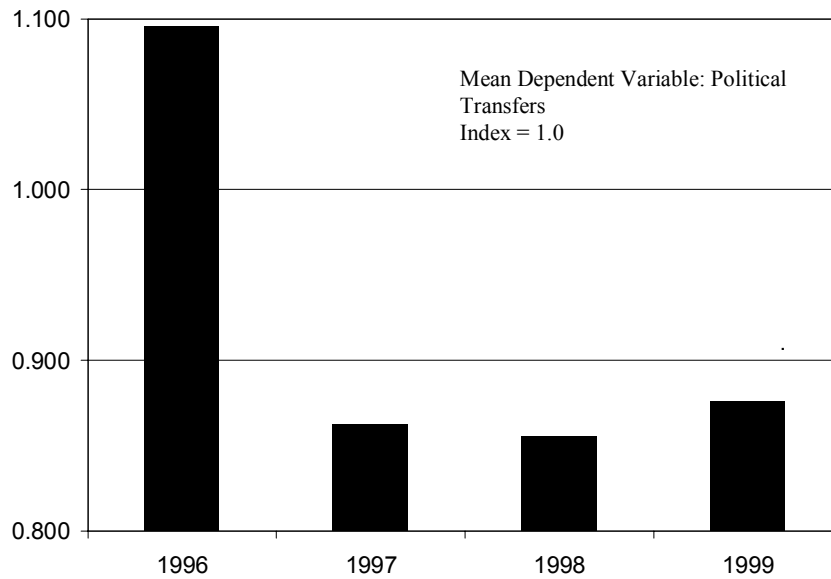
Figure 6.15 Political Transfers: Election Period 5 (2000-2003)

Mean Dependent Variable: Political
Transfers
Index = 1.0
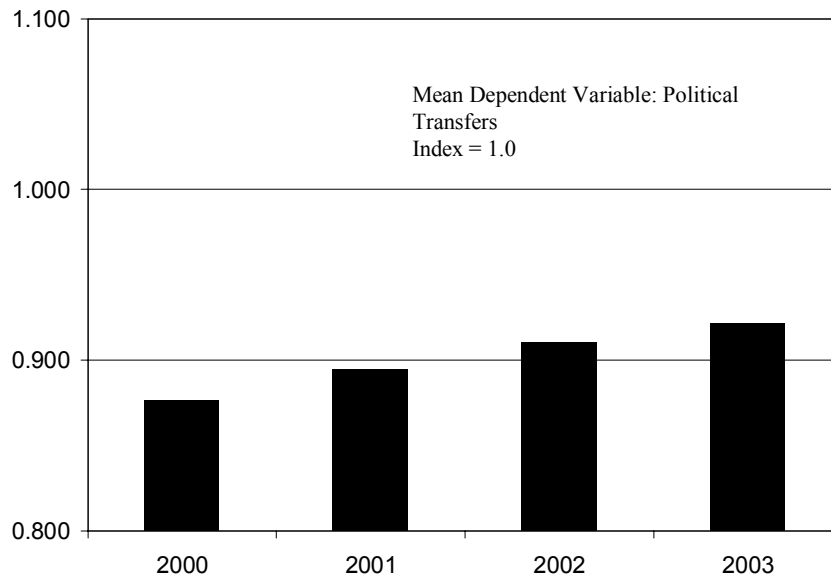
Figure 6.16 Political Transfers: Average Over All Election Periods (1984-2004)

Mean Dependent Variable: Political Transfers
Index = 1.0
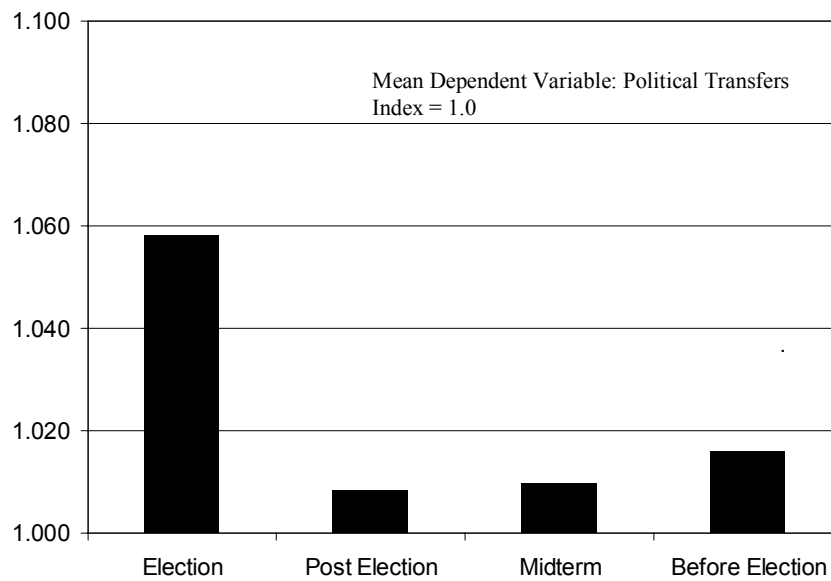
6.6.3 Timing Data: Marginal Increase

Now that we have looked at levels of transfers over the election cycle, we can now visually inspect the marginal alteration of each mean dependent variable—monetary transfers or political transfers.

We will begin by inspecting monetary transfers[84]. According to the charts below, one can see that there tends to be an increase in the beginning of the election cycle, decrease in the middle of the election cycle and a slight increase towards the end of the cycle. For specific, trend information one can refer to the final chart—Monetary Transfers: Average. This chart takes an average of all marginal alterations across all election periods.

Monetary Transfers:

Figure 6.17 Monetary Transfers % change: Election Period 1 (1977-1979)

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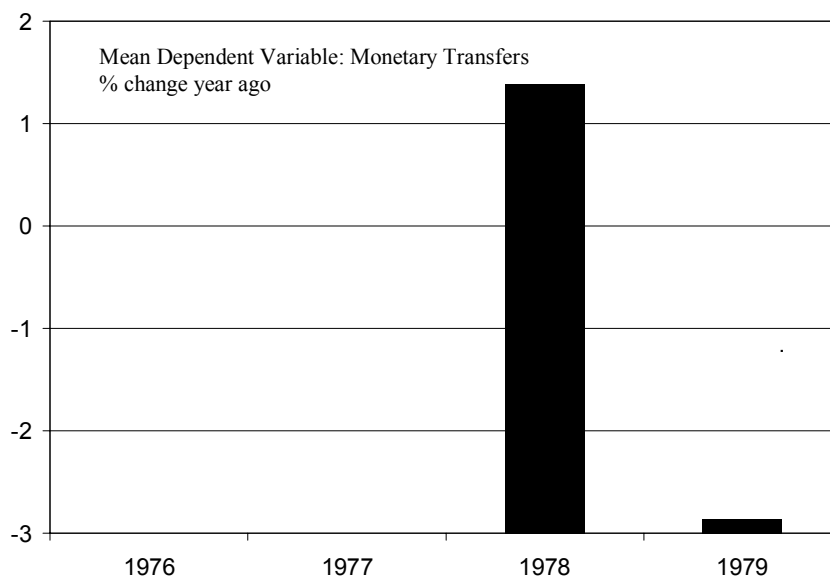
[84] For the first chart, data only exists for the last two data periods because the data set starts in 1977 and the first year–to-year percent change is recorded in the following year.

