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Growing Geographic Polarization and the Perpetuation of the Electoral Disconnect

By

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Abstract

Growing Geographic Polarization and the Perpetuation of Electoral Disconnect

By

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Doctor of Philosophy in Political Science

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Political scientists, journalists, and astute political observers agree that American political parties, at both the mass and elite level, have become more partisan over the past fifty years. The two national parties have increasingly moved apart on various social and economic issues, and elected representatives have become more ideologically divided over time. In response to party polarization, rank-and-file party identifiers have further sorted themselves into the Republican and Democratic parties. Their evaluation of political figures, as well as their positions over a range of political issues, is more likely to be influenced by their party identification now than decades ago. Yet when one closely examines the overall distributions of ideology and public opinions, one can hardly detect any changes in them over time. The electorate remains largely ideologically centrist and moderate.

Given frequent elections and the prevalence of watchdog groups and a savvy media, one would expect that representatives who deviate ideologically from the preferences of their constituents would get voted out. In principle, one would expect any electoral disconnect to diminish, if not completely disappear in the long run. Yet in reality, the opposite is true --- the electoral disconnect between the overall attitudes of the mass public and those of elites appears to have widened over time. The empirical puzzle is: **How can party polarization be sustained when the constituents who elect them are not ideologically divided?**

The answer is geography. Federal elections are geographically-based. There are four hundred and thirty five separate electoral districts for House seats, and fifty districts for Senate seats. Congressional members are single-minded re-election seekers who are held accountable to their home constituents---not to the national electorate. In order to understand what contributes to party polarization and electoral disconnect, one must begin by studying the spatial composition of voters across geographic regions. I argue that the increasingly skewed spatial distribution of partisan preferences, which I refer to as 'geographic polarization of partisan preferences', holds the key to the empirical puzzle.

There are two ways in which geographic polarization of partisan preferences can occur. One is through electoral behavioral change; another is through spatial compositional change.

By electoral behavioral change, I refer primarily to party sorting that began after 1980. As the two national parties pull apart ideologically, voters can easily differentiate between the major

parties and align themselves with the political party that lies closer to their political preferences. Because of party sorting, the connection between a person's socio-demographic characteristics and his or her partisan preference strengthens over time.

By <u>spatial composition change</u>, I refer to the condition in which the demographic make-up of geographic regions (or electoral districts) gets altered over time in ways that are politically relevant. There are two mechanisms that can induce spatial compositional change. The first mechanism is selective migration. When individuals' politically relevant socio-demographic characteristics and lifestyle preferences are correlated with both the migration decision and residential choice, then voters become geographically sorted over time in ways that matter for their political choices.

The second mechanism is place-varying generational replacement. The conventional notion of generational replacement suggests that cohorts coming of age in different time (or political) periods might develop distinct partisan preferences or beliefs. As younger cohorts replace older cohorts, the overall composition of the electorate might then change. While such conventional generational replacement continues to take place, I show that, after 1980, there is an additional form of generational replacement that is spatially dependent. In addition to the *time* in which one comes of age, the *place* in which one comes of age also matters. In California, I demonstrate that younger voters coming of age in pro-Democratic regions (the Bay Area and Los Angeles County) are systematically more likely to identify as Democrats than those growing up in pro-Republican regions. As these younger cohorts age, the spatial disparity in term of partisan preferences widens.

I use California as a case study because it is a very large and diverse state. There are many unique historic data, including individual-level opinion polls, voter registration data and yearly county-level demographic data. By assembling and examining various datasets, I show that selective migration began long *before* elite polarization resumed in Congress in the 1960s. Migration patterns have largely been stable over the past few decades. They are mostly driven by economic considerations and *not* by religious preferences. Over time, the accumulation of selective migration results in an increasingly skewed spatial distribution of voters of various socio-demographic characteristics. When the two national political parties began to pull apart on social and economic issues during the Reagan administration, voters took the cues and became more sorted by partisanship. Party sorting had two political impacts. First, it led to the onset of place-varying generational replacement. Second, it further accentuated the connection between the skewed spatial distribution of social-demographic characteristics and aggregate partisan preferences. Consequently, geographic polarization began to emerge in 1980 and continued to increase over time.

Prior to 1980, counties in California used to have fairly similar partisan preferences. The moderate, centrist distribution of ideology among voters was reflected by a bell-shape distribution of partisan preferences at the county level. By 2000, the distribution of partisan preferences at the county level had become bimodal --- counties either had gone more pro-Democratic or pro-Republican, with very few electorally competitive counties in between. Through the interaction of electoral behavioral changes and spatial compositional changes, the moderate, centrist electorate is now spatially arranged in partisan polarized districts. These districts perpetuate party polarization at the elite level as Congressional candidates must appeal

to either strongly Democratic or strongly Republican electorates within their districts. Lastly, I argue that since party sorting and the pattern of selective migration are deeply entrenched in the electorate, geographic polarization and electoral disconnect are likely to be sustained in the long run.

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Divided Congress, Divided Country
But Not Divided Electorate

Section 1.1 Introduction

> "I'm going to go in there with a spirit of bipartisanship and a sense that both the president and various leaders in Congress all recognize the severity of the situation right now and want to get stuff done."[1]

> Barack Obama. First news conference as President-Elect. November 7, 2008.

'Change' was the main theme in Barack Obama's campaign when he ran for President in 2008. Upon taking office, he called for bipartisan cooperation in Congress. To reach out to his opponents, he attended the annual House Republican Retreat in January 2010 and offered to discuss the key political concerns with the Republicans. The visit took place in the midst of heated debates on health care reform. During the Q&A section, Congressman Hensarling (R-Texas) and President Obama had the following exchanges.