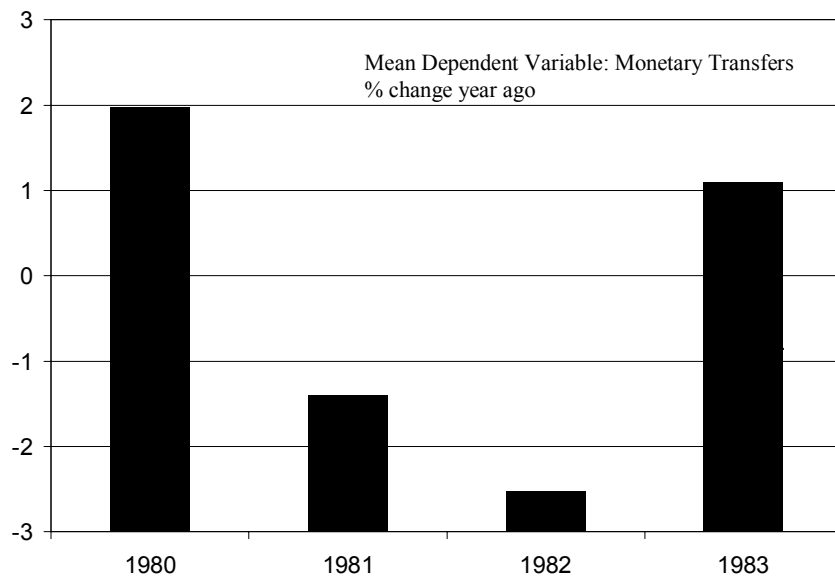Figure 6.18 Monetary Transfers % change: Election Period 2 (1980-1983)

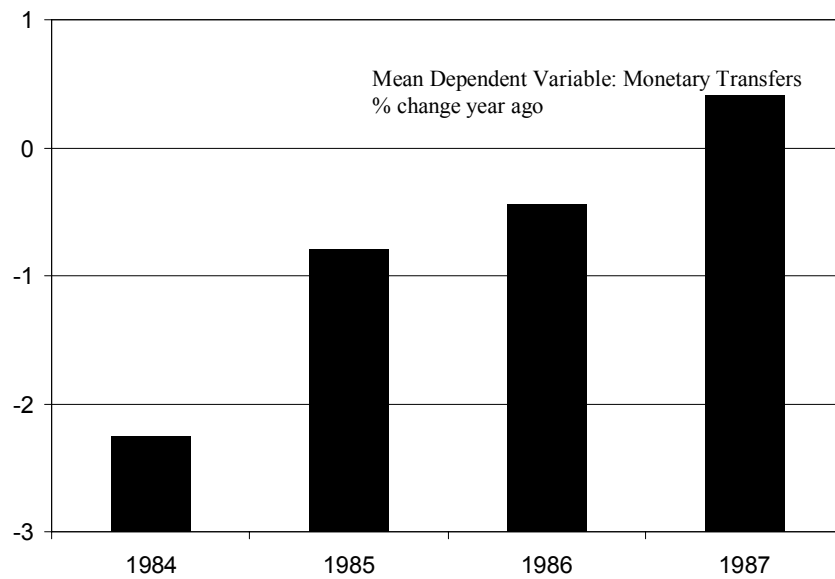Figure 6.19 Monetary Transfers % change: Election Period 3 (1984-1987)

Figure 6.20 Monetary Transfers % change: Election Period 4 (1988-1991)
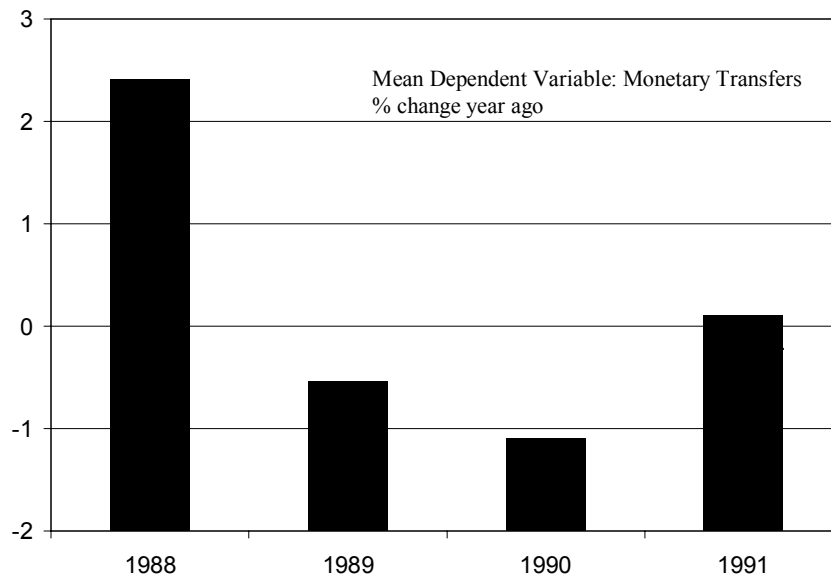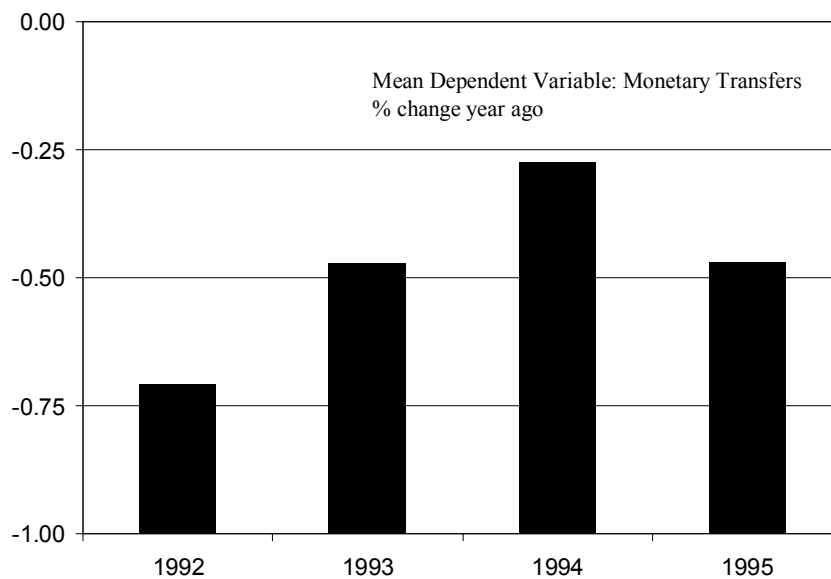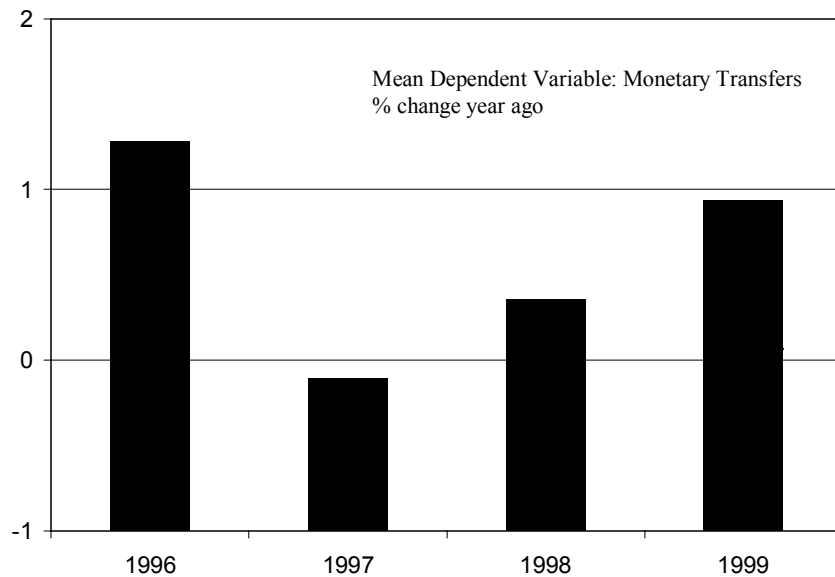
Mean Dependent Variable: Monetary Transfers % change year ago

Figure 6.21 Monetary Transfers % change: Election Period 5 (1992-1995)

Mean Dependent Variable: Monetary Transfers % change year ago

Figure 6.22 Monetary Transfers % change: Election Period 6 (1996-1999)

Mean Dependent Variable: Monetary Transfers
% change year ago

Figure 6.23 Monetary Transfers % change: Election Period 7 (2000-2003)