> Congressmen Hensarling:
> Mr. President…the Republicans proposed a budget that ensured that government did not grow beyond the historical standard of 20 percent of GDP. It was a budget that actually froze immediately non-defense discretionary spending. It spent $5 trillion less than ultimately what was enacted into law, and unfortunately, I believe that budget was ignored. And since the budget was ignored, what were the old annual deficits under Republicans have now become the monthly deficits under Democrats…*(author's omission)*

> President Obama:
> Jeb, I know there's a question in there somewhere, because you're making a whole bunch of assertions, half of which I disagree with, and I'm having to sit here listening to them. At some point I know you're going to let me answer. All right.

> Congressman Hensarling:
> That's the question. You are soon to submit a new budget, Mr. President. Will that new budget, like your old budget, triple the national debt and continue to take us down the path of increasing the cost of government to almost 25 percent of our economy? That's the question, Mr. President.

> President Obama:

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[1] The full transcript can be found at http://www.cnn.com/2008/POLITICS/11/07/obama.conference.transcript/

> Jeb, with all due respect, I've just got to take this last question as an example of how it's very hard to have the kind of bipartisan work that we're going to do, because the whole question was structured as a talking point for running a campaign.

This kind of partisan exchanges is hardly an exception in today's politics. Close observers of politics have noted that the once civil tone and cooperative spirit have been replaced by overt partisan hostility in the Capitol (Sinclair 2006; Polsby 2004). The health care reform in 2010 offers a good example of how partisan rivalry has damaged the legislative process. Acting as a moderator, President Obama called a special forum on health care reform in February 2010 with the intention of providing a platform for the party leaders to work out their differences. Instead of reconciling their differences, Congressional members seized the opportunity to promote themselves and to appeal to their home constituents. The eight-hour televised forum not only failed to find common grounds, it further accentuated the insurmountable differences between the two camps.[2] The deep distrust between the parties deteriorated into policy gridlock as the two parties were too skeptical of another and too entrenched in their policy positions to negotiate. Although the Democrats managed to pass the landmark health care reform in March 2010, the passage of the legislation only drove the two parties apart and further divided their supporters. A poll conducted by the CBS News/New York Times in the same month reported deep division between Republican and Democratic voters. Over 80% of respondents who identified themselves as Democrats approved of the president's job performance, but only 11% among Republican identifiers.[3] Rank-and-file Republican voters vowed to avenge their loss by voting against any Democratic candidates in the coming November general election.[4]

Political scientists, journalists, and astute political observers agree that American political parties, at both the mass and elite level, have become more partisan over the past fifty years. The two national parties have increasingly moved apart on various social and economic issues, and elected representatives have become more ideologically divided over time (Brady & Han 2006; McCarty et al. 2006; Theriault 2008; Polsby 2004; Stonecash et al. 2003; Sinclair 2006; Lee 2009). In response to party polarization, rank-and-file party identifiers have further sorted themselves into the Republican and Democratic parties. Their evaluation of political figures, as well as their positions over a range of political issues, is more likely to be influenced by their party identification now than decades ago. Yet when one closely examines the overall distributions of ideology and public opinions, one can hardly detect any changes in them over time (DiMaggio et al. 1996; Fiorina 2005, 2009; Fiorina & Levendusky 2006; Fiorina & Abrams 2008). The electorate remains largely ideologically centrist and moderate. In a recent book titled 'Disconnect: the Breakdown of Representation in American Politics', Fiorina (2009) provides a thorough account of the widening electoral disconnect between ideologically polarized elites and the ideologically centrist electorate.

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[2] "President Urges Focus on Common Ground." NYTimes. February 26, 2010.
[3] The CBS News/New York Times Poll was conducted between March 18 and March 21, 2010.
[4] "Revenge of the White Men". LA Times. March 22, 2010.
"How GOP Can Rebound from Its 'Waterloo'" David Frum on CNN.com. March 22, 2010.

Given frequent elections and the prevalence of watchdog groups and a savvy media, one would expect that representatives who deviate ideologically from the preferences of their constituents would get voted out. In principle, one would expect any electoral disconnect to diminish, if not completely disappear in the long run. Yet in reality, the opposite is true --- the electoral disconnect between the overall attitudes of the mass public and those of elites appears to have widened over time. The empirical puzzle is: H**ow can party polarization be sustained when the constituents who elect them are not ideologically divided?**

The answer is geography. Federal elections are geographically-based. There are four hundred and thirty five separate electoral districts for House seats, and fifty districts for Senate seats. Congressional members are single-minded re-election seekers who are held accountable to their home constituents---not to the national electorate. In order to understand what contributes to party polarization and electoral disconnect, one must begin by studying the spatial composition of voters across geographic regions. I argue that the increasingly skewed spatial distribution of partisan preferences, which I refer to as 'geographic polarization of partisan preferences', holds the key to the empirical puzzle.

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Section 1.2 Brief Overview of Party Polarization in Congress

Newspapers, blogs and cable news channels supply numerous anecdotes about the increasing rivalries between the two parties in the Capitol. These accounts have largely been supported by empirical evidence in the political science literature. Carroll et al. use roll call votes to construct the DW-NOMINATE scores for all Congressional sessions since 1901.[5] These scores are commonly used to place members of Congress on a left-right ideological spectrum. One can contrast the ideological placement of the two political parties by comparing their scores overtime. Figure 1.1 plots the DW-NOMINATE scores for the two parties in the House of Representatives from 1901 to 2008. The red box-plots show the distribution of scores for the House Republicans, the blue box-plots display that for the House Democrats.