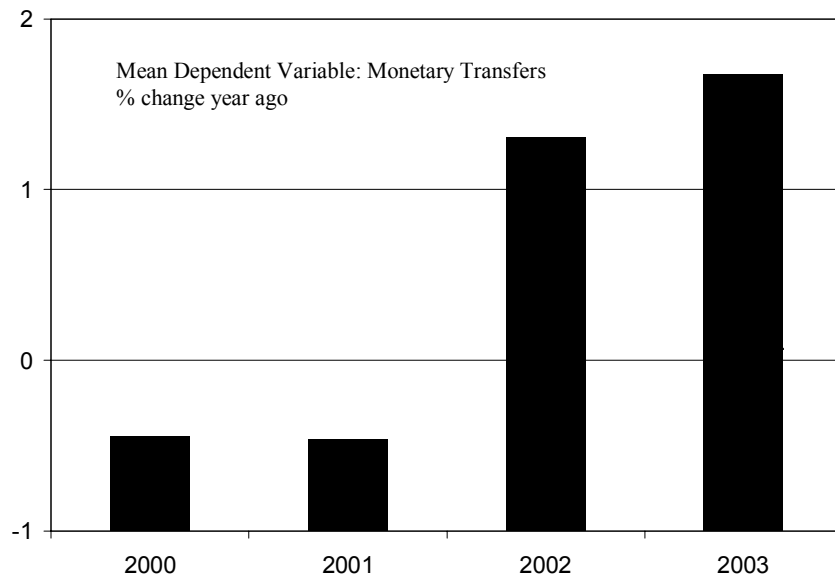Mean Dependent Variable: Monetary Transfers
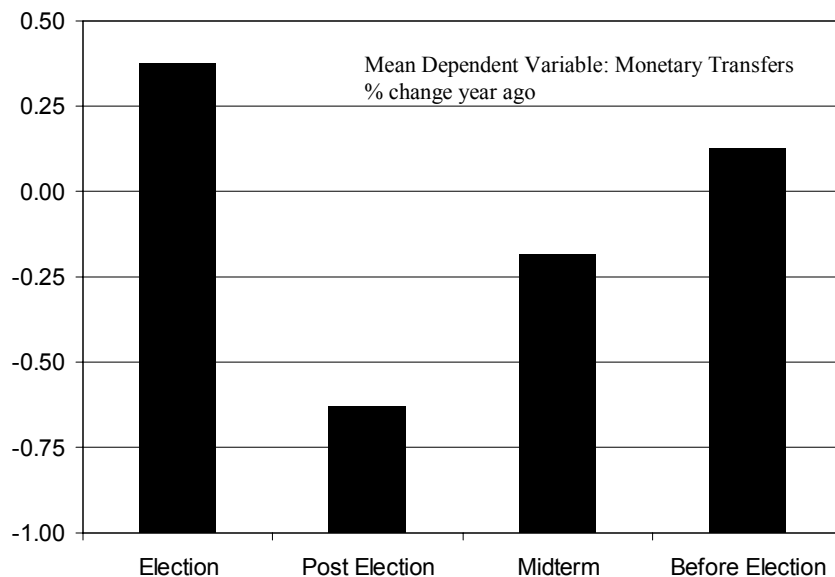% change year ago

Figure 6.24 Monetary Transfers % change: Average

We can now turn our attention to political transfers[85]. According to the charts below, one can see that there tends to be a very slight increase in political transfers in the beginning of the election cycle and a decrease throughout the remainder of the election cycle. For specific, trend information one can refer to the final chart—Political Transfers: Average. This chart takes an average of all marginal alterations across all election periods.

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[85] For the first chart, data only exists for the last three data periods because the data set starts in 1984 and the first year–to-year percent change is recorded in the following year.

Political Transfers:

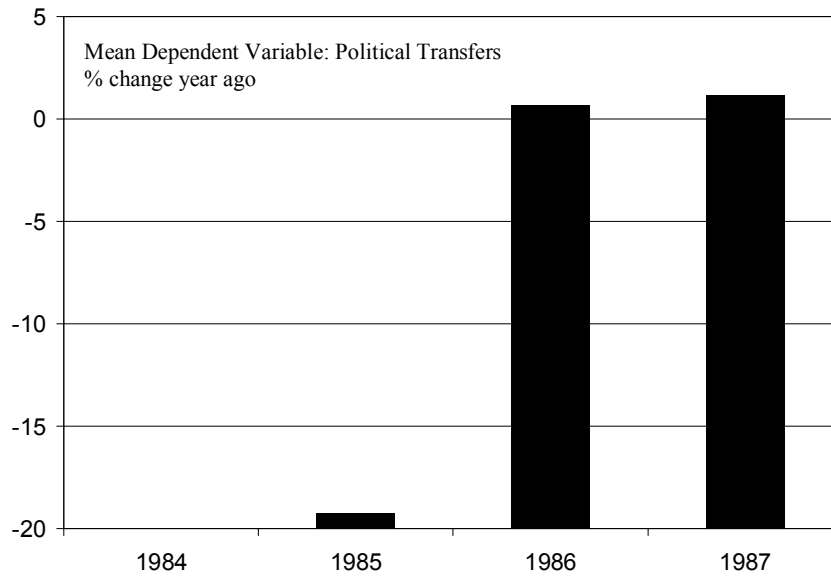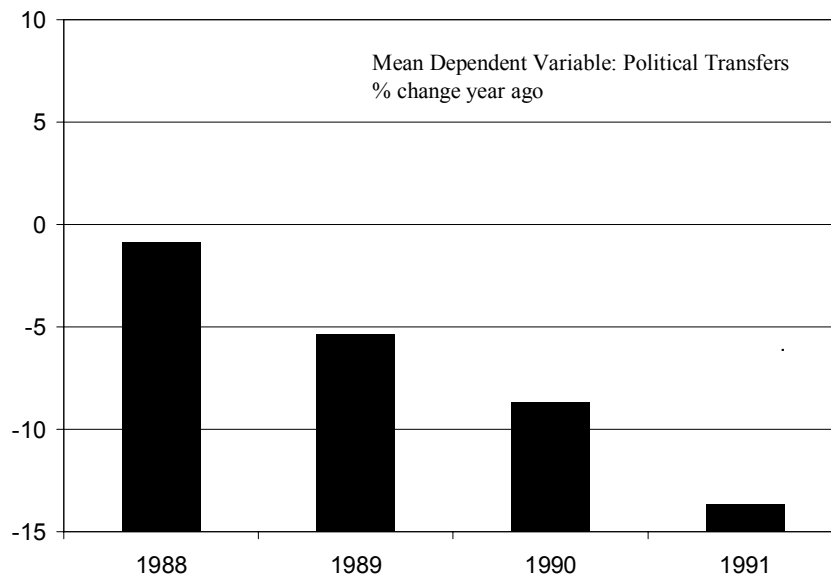Figure 6.25 Political Transfers % change: Election Period 1 (1984-1987)

Figure 6.26 Political Transfers % change: Election Period 2 (1988-1991)

Figure 6.27 Political Transfers % change: Election Period 3 (1992-1995)

Mean Dependent Variable: Political Transfers
% change year ago
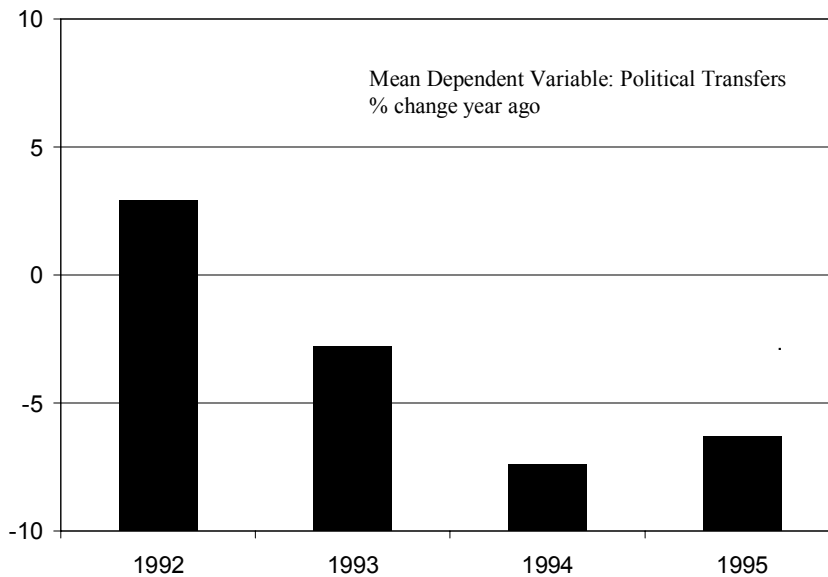
Figure 6.28 Political Transfers % change: Election Period 4 (1996-1999)

Mean Dependent Variable: Political Transfers
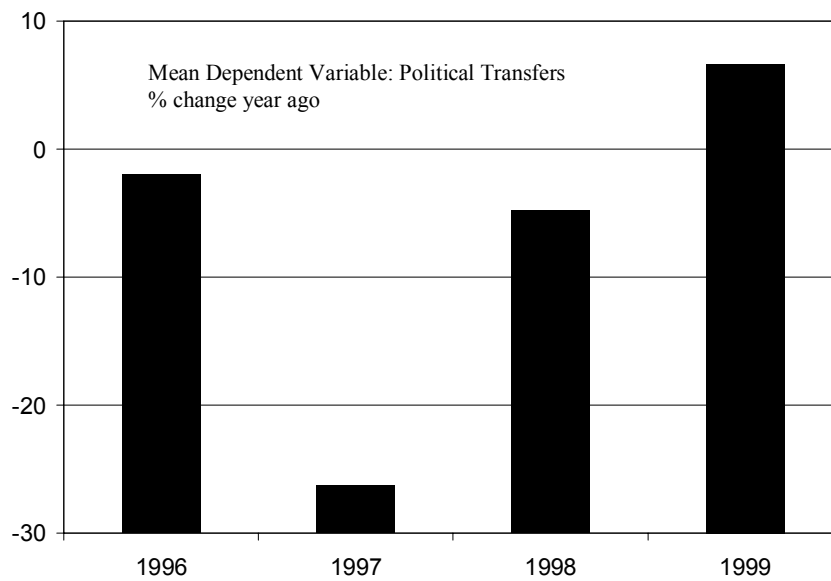% change year ago

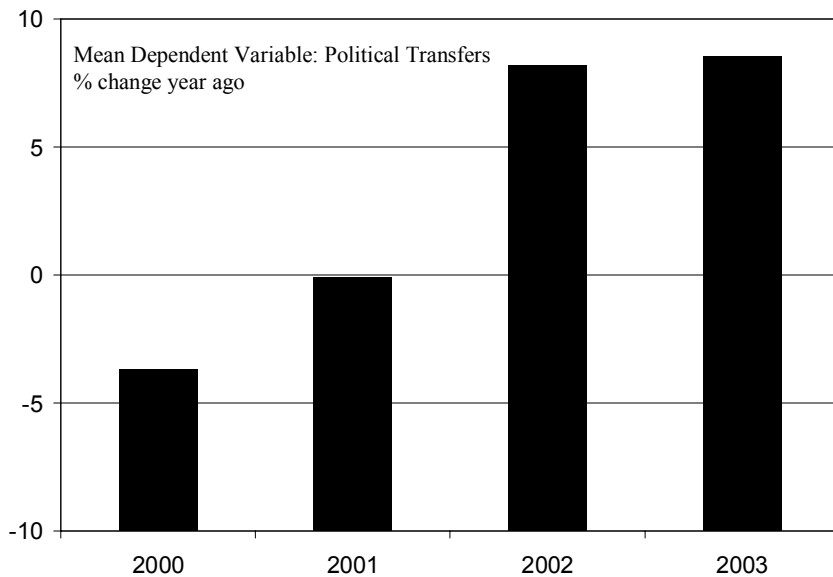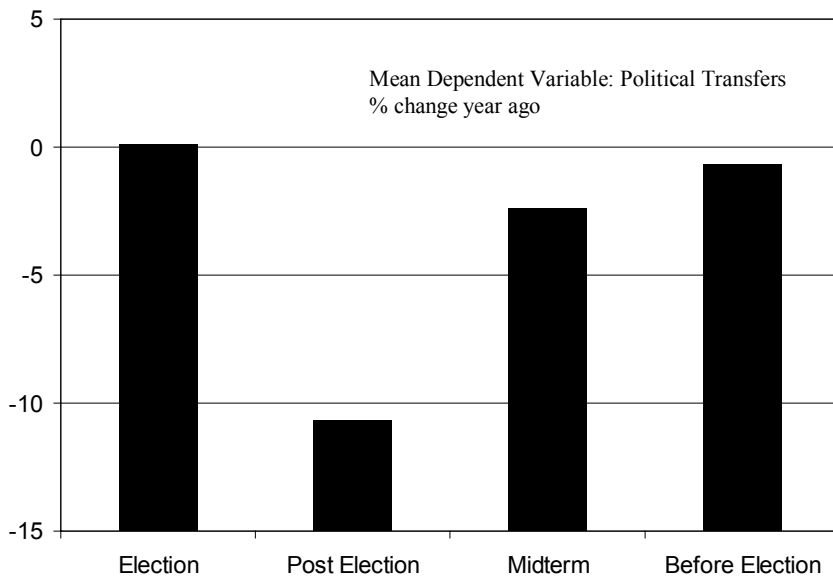Figure 6.29 Political Transfers % change: Election Period 5 (2000-2003)

Figure 6.30 Political Transfers % change: Average Over All Election Periods
(1984-2004)

6.6.4 Timing Results: Levels

In the next two sections, we provide a more thorough analysis of the numbers behind the charts. We also combine the transfers in these two sections in order to test our hypothesis[86].

First, we place each of the variables at each time *t* into one of the four timing categories—election year, year after the election, midterm and year before the election. In this section, we inspect the mean dependent variable for both *p* and *q* by looking at levels across each category. This is the numerical equivalent of the final charts that were inspected visually in the preceding chapters. The results for the mean dependent variable *p* are shown in Table 6.25:

Table 6.25	
Mean Political Transfers (p) Across Timing Categories	
Timing Category (1980-2003):	*Mean Dependent Variable:*
Presidential Election Year	1.0623
Year After the Presidential Election	1.0051
Midterm Election	1.0079
Year Before Presidential Election	1.0145

These results do not necessarily line up with the theory, but it is important to keep in mind that we have not yet inspected monetary transfers and that the results are levels not 'changes'. This is important because the hypothesis calls for testing marginal alterations or changes, not levels. Nonetheless, the inspection of levels and the results in the table above are of interest to broader evidence of a trend in timing.

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[86] One should note that the differences in means in this section are not statistically significant. The small sample size for each category and the indexing process for the dependent variable along with the transformation process for the mean dependent variable constrained the significance.

The results above show a ramp up in political transfers as the next election approaches, peaking in the Presidential election year. The political transfers' reach a low point directly after the election, and then slowly increase through the election cycle. We can now show the results for the mean dependent variable q in Table 6.26 below:

Table 6.26		
Mean Monetary Transfers (q) Across Timing Categories		
Timing Category (1980-2003):		*Mean Dependent Variable:*
Presidential Election Year		1.0771
Year After the Presidential Election		1.0772
Midterm Election		1.0751
Year Before Presidential Election		1.0762

These results show a continuous increase from the midterms, reaching a max during the year after the presidential election. In order to see how both variables (monetary and political transfers) interact, we need to combine them. Since both dependent variables are already normalized, it will be simple to produce a pooled form. To do so, we simply take the average of the two dependent variables. The results are shown below.

Table 6.27		
Average Transfers (both p and q) Across Timing Categories		
Timing Category:		*Mean Dependent Variable:*
Presidential Election Year		1.0697
Year After the Presidential Election		1.0412
Midterm Election		1.0415
Year Before Presidential Election		1.0453

It is quite evident that the "level" of transfers hits a low point in the 'Year After the Presidential Election' category and gradually increases with the peak occurring in the 'Presidential Election Year' category. This does not assist us in testing our hypothesis because we are looking at levels. However, it is interesting nonetheless. The results above

tell us that on average political parties distribute more funds (whether they are political transfers or monetary transfers) each year as the next election approaches.

6.6.5 Timing Results: Marginal Increase

In order to gauge the marginal increase portion of the hypothesis, we need to take year to year percent changes for both dependent variables across all times *t*. Afterwards, we can use the same methodology using averages mentioned in the previous section and present the results. At that point, we can then accept or reject our null hypothesis that 'a marginal increase in transfers will be greater in the beginning of the political cycle and decrease as the next election approaches'.