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[5] DW-NOMINATE scores with bootstrapped standard errors can be found via the following website: http://www.voteview.com/dwnomin.htm

Figure 1.1 DW-NOMINATE for the House of Representatives, 1901-2008
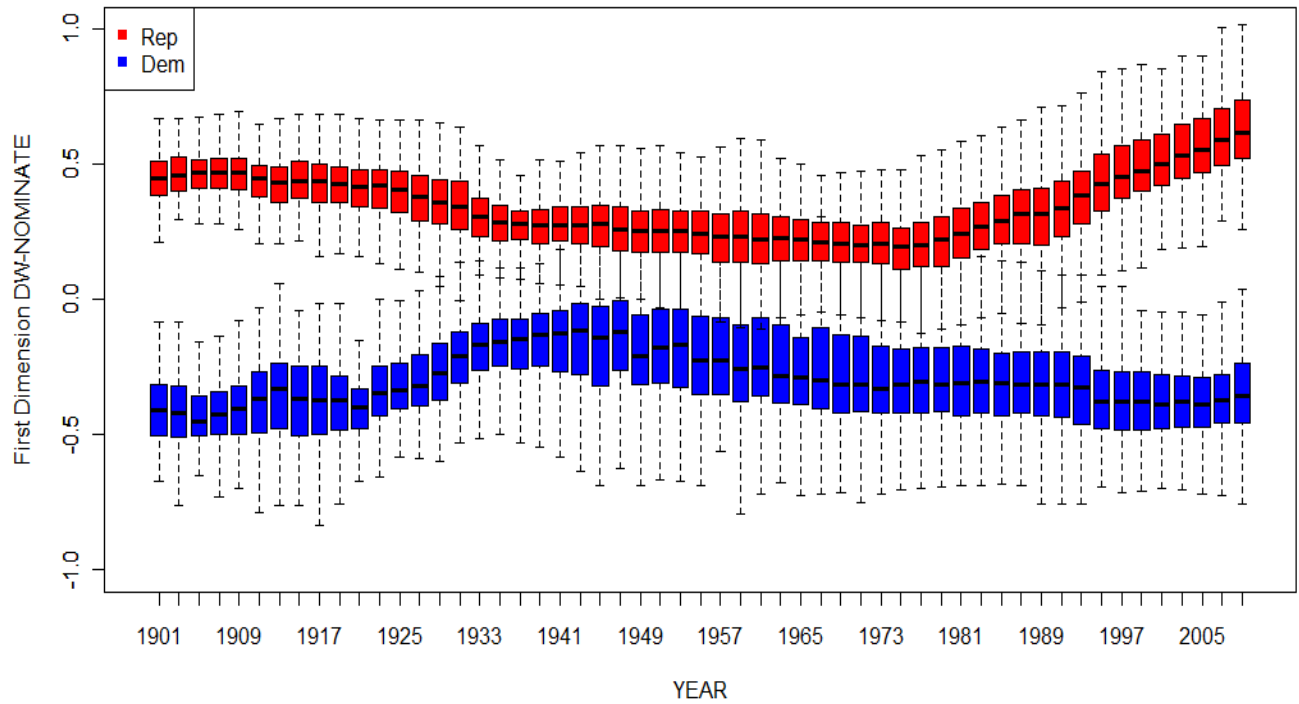
Data: Carroll et al. DW-NOMINATE project

Figure 1 reveals two important findings. First, the between-party differences initially decreased in the first half of the 20th century, then gradually increased since the 1960s. There used to be some overlapping of members from the two parties. For example, in the 82nd Congress (1951-1952), congressmen from different geographic regions and political parties, such as Case (R-New Jersey), Canfield (R-New Jersey), Fulton (R-Pennsylvania), Burdick (North Dakota), Redden (D-North Carolina), Burton (D-Virginia), Boykin (D-Alabama) and Brooks (D-Louisiana), received similar DW-NOMINATE scores. The differences in their DW-NOMINATE scores were within 0.05, indicating a blend of ideology between the two parties. These moderates have all disappeared by late 1990s. In the 110th Congress (2007-2008) for example, the DW-NOMINATE score difference that separates the most liberal Republican (Jones, R-North Carolina) and the most conservative Democrat (Childers, D-Mississippi) was 0.26. The ideological gap grows more apparent even to those who are less attentive to politics.

Second, it appears that the within-party variation has also diminished. In what is usually referred to as 'ideological polarization' or 'political polarization' or 'elite polarization' or 'party polarization' in Congress, the two parties have become more homogeneous within but differentiated across the political spectrum, and the middle-ground has largely disappeared. Ideological polarization among elites is not only limited to the House of Representatives. What is intriguing is that an identical polarizing pattern can also be found in the U.S. Senate which has significantly bigger geographic constituency. McCarty et al (2006) trace the party distance for both chambers. They observe both trends track almost perfectly, with a correlation of 0.9.

Both House and Senate experience similar increases in ideological polarization over time. Other scholars who have examined the ideological positions of Congressional members over time with other measures, such as interest groups' ADA scores, report similar polarized patterns (Theriault 2008; Stonecash et al. 2003).

Origin of Party Polarization: Electoral Realignment in 1960s

Party polarization plays a vital role, both in shaping the country's legislative agenda as well as the American electorate. But is party polarization a new phenomenon that is unprecedented in U.S. history? When and how did it emerge? What are the social and institutional factors that help to generate it?