First, we need to group each political transfer year-to-year percent change at time *t* into one of the four categories. Then we can take the average across each category. The date range is condensed because we lose one observation due to taking year-to-year percent changes. The results for political transfers, shown below (Table 6.28), do support the hypothesis that the marginal increase in transfers will be greater directly after the Presidential Election.

Table 6.28	
Mean Political Transfers (p) Across Timing Categories	
% change year ago	
Timing Category:	*Mean Dependent Variable:*
Presidential Election Year	-12.3805
Year After the Presidential Election	6.6102
Midterm Election	11.9397
Year Before Presidential Election	-4.2539

We can now inspect monetary transfers using the same method of year-to-year percent change at time *t*. Once we group these into one of the four categories, we can

then take the average across each category. The results for monetary transfers, shown in

Table 6.29 below, do not support the hypothesis that the marginal increase in transfers

will be greatest directly after the Presidential Election. In fact, the results are the opposite

of the political transfers, showing large declines in the year after the election and into the

midterm election year.

Table 6.29	
Mean Monetary Transfers (q) Across Timing Categories	
% change year ago	
Timing Category:	*Mean Dependent Variable:*
Presidential Election Year	0.5175
Year After the Presidential Election	-0.1767
Midterm Election	-0.0116
Year Before Presidential Election	0.2361

In order to see how both of the variables interact, we need to combine them. Since

they are both normalized percent changes, the simplest way to do so is to take the

average. In other words, take the average for both p and q above across all categories.

The results (shown in Table 6.30) do support the theory that the marginal increase in

transfers will be greatest directly following the Presidential Election.

Table 6.30	
Mean Transfers (both p and q) Across Timing Categories	
% change year ago	
Timing Category:	*Mean Dependent Variable:*
Presidential Election Year	-5.9315
Year After the Presidential Election	3.2168
Midterm Election	5.9641
Year Before Presidential Election	-2.0089

Indeed, the year after the Presidential Election has a relatively large increase in

aggregate transfers. The aggregate transfers increase at a higher rate in the Midterm

Election category. Then in the lead-up to the next Presidential election, or the Year

Before the Presidential Election category, there is a marginal decline in transfers. Finally, aggregate transfers decline at the largest rate during the Presidential Election Year.

6.6.6 Conclusion

Due to the data and analysis laid out above, we can reject the null hypothesis. However, we should emphasize that the rejection of the null hypothesis is analytical and not statistical. As anticipated, a marginal increase in transfers will be greater in the beginning of the political cycle and decrease as the next election approaches. Political parties increase transfers by a large amount directly following a Presidential Election, and transfers decrease as the next election approaches.

6.7 Summary

There was empirical support for the theory, although there were several glitches. First, political transfers across all budgetary departments are dependent upon each department's linked-platform. However, the political party who is in power of the budget does not appear to be relevant for political transfers. The theory explained that political transfers would be dependent upon platforms and budgetary control. Therefore, our theory was correct about the importance of platforms for political transfers; yet, we were incorrect about the importance of budgetary control for political transfers.

Second, monetary transfers to each regional area are dependent upon the political party who is in control of the budget and that specific region's vote share for said political party. We predicted that monetary transfers would be dependent upon vote share and budgetary control; and that was supported by the analysis. Third, as anticipated, political transfers and monetary transfers are substitutes. We theorized that they would

most likely be substitutes because of the fact that they are both budgetary instruments. This hypothesis was also correct.

Lastly, the largest marginal increase in both political and monetary transfers typically occurs directly after the Presidential Election. As the next election approaches, it appears there is a marginal decrease in both political and monetary transfers. Statistical analysis of this final hypothesis also showed support.

CHAPTER 7

RESULTS AND CONCLUSIONS

7.1 Introduction

This chapter analyzes the empirical results and presents a rationale for the dissertations findings. The dissertation's contribution to the field of economics—particularly its substance, findings and methodological insights—along with its broader implications are discussed. The chapter also explores this dissertation's limitations as well as avenues for future research. Finally, a summary section concludes the chapter and ends the dissertation.

7.2 Results

Much of the theory presented earlier in the dissertation held up under empirical analysis; however, there was one central aspect of the results that contradicted the theory. Indeed, political transfers were not found to be dependent upon the party with control of the federal budget. Therefore, the political transfers' model was incorrect, and our theory's premise was somewhat amiss.

There are several justifications for why the monetary transfers' model held up under empirical analysis, while the political transfers' model did not. First, both discretionary and mandatory spending were included within the political transfers' dependent variable. Although adjustments were made to all right-hand side variables attempting to account for incremental budgetary movements[87], the time span chosen may not have been sufficient to properly catch the significance of changes in budgetary

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[87] An eight-year moving average was taken on all right hand side variables to account for the fact that budgets change incrementally.

control on the slow, incremental changes in total spending (mandatory and discretionary). Indeed, the dollar size of mandatory and discretionary spending is quite large, so as a percentage of the whole, a shift from one year to the next in any department would not be terribly considerable in comparison to the year prior. Moreover, a political party can not immediately impact the federal budget once they gain control because they budget is already set by the prior administration. The alignment between the timing of the lagged budgetary control and incremental changes in total spending may have constrained the significance of the budgetary control variable in the political transfers' model.

Second, as highlighted in the Chapter 6 and stated in Glaeser et al. (2004), "strategic extremism in party policy depends on an important intensive margin where politicians want their core constituents to vote and their ability to target those messages to those core constituents". In other words, once in power, the party takes into account how much an alteration in a transfer (be it monetary or political) would affect the core constituency and the opposition. In doing so, the party analyzes the degree to which the alteration in a transfer would be filtered to its base. If the transfer is not as easily filtered to the base, the party would not use that transfer as often.

It can be argued that political transfers are not as easily targeted or filtered to a political party's base as monetary transfers. There are sound reasons for this argument. Aggregated monetary transfers to all states in a given year are much smaller than aggregated political transfers to all departments. There are also many more states than there are departments. Hence, it may be a more effective filtration method for a political party to use a smaller dollar amount—here monetary transfers—to influence its base because the smaller amount is not as easily noticed, and therefore, better filtered. The fact

that the targeted areas (in this case states) amount to over 50, may add to preference for using monetary transfers and not political transfers at least in terms of evidence of filtration to the base.

Third, it could be asserted that politicians believe that what happens in a voter's backyard is most likely to affect them. Thomas 'Tip' O'Neill—a longtime Speaker of the House in the U.S. Congress—is famous for saying, "all of politics is local". If this is true, monetary transfers would be more than likely preferred to political transfers because monetary transfers are simply transfers from the federal to state governments. Given this explanation, monetary transfers are more local by definition relative to federal-to-federal transfers—like political transfers. The fact that Ansolabehere and Snyder (2003) confirmed that monetary transfers hold up at the state to county level supports this localized argument.

Finally, the substitutability of monetary and political transfers most likely leads those with budgetary control to favor one form of transfer over the other. The dissertation provided statistical evidence that this was the case through the analysis in Chapter 6. This substitution aspect may explain why budgetary control is significant in the monetary model, but not significant in the political transfers' model. After all, the control variable is the same in each model for each year. Therefore, it is not likely that it would be significant and positively correlated in both models.

The results of the timing model back up the fact that political transfers and monetary transfers are substitutes. Refer back to Tables 6.28, 6.29 and 6.30. Table 6.28 shows that political transfers increase in the aftermath stage and decrease in the lead up stage. In other words, political transfers increase in the years directly following the

election and increase in years leading up to the next election. According to Table 6.29, the opposite is true for monetary transfers. Yet, when combined in Table 6.30, political transfers outweigh monetary transfers and the aggregated transfers increase in the aftermath stage and decrease in the lead up stage, which supports our timing hypothesis. This presents further evidence that the two dependent variables are substitutes, and the budgetary control, or C, variable being significant in only one model—the monetary model. The results of the aggregate transfers highlight the fact that political transfers outweigh monetary transfers—which also lends support to the filtration argument.

In summary, the results do show that transfers are biased to areas/departments that align with a political party's ideology. Nevertheless, budgetary control is only significant in transfers to areas. Both of the transfers (monetary and political) are substitutes and when they are combined, they are increased at a higher rate directly following an election.

7.3 Implications

This dissertation's findings have important implications for the study of economics, particularly public economics, and public choice economics. The theory and results also contain important aspects for other academic fields such as politics, governance, and finance. The results have shown that political parties do indeed bias governmental budgets in favor of core constituents, and typically, the most opaque approach is taken.

There are quite a few reasons why this dissertation is economically significant. First, this dissertation used economic tools to study the behavior of political parties. The

empirical analysis showed that political parties do engage in a budgetary bias towards their base, most likely to reward loyal voters. This lends credence to labeling parties as (mostly) self-interested, and research in this realm is at the heart of public choice economics. Second, the model's theory and empirical results violated the median voter theorem, an important theory created within the field of economics. Finally, the bias exposed within the dissertation highlights a potential inefficiency within the governmental budget process. This public finance issue is shockingly thin in the field and is deserving of greater coverage.

Additionally, the techniques and methodologies used within this dissertation are somewhat innovative. Although the monetary transfers' model followed Ansolabehere (2003), this dissertation's model added new controls and the model was applied at the federal to state level rather than the state to country level. An original methodology for capturing a bias in political transfers at the federal level was created within this dissertation. The similar methodology for construction of both the monetary and political dependent variables allowed for the testing their substitutability. It also permitted us to test the total bias along the election cycle. These methodologies can be used to broaden the economic approach to studying political parties' affects on government budgets.

The results of this study will also have implications for the study of political science, which is often described as the study of politics defined as "who gets what, when and how".[88] It is clear that the distribution of public expenditures is relevant to that definition, particularly when the distribution is skewed based on electoral outcomes.

A generalized increase in budget bias over time also provides a potential source of electoral polarization. In all probability, the stakes of each election for party faithful rise

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[88] Laswell, Harold (1935). *Politics: Who Gets What, When, How.* London: McGraw-Hill.

with a generalized increase in budget bias. This dissertation's spotlight on the bias in the federal government's budgets may constrain political parties' ability to utilize budgetary redistribution in the future. As the transparency of budgetary bias increases, political parties would be less inclined to take part, which may make their policy choices more equitable. Therefore, the results enclosed are also quite applicable to the study of government.

7.4 Limitations and Future Work

Although the findings within this dissertation are important to the aforementioned fields, there are limitations. First, the budgetary control variable was not found to be significant when estimating the political transfers' model. As stated in section 7.2, there are many possible explanations for this result, some of which hint towards an error in our theory. Nonetheless, the result may also be due to poor specification of the political transfers' model. Reworking the political transfers' model, specifically focusing in on the mandatory and discretionary spending elements within the dependent variable, may be a fruitful avenue for future work.

Another limitation of the analysis here within was that it did not extend beyond federal to state transfers in the monetary model and federal-to-federal transfers in the political model. Although Ansolabehere et al. (2003) proved that monetary transfers do occur at the state to country level, it remains to be seen whether political transfers occur at that level. It would make theoretical sense that political transfers would be less transparent at the state-to-state level rather than the federal-to-federal level, which was

inspected in this study. Therefore, testing political transfers at the state-to-state level would be another avenue for future research.

The analysis could also be extended internationally. In this dissertation, the analysis was bounded within the U.S. One could use the established framework to test budgetary redistribution and electoral support at a broader (international) level. One way to advance this research would be to incorporate how budgetary redistribution (monetary/political transfers) affects economic growth. Future research could inspect where transfers are most prevalent and the economic efficiency within that environment.

Finally, a great advancement to the material enclosed within this dissertation is to capture a higher frequency of platform alterations. One may recall that the theory presented in Chapter 4 and Chapter 5 hypothesized that platform alterations would show a marginal decrease in the *aftermath* stage and a marginal increase in the *lead up* stage. Unfortunately, we did not have the high frequency data to test this hypothesis. As we mentioned in Chapter 2, political platforms do change throughout the four-year election cycle, but the data available data (although the best available) does not capture these changes. If one could obtain higher frequency platform data, they could test this aspect of the *timing* theory.

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APPENDIX

8.1 Variable Lists

8.1.1 List of Variables in the Political Transfers' Model:

Table 8.1		
Variable	*Definition*	Description
P	*Political Transfer*	An index centered on 1. This variable is the department in questions' budget share over the average budget share for all departments at time t.
C	*Budgetary Control*	Binary variable. An eight year moving average on the dummy variable created for majority control at time t.
ρ	*Political Platform*	Binary variable. Mapping from platform language to budgetary department in question at time t.
φ	*Quasisentence Rank*	This variable is used to create the ρ variable. It is the number of quasisentences in a political party's platform for the department in question at time t.
CPI	*Control for Inflation*	The Consumer Price Index
Employment	*Control for Employment*	The number of non-farm employees
Unemployment	*Control for Unemployment Rate*	The unemployment rate
Population	*Control for Population*	The U.S. population
Real GDP	*Control for Output*	Gross Domestic Product adjusted for inflation
WAR	*Control for War*	Dummy for period of time in which the U.S. was involved in a large-scale war.
j	*Department*	SUBSCRIPT: The specific budgetary department in question.
t	*Time*	SUBSCRIPT: Time.
R	*Republican Party*	SUBSCRIPT: The Republican Party
D	*Democratic Party*	SUBSCRIPT: The Democratic Party

8.1.2 List of Variables in the Monetary Transfers' Model:

Table 8.2		
Variable	*Definition*	Description
Q	*Monetary Transfer*	A normalized per capita share of intergovernmental transfers from the U.S. federal government to a state government
C	*Budgetary Control*	An eight year moving average on the dummy variable created for majority control
V	*Vote Share*	The absolute deviation from 50% of the eight year moving average of the democratic party's share of total voter turnout in year t.
VT	*Voter Turnout*	The sum of all presidential and gubernatorial election votes in year t, taken as an eight year moving average
Education (or Edu)	*Control for Education*	The per capita number of public elementary and secondary education students within a state
Poverty (or Pov)	*Control for Poverty*	The percentage of individuals living in poverty
Race	*Control for Race*	The per capita amount of African Americans within a specific area
Age	*Control for Age*	The per capita amount of the population that is 65 or older within a specified area
Income	*Control for Income*	The per capita amount of personal income within a specified area
Transfers	*Control for Transfers*	The per capita amount current transfer receipts of individuals from governments within a specified area
Military	*Control for Military*	The per capita amount military employment within a specified area
j	*State*	SUBSCRIPT: The specific state in question.
t	*Time*	SUBSCRIPT: Time.
R	*Republican Party*	SUBSCRIPT: The Republican Party
D	*Democratic Party*	SUBSCRIPT: The Democratic Party

8.2 Methodologies for the Construction of φ_{jt}

As we indicated in equation (6.4), the variables (φ_{jt}^{D} and φ_{jt}^{R}) are utilized to make

up the final ρ_{jt}. In order to make our analysis more transparent (what do you mean by

transparent?), we will provide a methodology for the creation of all φ_{jt} variables. Since

there are 12 *j*s, there will be 12 methodologies (is this the best word?) for the creation

of φ_{jt}. Some of these methodologies will be unique, some will be routine.

Methodology #1: National Defense.

Platforms 104 (Military Positive) and 105 (Military Negative) link up with the

National Defense department.[89] Since National Defense spending coincides with a

positive view on the military, we can do the following for each party:

φ_{jt} = (p104 – p105)*2

Where:

j is National Defense

t is time

p104 is the quasisentence rank for a positive view of the military.

P105 is the quasisentence rank for a negative view of the military.

We multiply by two in order to inflate the number, so it is more easily compared to the

original quasisentence ranking system. The process above φ_{jt} is done for both parties, so

we end up with a φ_{jt}^{D} and a φ_{jt}^{R}.

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[89] The Platform number (in this case Platform 104 and 105) can be found in the table containing Budge et al. (2001) and Budge et al. (2006) 56 platform categories, which is embedded above.

Methodology #2: International Affairs.

Platforms 101 (Foreign Special Relationships: Positive), 102 (Foreign Special Relationships: Negative), 107 (Internationalism: Positive), and 109 (Internationalism: Negative) link up with this department. Since International Affairs spending coincides with a positive view on the Foreign Special Relationships and Internationalism, we can do the following for each party:

$$\varphi_{jt} = (\text{p101} + \text{p107}) - (\text{p102} + \text{p109})$$

Where:

j is International Affairs

t is time

p101 is the quasisentence rank for a positive view of the foreign special relationships.