Drawing from datasets of historical election outcomes, legislative voting and survey data, Han and Brady (2007) point out ideological polarization in Congress has been the norm in the United States. The bipartisan era after the Second World War was an exception to the norm. They describe the polarization in Congress as having happened in three phases. Throughout the 1950s and early-1960s, party discipline was weak. Cross-party voting was common in both presidential and congressional elections --- liberal voters voted for the Republican Party candidate and conservative voters chose the Democratic Party candidate. The quest for civil rights in the 1960s led to the breakdown of the New Deal Coalition. The transition of the solidly Democratic South to the Republicans sharpened the ideological differences, and the two national parties began to pull apart and a massive electoral realignment began. Taking cues from the national parties, the level of cross-party voting among voters declined in presidential elections. However, cross-party voting in congressional elections remained strong due to incumbency advantage and long-cultivated personal votes. Some legislators faced cross pressures from a more ideological national party and in their moderate home constituents. It was only until these cross-pressured legislators retired or lost re-election bid in the late 1970s and 1980s then both national parties and Congress reverted back to the polarization norm. As illustrated in Figure 1, the extent of political polarization continued to grow through the late 2000s.

Social Bases of Party Polarization

The electoral realignment in the 1960s was brought on by the revival of the Republican Party in the South. Despite the passage of the 13th, 14th and 15th Amendments that granted African Americans the rights to vote, they were mostly barred from the polls until the 1960s due to the presence of local suffrage restrictions, such as poll taxes and literacy test. The Voting Rights Act in 1965 significantly increased the number of enfranchised blacks three-fold from 1,009,000 (in 1952) to 3,112,000 (in 1968) (Stonecash et al. 2003). The passage of the Act, however, greatly exacerbated conflict within the Democratic Party as appeals to these black voters led to alienating conservative white Southern voters (Sinclair 2006; Stonecash et al. 2003; Polsby 2004). Following the passage of Civil Rights legislations, the number of Democratic identifiers among these conservative white Southerners dropped precipitously (Giles & Hertz 1994).

This electoral realignment was further accelerated by demographic shifts. The concentration of minorities, along with college-educated and younger voters in the North gave the Democratic Party an advantage in urban settings (Stonecash et al. 2003; Theriault 2008; Han & Brady 2007). In what is nicknamed as the 'air-conditioning' theory, Polsby (2004) argues that the availability of air conditioning systems at home, combined with other socio-economic factors, allowed more white migrants to move to the South. As black voters continuously migrated to Northward, the 'swap' changed the constituent makeup of Southern districts (Gregory 2007). The influx of new white migrants supplied new perspectives to the Republican Party as they were not historically tied to the Democratic Party in the South. In the 1964 presidential election, Barry Goldwater who had voted against the Voting Rights Act as a U.S. Senator; ran on a conservative platform. He managed to carry five Southern states, Alabama, Georgia, Louisiana, Mississippi and South Carolina, and his home state, Arizona. His victory in the South signified the end of the New Deal Coalition era. It also inspired and recruited a new generation of conservative figures to the Republican Party, such as Trent Lott and Newt Gingrich, who later led the Party to its revival in the 1980s.

Another constituency-level change that has been associated with party polarization is the increase in income inequality. Although the micro-level socio-political mechanism associating income disparity with party polarization remains unclear, McCarty et al. (2006) observe that the increase in income inequality closely corresponds with the growth in ideological polarization in Congress. As immigrants who are ineligible to vote tend to occupy lower income strata, elites are more responsive to the most affluent and less responsive to the working class (Bartels 2008). The growth in income disparity enables elites to cater to the 'haves' and at the expense of the 'have-nots'.

Institutional Bases of Party Polarization

Apart from the above socio-demographic factors, party polarization was also facilitated and perpetuated by several institutional arrangements.

Congressional scholars have turned to how changes in congressional rules, the committee system, party discipline, and leadership have pulled the two parties apart. The Rules Committee in the House of Representatives has become an extended arm of the party leadership. Restrictive rules which limit the number of amendments, time allotted for debates, numbers of revisions etc., ensure that the rank-and-file members can only vote on the party leadership's preferred version of a bill (Hetherington 2009; Sinclair 2006). In addition, party leaders are more likely to adopt omnibus legislation that contains a wide array of provisions. Members of each party can either cast a singular 'yes' or 'no' vote, but cannot alter parts of the bill. These two tools combined allow the legislative outcome to be closer to the party's median position (Sinclair 2006; Polsby 2004; Theriault 2008).

Apart from the restrictive rules, party leaders have greatly tightened party discipline. In 1994, Newt Gingrich dispensed with the seniority system in favor of party loyalists, sending a clear message that voting along party-line would be generously rewarded. The power of committee chairs has also been weakened by party leadership practices, such as using task forces to bypass committees on major legislation and by implementing leadership-controlled conference committees. Party leaders are more likely to funnel campaign dollars or other financial

incentives to reward members who share similar political viewpoints (Heberlig et al. 2006). Moreover, the hectic legislative agenda, as well as the rising demand for fund-raising activities has deprived representatives of the time to socially connect with other each other and to build cross-party friendships. The decrease in cross-party interpersonal connections has led to less bipartisan collaboration (Sinclair 2006; Polsby 2004). The once collegial atmosphere has given way to competitive team spirit.

The conditional party government theory attests that when members of the same party are more homogenous in ideology, they become more willing to delegate enhanced power to party leaders (Rohde 1991). As a result, party polarization creates its own momentum---once it is set in motion, it continues to self-perpetuate. Lee (2009) examines a wide array of non-ideological votes and procedural votes. She reports deep partisan divide even on matters that are unrelated to ideology. Minority party members would object to any bills advocated by the majority party. The division among party elites in present era is beyond ideology. Hence, instead of referring to the current division in Congress as ideological polarization, she contends that a better term is 'party polarization' as this term reflects both the ideological and non-ideological division.

Aside from congressional rules, Sinclair (2006) notes that the larger political environment has facilitated the revival of the conservative movement. Between 1964 and 1980, conservatism became 'respectable'. Conservatives, frustrated by the failures of the Great Society under the Lyndon Johnson administration, reaffirmed the belief that government not only cannot solve major societal problems, but it can be a source of problems. A decade of stagflation (i.e. recession combined with high inflation) and energy crises in the 1970s further convinced them of the perils of government. The Tax revolt in 1978 and the eventual passage of Proposition 13 in California paved the way for a return of fiscal conservatives into the mainstream politics (Sears & Citrin 1982). Apart from the rise of fiscal conservatism, the political awakening of evangelical Christians and the subsequent organization of the Christian Coalition movement reconstituted the core of the Republican Party's base (Sinclair 2006; Sheler 2006; Wallis 2008; Fowler et al. 1999). Social issues, such as abortion and gay rights, became highly politicized and further pulled the Republican Party to the right (Wald 2003; Lichtman 2008; Domke & Coe 2008).

Outside of Congress, redistricting, or gerrymandering, is another frequently identified institutional arrangement that gives rise to political polarization. Some critics blame the recent advances in Geographic Information System (GIS) techniques for providing politicians with laser-like precision in crafting districts that are electorally uncompetitive (Schaffner et al. 2004; Cox & Katz 2002). Others point to the biased composition of commissions that are in charge of the redrawing process (Carson & Crespin 2004; McDonald 2004; Rallings et al. 2004; Butler & Cain 1992). Districts are often tailored to protect incumbents which shield them from electoral reprisal even when they are out of political alignment with their constituents (Schaffner et al. 2004). As turnout tends to be lower in primary elections, the preferences of the party activists usually dominate the electoral outcomes. Candidates who are ideologically extreme compete better in primaries than moderate, centrist candidates (King 2003; Gerber 2002).[6] Through

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[6] By examining data from exit polls and the 2006 Cooperative Congressional Election Study, Abramowitz (2008) finds that primary voters are not ideologically more extreme than the general election voters. He argues that it is the overall electorate that has become more ideological. Hence elites cannot adopt moderate positions in fear of losing support from their electoral bases.

retirement and electoral replacement, these newcomers to Congress drag the two parties further apart.

The actual impact of redistricting on party polarization is subject to extensive debate. Analysts have pointed out that the Senate, which is not subject to either reapportionment or redistricting, also exhibits a similar extent of ideological polarization (Mann 2006; McCarty et al. 2006). Besides, gerrymandering is a political skill long perfected before any GIS or computer system (Altman et al. 2005). It is perhaps the shifting demographic composition of locations, rather than technological advance, that facilitated gerrymandering. Using simulations, McCarty et al. (2006) argue that after accounting for demographic shifts over time, the contribution of redistricting is minimal. Rodden and Chen (2010) find that there is a consistent partisan bias given the imbalanced residential settlement patterns of the two party's voters. In an analysis of dozens of alternative redistricting plans in California, Cain et al. (2006) report that even when one single-mindedly attempts to maximize the number of potentially competitive districts, nearly half of the congressional districts would remain uncompetitive due to their fundamentally uneven socio-demographic composition.

Section 1.3 Political Ramifications of Party polarization

The subject of political polarization has become a central topic of study because the extent of polarization has major political ramifications. The increasingly acrimonious relationship between political parties has made the political bargaining process difficult and has contributed to more policy gridlock (Jones 2001; Brady et al. 2008; Binder 2003). Stranded relationships have caused delays in enacting needed reforms and slowed responses to pressing issues. As it takes sixty votes to override a filibuster in the U.S. Senate, bills that get passed are sometimes distorted outcomes of political compromises. Legislative outputs, some studies report, may reflect the more extreme position of a subgroup in the population rather than the general population (Hetherington 2009; Hacker & Pierson 2006; McCarty et al. 2006). Combined with the rise in income inequality, politics has become an even more intense struggle between the 'haves' and 'have-nots'. Recent research finds bigger representational distortion where voices of certain privileged subgroups get disproportionately large influence in politics. Bartels (2008) finds that elected representatives are more responsive to richer citizens than to average Americans. The ideological positions of elected representatives are, according to some research, increasingly traceable to the campaign contributions they received from corporations and PACs (Wright 1990; Hall & Wayman 1990; Heberlig et al. 2006).

Apart from representational distortion, political polarization in Congress is associated with three, perhaps, paradoxical developments in the electorate. The first is the widening 'electoral disconnect'. Elected representatives have become far more ideologically extreme than the generally moderate constituents they represent (Fiorina 2005, 2009). The breakdown in the electoral connection harms the health of representational government and democracy. A poll conducted by CBS/New York Times between June 16-20, 2010 found that only 19% of Americans approved of the performance of Congress, and 47% approved of the job performance of President Obama.[7] The Gallup Poll routinely asks respondents about their level of confidence over a range of political institutions. While over half of the respondents reported

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[7] Results obtained from Pollster.com (accessed 15 July, 2010)

having either 'quite a lot' or 'a great deal' of confidence in police, only eleven percent of respondents said so for Congress.[8] The level of confidence in Congress was even lower than that for big business (19%) and health maintenance organization (HMO) (19%), two institutions that have been consistently portrayed negatively in the mass media. The antagonistic and divisive atmosphere in Congress is typically blamed for the decline in public trust in government (King 1997).