P107 is the quasisentence rank for a positive view of the international affairs.

p102 is the quasisentence rank for a negative view of the foreign special relationships.

P107 is the quasisentence rank for a negative view of the international affairs.

We do *not* multiply by two because we are already using two positive/negative platforms and adding them together. The process above φ_{jt} is done for both parties, so we end up with a φ_{jt}^{D} and a φ_{jt}^{R}.

Methodology #3: General Science.

Platform 411 (Technology and Infrastructure: Positive), links up with this department. Since General Science spending coincides with a positive view on the Technology, we can simply do the following for each party:

$$\varphi_{jt} = \text{p411}$$

Where:

j is General Science

t is time

p411 is the quasisentence rank for a positive view of the technology and infrastructure.

Methodology #4: Natural Resources and Environment.

Platforms 501 (Environmental Protection: Positive), link up with this department. Since Natural Resources and Environment spending coincides with a positive view on the Environmental Protection, we can simply do the following for each party:

$$\varphi_{jt} = \text{p501}$$

Where:

j is Natural Resources and Environment

t is time

p411 is the quasisentence rank for a positive view of the Natural Resources and Environment.

Methodology #5: Agriculture.

Platforms 703 (Farmers: Positive), link up with this department. Since Ag spending coincides with a positive view on the Farmers, we can simply do the following for each party:

$$\varphi_{jt} = \text{p703}$$

Where:

j is Agriculture

t is time

p703 is the quasisentence rank for a positive view of farmers.

Methodology #6: Commerce and Housing Credit.

Platforms 401 (Free Enterprise: Positive- *Commerce*), 407 (Protectionism: Negative- *Commerce*), 414 (Economic Orthodoxy- *Commerce*), and 504 (Welfare State: Expansion- *Housing*) link up with this combined department. Since a positive view of commerce department spending coincides with a positive view of free enterprise, a negative view of protectionism, and a positive view of economic orthodoxy, and since a positive view of the welfare state coincides with increased housing credit spending, we can do the following:

$$\varphi_{jt} = (\text{p401} + \text{p407} + \text{p414} + \text{p504}) / 4$$

Where:

j is Commerce and Housing Credit

t is time

p401 is the quasisentence rank for a positive view of free enterprise.

P407 is the quasisentence rank for a negative view of protectionism.

P4174 is the quasisentence rank for a positive view of economic orthodoxy.

P504 is the quasisentence rank for a positive view of welfare state.

The process above φ_{jt} is done for both parties, so we end up with a φ_{jt}^D and a φ_{jt}^R.

Methodology #7: Education, Training, Employment and Social Services.

Platforms 506 (Education Expansion: Positive) and 507 (Education Limitation: Positive) link up with this department. Since Education spending coincides with an expansionary view of education, we can do the following for each party:

$$\varphi_{jt} = (p506 - p507)*2$$

Where:

j is Education

t is time

p506 is the quasisentence rank for a positive view of the education expansion.

P507 is the quasisentence rank for a positive view of the education limitation.

We multiply by two in order to inflate the number, so it is more easily compared to the original quasisentence ranking system. The process above φ_{jt} is done for both parties, so we end up with a φ_{jt}^D and a φ_{jt}^R.

Methodology #8: Social Security and Medicare.

Platforms 506 (Welfare State Expansion: Positive) and 507 (Welfare State Limitation: Positive) link up with this department. Since Social Security and Medicare

spending coincides with an expansionary view of the Welfare State, we can do the following for each party:

$$\varphi_{jt} = (\text{p504} - \text{p505})*2$$

Where:

j is Social Security and Medicare Department

t is time

p506 is the quasisentence rank for a positive view of the welfare state expansion.

P507 is the quasisentence rank for a positive view of the welfare state limitation.

We multiply by two in order to inflate the number, so it is more easily compared to the original quasisentence ranking system. The process above φ_{jt} is done for both parties, so we end up with a φ_{jt}^{D} and a φ_{jt}^{R}.

Methodology #9: Grants to states for Medicaid.

The Methodology for Medicaid is the same methodology as methodology #8 above.

Methodology #10: Income Security.

The Methodology for Income Security is the same methodology as methodology #8 above.

Methodology #11: Veterans Benefits.

Platforms 104 (Military: Positive) and 402 (Incentives: Positive) link up with this department. Since Veterans Benefits spending coincides with an expansionary view of both Military and Incentives, we can do the following for each party:

$$\varphi_{jt} = (p104 + p402)/2$$

Where:

j is Veterans Benefits

t is time

p506 is the quasisentence rank for a positive view of the military.

P507 is the quasisentence rank for a positive view of incentives.

We divide by two in order to deflate the number, so it is more easily compared to the original quasisentence ranking system. The process above φ_{jt} is done for both parties, so we end up with a φ_{jt}^{D} and a φ_{jt}^{R}.

Methodology #12: Department of Justice.

Platforms 605 (Law and Order: Positive), link up with this department. Since Justice spending coincides with a positive view on Law and Order, we can simply do the following for each party:

$$\varphi_{jt} = p605$$

Where:

j is Justice

t is time

p605 is the quasisentence rank for a positive view of Law and Order.

8.3 Structural Change and Interaction Results

8.3.1 Political Transfers: Structural Change Results

Table 8.3	
Political Transfers: Testing Equation 6.4 for Structural Change	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C	-0.200
	(2.393)
ρ	1.280***
	(0.411)
CPI	0.004
	(0.120)
Unemp	0.311
	(1.621)
Pop	-0.0001
	(0.0002)
RGDP	0.0007
	(0.0028)
War	0.047
	(0.280)
Dummy P	-0.217
	(0.410)
Dummy S	0.248
	(0.0408)
Dummy H	-0.079
	(0.297)
R-square (within)	0.049
Number of Observations	237.000
* = significant at the .05 level	
** = significant at the .01 level	

Table 8.4	
Political Transfers: Testing Equation 6.5 for Structural Change	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C	0.174
	(2.162)
ρ	1.268***
	(0.406)
RGDP	-0.0001
	(0.0001)
War	0.1345
	(0.237)
Dummy P	-0.203
	(0.405)
Dummy S	0.235
	(0.294)
Dummy H	-0.078
	(0.4051)
R-square (within)	0.047
Number of Observations	165.000
* = significant at the .05 level	
** = significant at the .01 level	

Table 8.5	
Political Transfers: Testing a Normalized Equation 6.4 for Structural Change	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C_N	-0.011
	(0.163)
ρ_N	0.362***
	(0.176)
CPI_N	-0.720
	(4.855)
Unemp_N	0.338
	(4.200)
Pop_N	-0.947
	(23.189)
RGDP_N	-2.099
	(15.96)
War_N	0.021
	(1.444)
Dummy P	-0.147
	(0.556)
Dummy S	0.275
	(0.555)
Dummy H	-0.017
	(0.399)
R-square (within)	0.05
Number of Observations	237.000
* = significant at the .05 level	
** = significant at the .01 level	

Table 8.6	
Political Transfers: Testing a Normalized Equation 6.5 for Structural Change	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C_N	0.023
	(0.146)
ρ_N	0.369***
	(0.173)
RGDP_N	-0.224
	(0.252)
War_N	-0.01
	(0.245)
Dummy P	-0.150
	(0.548)
Dummy S	0.271
	(0.393)
Dummy H	-0.01
	(0.546)
R-square (within)	0.05
Number of Observations	165.000
* = significant at the .05 level	
** = significant at the .01 level	

8.3.2 Political Transfers: Interaction Results:

Table 8.7	
Political Transfers: Testing Equation 6.4 for Interaction	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C	-0.2755
	(2.401)
ρ	1.164***
	(0.747)
C* ρ	1.694
	(8.06)
CPI	0.005
	(0.11)
Unemp	0.246
	(1.614)
Pop	-0.0001
	(0.0002)
RGDP	0.0006
	(0.002)
War	0.037636
	(0.2780)
R-square (within)	0.05
Number of Observations	237.000
* = significant at the .05 level* = significant at the .05 level	
** = significant at the .01 level** = significant at the .01 level	