Some scholars believe political polarization has led to a 'divided public' (the term is in quotation marks as I will return to the validity of this idea in the next section). The battleground for partisan fights extends beyond the confines of Capitol Hill --- with numerous media outlets, the fights play out in public, on the air waves and in every living room in America. The 'get-in-your-face' style of reporting and 'game-centered' coverage replaces neutral, rational, open-minded policy discussion with empty and emotionally charged partisan rhetoric (Mutz 2006). The proliferation of media outlets and online news coverage also makes self-selection easier. Viewers can simply tune into radio or TV programs, or click to favorable online media coverage, that agrees with their viewpoints and be entirely shielded from opposing viewpoints (Stroud 2008; Andina-Diaz 2007).

Citizens look up to party leaders for political cues, and media have played a bigger role in funneling elites' messages to their constituents. When elites are ideologically divided, party identifiers become as divided as their elected leaders (Zaller 1992; Brody & Shapiro 1989). Contemporary research has reported that the division is particularly sharp among the most loyal partisan identifiers. Time series data from sources such as the American National Election Studies (ANES), the General Social Surveys (GSS) and the Roper surveys all show that political activists have grown more ideologically polarized since the 1980s (Hetherington 2001; Abramowitz & Stone 2006; Abramowitz 2006, 2010; Verba et al. 2010; Theriault 2008). Through cohort replacement, the moderates in the parties dropped out and have been replaced by newcomers who tend to be more ideological (Polsby 2004).

The third development is the change in the geo-political landscape of the country where the partisan division among the electorate is manifested through residential settlement patterns. Congress is not the only institution that has grown more polarized over time, the country itself also exhibits the same polarizing trend. Journalist Thomas Frank (2004) observes that geography is associated with different political preferences. Voters in red states care more about moral issues than their fellow citizens in blue states. Using ANES data from 1952 to 2004, Black & Black (2008) examine political patterns in four stable historic regions, namely, the Northeast, Pacific Coast, Midwest and Mountains/Plains. They find distinct forces within each region that drag the country in different directions. Gimpel & Schuknecht (2004) provide careful analyses of how geographic sectionalism evolved in America. Morill et al. (2007) detail the typology of 'red' vs. 'blue' across counties. They observe that demographic factors and lifestyle preferences, such as vehicle ownership, the concentration of blacks, the prevalence of public transit, and family composition, can distinguish a Republican-leaning from a Democratic-leaning county.

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[8] Results obtained from Pollingreport.com (accessed 25 July, 2010). The Gallup poll was conducted between July 8 and 11, 2010.

Despite Obama's landslide victory, analyses of 2008 presidential returns confirm the persistence of geographic divergence between inland and coastal states (Gelman et al. 2009, Lesthaeghe & Neidert 2009). Geographic regions translate into differential partisan support --- the coastal states solidly vote for the Democratic Party while the inland states support the Republican Party. Bishop (2008) is intrigued by the rapid increase in the number of non-competitive counties between 1976 and 2004. In what he calls the 'big sort', he hypothesizes that selective domestic migration primarily contributes to this decrease in electoral competitiveness at the county level. He speculates that people segregate themselves into homogeneous neighborhoods based on their economic, social and lifestyle preferences. Bishop reasons that the geographic concentration of like-minded people can pose a threat to democracy. On the one hand, such interaction may lead to 'group polarization', where individuals socialize one another into more ideologically extreme and illiberal positions over time (Sunstein 2002, 2009). On the other hand, in a polarized opinion climate, people may refrain from participating in publicly observable political activities that make them vulnerable to scrutiny and criticism by others who hold opposing political viewpoints (Hayes et al.2006).

Section 1.4 Evidence of Mass Polarization?

In a democracy, the power of the government belongs to the people. The electoral connection is the basic premise that link constituents' preferences with the actions of their legislators (Mayhew 1974). Whitby and Gilliam (1991) analyze the voting behavior of Southern members in the House of Representatives between 1969 and 1988. They find that Southern Democratic incumbents, even the senior ones, altered their voting patterns in response to the increasing political empowerment of the Southern black electorate. By the mid 1980s, Southern Democrats, on average, emerged to be as liberal as non-Southern Democrats in their voting behavior on civil rights issues. In the article 'out of step, out of office', Canes-Wrone et al. (2002) find that elites do shift their ideological position in response to their changing constituents for fear of electoral reprisal. Citizens make up the country, they also create the institutions. It is no surprise that many researchers believe the root of party polarization must be found among those who elect them. That is, what lies underneath a divided Congress and a divided country must be a divided electorate.

I put 'divided electorate' in quotations in the previous section because the empirical evidence suggests otherwise. Contrary to the strong evidence on elite polarization, there is hardly any evidence of popular polarization (DiMaggio et al. 1996; Wolfe 1998; Fiorina 2005, 2009; Fiorina & Abrams 2005; Fiorina & Levendusky 2006; Evans et al. 2001). While activists have become more ideological like the elites, they comprise less than ten percent of the total electorate (Fiorina & Levendusky 2006). DiMaggio et al. (1996) study the distribution of aggregate public opinion on various social and economic issues. They explore whether any of these aggregate opinions have grown polarized over time. After thoroughly examining any changes in means, medians, variance and kurtosis, they report the distribution of these aggregate opinions have barely changed over time. Studies have also squarely rejected Frank's speculation that red state voters place heavier weight on moral issues than economic issues. Researchers confirm the continual importance of economic self interest over moral values, regardless of region of residence (Bartels 2006; Ansolabehere et al. 2006). In addition, moral and social issues carry heavier weight now than three decades ago.

Fiorina (2005) examines the controversial issues, such as abortion and homosexuality, that are suspected to have divided the electorate. He finds no evidence for a culture war of any kind --- the public is mostly moderate and centrist. Nonetheless, he argues the distribution of ideology has also remained stable, with little evidence of significant increase in the number of ideologues in the country. As the two national parties grow more distinct, the linkage between party label and ideology gets clarified. Once ordinary voters notice the clarification, they align themselves with the party that is closer to their underlying preferences. There is less cross-over between ideology and party affiliation --- groups like 'liberal Republicans' or 'conservative Democrats' have largely disappeared. Fiorina attests that voters have not grown more ideologically polarized, they are simply more sorted by partisanship. The decline in the number of competitive electoral districts reflects the limited choices offered by the political parties, rather than a polarized electorate.

Section 1.5 The Empirical Puzzle: Divided Congress, Divided Country but Not Divided Electorate?

The United States of America is merely an empty territory without its citizens. People make up the country. They also elect the representatives. If the electoral connection really works, at equilibrium, we would expect preferences of the constituents to match up with those of their elected representatives. Any electoral disconnect would be corrected by frequent elections --- out-of-step legislators would either be recalled or voted out of office. And only those who truly follow the pulse of their constituents could stay.

Yet what we observe today is the exact opposite. The electorate has remained largely stable and ideologically moderate, the distribution of aggregate public opinion and ideology has also barely moved over time. But the two national parties have been consistently pulling towards two opposing ends since 1960s. The country also appears more geographically polarized in terms of partisan preferences. The question is--- how could these disequilibria be sustained? How did a divided Congress emerge and a divided America grow out of a moderate, centrist and rather stable electorate?

Two Hypothetical Scenarios

Let me begin with two simple hypothetical scenarios in Table 1.1 and 1.2. For ease of illustration, suppose there are two regions (or electoral districts) and religiosity is the main predictor of vote choice. There are pre-existing differences in the composition of voters at time period 1. Region I has a larger share of religious voters (200 out of 300 residents) than Region II (only 100 out of 300 residents).

Suppose at time 1, 60% of religious voters and 40% of non-religious voters support the Republican Party. Based on this ratio, the Republican Party would garner 53% of votes from Region I (i.e. 160/300=53%) and 47% of votes from Region II (i.e. 140/300=47%). The vote share difference between the two regions would be 6 percentage points. Then at Time 2, the electoral behavioral of voters changes --- the importance of the religious cleavage *strengthens* such that 80% of religious voters would vote for the Republican Party. Based on this revised ratio, the Republican Party would gather 60% of votes from Region I (180/300=60%) but only

40% from Region II (120/300=40%). As a result, the regional difference would widen from 6 percentage points to 20 percentage points.

Table 1.2 presents an alternative scenario. It starts off with the same baseline at time 1. However in this alternate scenario, voters change their location of residence rather than their electoral behavior. Voters choose to live with others who share their religious beliefs. Because of selective migration, at time 2, all religious voters are found clustered in Region I and non-religious voters are found in Region II. Even if the relationship between religiosity and vote choice remained unchanged, the regional difference would also widen from 6 to 20 percentage points.

Table1.1 Hypothetical Partisan Sorting Scenario

	Time 1		Time 2	
	Total	Voting Preferences	Total	Voting Preferences
Region I				
Religious	200	120 Republicans; 80 Democrats	200	160 Republicans; 40 Democrats
Not Religious	100	40 Republicans; 60 Democrats	100	20 Republicans; 80 Democrats
Region II				
Religious	100	60 Republicans; 40 Democrats	100	80 Republicans; 20 Democrats
Not Religious	200	80 Republicans; 120 Democrats	200	40 Republicans; 160 Democrats

Table 1.2 Hypothetical Selective Migration Scenario

	Time 1		Time 2	
	Total	Voting Preferences	Total	Voting Preferences
Region I				
Religious	200	120 Republicans; 80 Democrats	300	180 Republicans; 120 Democrats
Not Religious	100	40 Republicans; 60 Democrats	0	
Region II				
Religious	100	60 Republicans; 40 Democrats	0	
Not Religious	200	80 Republicans; 120 Democrats	300	120 Republicans; 180 Democrats

Undoubtedly reality is far more complex than these hypothetical scenarios. There are numerous cleavages that are relevant to voting decisions, and without loss of generality, one can substitute religiosity in the example for ideology or any socio-political characteristics. These simple scenarios, however, offer two key insights in which a divided Congress and a divided country arise from a moderate and centrist electorate.

Note that in both scenarios, the <u>aggregate</u> number of religious and non-religious voters did <u>not</u> change at all across time. The setup is akin to the finding in the current literature that there has been no change in the distribution of ideology over time. The scenarios illustrate two ways in which polarization can happen even when the aggregate distribution of voters' characteristics remains unchanged over time. First, if there were pre-existing differences in the spatial composition of voters, even *without* any residential sorting, political polarization could happen when the linkage between voters' composition and partisan preferences strengthened. I refer to this as 'electoral behavioral change' (or simply 'behavioral change'). Alternatively, even if the linkage between voters' characteristics and partisan preferences remains unchanged, selective migration could alter the *spatial* composition of voters, such that regions, or electoral districts, could become further distinct in demographic characteristics. I refer to this later scenario as 'spatial compositional change' (or simply 'compositional change').