Table 8.8	
Political Transfers: Testing Equation 6.5 for Interaction	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C	0.098
	(2.169)
ρ	1.153
	(0.740)
C* ρ	1.669
	(7.994)
RGDP	-0.0001
	(-0.0001)
War	0.122
	(0.234)
R-square (within)	0.05
Number of Observations	237.000
* = significant at the .05 level* = significant at the .05 level	
** = significant at the .01 level** = significant at the .01 level	

Table 8.9	
Political Transfers: Testing a Normalized Equation 6.4 for Interaction	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C_N	0.0295
	(0.165)
ρ_N	0.346
	(0.174)
C_N*ρ_N	0.19481
	(0.17)
CPI_N	-0.98
	(4.796)
Unemp_N	0.519
	(4.127)
Pop_N	-1.66
	(22.78)
RGDP_N	-2.05
	(15.73)
War_N	-0.029
	(1.418)
R-square (within)	0.06
Number of ObservationsNumber of Observations	237.000
* = significant at the .05 level* = significant at the .05 level	
** = significant at the .01 level** = significant at the .01 level	

Table 8.10	
Political Transfers: Testing a Normalized Equation 6.5 for Interaction	
Dep. Var.: Relative Share of Expenditure- Federal Gov't (or P)	*Estimation Results*
C_N	0.0667
	(0.1509)
ρ_N	0.3537***
	(0.1716)
C_N*ρ_N	0.1879
	(0.1748)
RGDP_N	-0.240
	(0.2489)
War_N	-0.029
	(0.2433)
R-square (within)	0.102
Number of ObservationsNumber of Observations	165
* = significant at the .05 level* = significant at the .05 level	
** = significant at the .01 level** = significant at the .01 level	

8.3.3 Monetary Transfers: Structural Change Results:

Table 8.11	
Monetary Transfers: Testing Equation 6.9 for Structural Change	
Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V	0.880*** (0.242)
C	0.774*** (0.196)
VT	0.00001*** (0.00001)
Age	-7.910*** (0.639)
Education	-0.001 (0.001)
Income	0.00001*** (0.00001)
Military	7.635*** (1.017)
Poverty	-0.003 (0.003)
Race	-1.020*** (0.107)
Transfers	0.344*** (0.020)
Dummy P	-0.035 (0.026)
Dummy S	0.032 (0.032)
Dummy H	0.007 (0.033)
R-square (within) *Number of Observations* * = significant at the .05 level ** = significant at the .01 level	0.5 1350

Table 8.12

Monetary Transfers: Testing Equation 6.10 for Structural Change

Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V	1.279*** (0.250)
C	0.410*** (0.206)
VT	-0.00001*** (0.00001)
Age	-5.103*** (0.502)
Military	7.515*** (1.047)
Poverty	0.020*** (0.002)
Race	-1.112*** (0.105)
Transfers	0.128*** (0.010)
Dummy P	-0.029 (0.027)
Dummy S	0.038 (0.034)
Dummy H	0.044 (0.035)
R-square (within)	0.5
Number of Observations	1350

* = significant at the .05 level
** = significant at the .01 level

Table 8.13

Monetary Transfers: Testing a Normalized Equation 6.9 for Structural Change

Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V_N	0.053*** (0.009)
C_N	0.032*** (0.010)
VT_N	-0.046*** (0.010)
Age_N	-0.073*** (0.009)
Education_N	0.032*** (0.013)
Income_N	-0.152*** (0.021)
Military_N	0.108*** (0.010)
Poverty_N	0.033*** (0.012)
Race_N	-0.084*** (0.011)
Transfers_N	0.269*** (0.021)
Dummy P	-0.047** (0.025)
Dummy S	0.035 (0.035)
Dummy H	0.049 (0.036)
R-square (within)	0.5
Number of Observations	1350
* = significant at the .05 level	
** = significant at the .01 level	

Table 8.14	
Monetary Transfers: Testing a Normalized Equation 6.10 for Structural Change	
Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V_N	0.057*** (0.009)
C_N	0.020*** (0.010)
VT_N	-0.066*** (0.009)
Age_N	-0.098*** (0.007)
Military_N	0.081*** (0.009)
Poverty_N	0.082*** (0.009)
Race_N	-0.102*** (0.010)
Transfers_N	0.142*** (0.011)
Dummy P	-0.027 (0.026)
Dummy S	0.045 (0.037)
Dummy H	0.036 (0.035)
R-square (within)	0.5
Number of Observations	1350
* = significant at the .05 level	
** = significant at the .01 level	

8.3.4 Monetary Transfers: Interaction Results:

Table 8.15	
Monetary Transfers: Testing Equation 6.9 for Interaction	
Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V	1.369*** (0.468)
C	0.980*** (0.296)
V*C	-5.866 (4.810)
VT	-0.00001*** (0.00001)
Age	-7.853*** (0.636)
Education	-0.001 (0.001)
Income	-0.00004*** (0.00001)
Military	7.660*** (1.015)
Poverty	-0.003 (0.003)
Race	-1.010*** (0.107)
Transfers	0.342*** (0.020)
R-square (within)	0.5
Number of Observations	1350
* = significant at the .05 level	
** = significant at the .01 level	

Table 8.16	
Monetary Transfers: Testing Equation 6.10 for Interaction	
Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V	1.756*** (0.495)
C	0.515*** (0.313)
V*C	-5.728 (5.128)
VT	0.0001*** (0.0001)
Age	-5.050*** (0.502)
Military	7.482*** (1.047)
Poverty	0.020*** (0.002)
Race	-1.106*** (0.105)
Transfers	0.121*** (0.010)
R-square (within) *Number of Observations* ** = significant at the .05 level* *** = significant at the .01 level*	0.5 1350

Table 8.17	
Monetary Transfers: Testing a Normalized Equation 6.9 for Interaction	
Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V_N	0.055*** (0.009)
C_N	0.022*** (0.009)
V_N*C_N	-0.018* (0.008)
VT_N	-0.045*** (0.008)
Age_N	-0.069*** (0.009)
Education_N	0.031*** (0.013)
Income_N	-0.151*** (0.021)
Military_N	0.110*** (0.010)
Poverty_N	0.035*** (0.012)
Race_N	-0.083*** (0.011)
Transfers_N	0.262*** (0.021)
R-square (within)	0.5
Number of Observations	1350
* = significant at the .05 level	
** = significant at the .01 level	

Table 8.18	
Monetary Transfers: Testing a Normalized Equation 6.10 for Interaction	
Dep. Var.: Relative Share of Transfers from Federal Gov't (or Q)	*Estimation Results*
V_N	0.0582*** (0.0089)
C_N	0.0116 (0.0090)
V_N*C_N	-0.0154 (0.0085)
VT_N	-0.0644*** (0.0092)
Age_N	-0.0942*** (0.0069)
Military_N	0.0829*** (0.0093)
Poverty_N	0.0834*** (0.0094)
Race_N	-0.1006*** (0.0101)
Transfers_N	0.1362*** (0.0109)
R-square (within) *Number of Observations* ** = significant at the .05 level* *** = significant at the .01 level*	0.5 1350

8.4 Substitution: Mean Dependent Variables

8.4.1 Political Transfers' Mean Dependent Variable

Table 8.19 Political Transfers Mean Dependent Variable	
Date	Political Transfer Mean for Year *t*
1984	1.005
1985	1.319
1986	1.317
1987	1.324
1988	1.315
1989	1.318
1990	1.311
1991	1.292
1992	1.281
1993	1.261
1994	1.266
1995	1.253
1996	1.26
1997	1.023
1998	1.016
1999	1.036
2000	1.03
2001	1.042
2002	1.059
2003	1.067

8.4.2 Monetary Transfers' Mean Dependent Variable

Table 8.20 Monetary Transfers Mean Dependent Variable	
Date	Monetary Transfer Mean for Year t
1984	1.067
1985	1.059
1986	1.054
1987	1.058
1988	1.084
1989	1.078
1990	1.066
1991	1.067
1992	1.06
1993	1.055
1994	1.052
1995	1.047
1996	1.06
1997	1.059
1998	1.063
1999	1.073
2000	1.068
2001	1.063
2002	1.077
2003	1.095