Section 1.6 Two Main Mechanisms

Mechanism 1: Electoral Behavioral Change

There are two areas of literature that are relevant to the study of electoral behavioral change. The first area is realignment and the second area is party sorting. I will begin with a brief discussion of these two literatures. I argue that party sorting is the primary mechanism that accounts for the emergence of geographic polarization since 1980.

Realignment

With the election of Franklin Roosevelt in 1932 and the subsequent emergence of the New Deal Coalition, the once Republican-dominated electorate transformed into predominantly Democratic in less than a decade. This electoral change is often referred to as 'electoral realignment'. And the election in which such realignment takes place is usually referred to as 'critical election' or 'realigning election'. There are two ways to measure whether electoral realignment has happened. First, from the macro-partisanship perspective, electoral realignment occurs when the overall balance of party support in the electorate shifts from one party to another. Second, from the party coalition perspective, it happens when the social bases that make up a political party change. In addition to the 1932 election, there are other examples of realignment in the U.S. history. Realignment happened when Southern whites abandoned the Democratic Party and switched to support the Republican Party after the success of the Civil Rights Movement and the passage of Civil Rights legislations in the 1960s. Some scholars suggest, perhaps, the elections of 1980 and 1994 constitute other examples of realigning election (Hurley 1989; Meffert et al. 2001).[9]

How did electoral realignment happen? According to the conversion hypothesis, at the individual-level, electoral realignment happens when a significant number of voters 'convert' to another political party. Erikson and Tedin (1981) find evidence for the conversion hypothesis among the mass public. By analyzing Literary Digest polls, they show that votes were volatile

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[9] Meffert et al. (2001) argue 1980 election was accompanied by a marked change in macropartisanship. But other indicators, such as presidential approval ratings and consumer sentiment, do not offer supportive evidence of realignment.

between 1924 and 1936. Much of the Democratic gain came from the established Republican voters who switched and began voting Democratic. After 1936, they find vote shifts became minimal and party identification became highly consistent with presidential vote choices. Their evidence suggests a crystallization of the New Deal realignment by the late 1930s. Even lifelong partisans are not immune to conversion. An analysis of 1988 presidential campaign activists reveals that about one-third of the Republican activists coming of age in the New Deal era were 'converts' from the Democratic Party (Clark et al. 1991).

The field remains divided on the frequency and intensity of realignment. Some scholars believe that party realignment constitutes an abrupt change brought upon by realigning election (Key 1955; Burnham 1970; Nardulli 1995). Critical realignment occurs on occasions when short-term forces run so massively against the majority party that the forces convert a large segment of the electorate to the minority party. Mayhew (2002) disagrees. He argues that changes are never abrupt. Rather realignment is brought on by the accumulation of subtle, incremental changes that took place over a decade or longer.

Party Sorting

Another concept similar to the notion of realignment is party sorting. Party sorting is the mechanism in which the connection between a person's socio-demographic characteristics and his/her partisan preference strengthens over time. In my first hypothetical example (Table 1.1), initially only 60% of religious voters would vote for the Republican Party. When party sorting takes place, the correlation between religious affiliation and partisan preference strengthens such that 80% of religious voters would vote for the Republican Party.

How did party sorting happen? Based on the vote proximity model, rational voters would support the political party that is closer to their preferred position. The practice of proximity voting can be facilitated when a) voters have clear preferences; b) voters have abundant information about the candidates and the positions they take; c) voters can connect their own preferences and identify the candidate who is closest to them. As the parties take distinct positions on major issues such as a woman's right to abortion, homosexuality, environment protection and welfare spending, voters can differentiate candidates simply based on their party label.

Recent studies shed light on the psychological motivation behind party sorting. Hetherington & Weiler (2009) argue the underlying partisan difference among voters stems from a differentiated 'worldview', which they refer to as 'authoritarianism'. Race, women's place in the society, gay and immigration issues are some of the dimensions of one's worldview. Each issue, in its own way, threatens to unsettle one's established view towards the way of life in the country. Another psychological predisposition that underlies voters' attitudes on various social issues is ethnocentrism (Kinder and Kam 2009). In-group favoritism and out-group hostility extends beyond racial tension to one's attitude towards immigration, aid to the poor, income redistribution and gay rights. When the two political parties begin to take more differentiated positions on these issues, these underlying psychological predispositions are challenged. Layman & Carsey (2002a) theorize that voters can respond either by adjusting their party ties to conform to their party's new issue positions, or by adjusting their issue positions to conform to their party identification. Through both mechanisms, they show that party identifiers who

are aware of party polarization bring their social welfare, racial and culture issue attitudes toward the consistently liberal or consistently Republican elites (Layman & Carsey 2002b). Using a 1992-1996 panel data from ANES, Levendusky (2009) further argues that once individuals develop certain attachment, they can be gradually converted to more extreme partisan position over time.

The advantage of party sorting is that voters can vote 'correctly' as if they have detailed information about the candidates. Researchers observe a notable increase in ideological constraint among ordinary voters as they can pick up 'what goes with what' (Baldassarri & Gelman 2008). The disadvantage of party sorting is that it can lead to the use of a party label as a filtering mechanism. Partisan loyalty can taint one's evaluation towards subjective measures (e.g. how to evaluate the performance of the President and Congress), political preferences (e.g. how to handle illegal immigration, how to close the budget gap), as well as objective measures (e.g. how to assess the current state of the economy) (Brady & Hui 2009; Hetherington 2008).

Realignment vs. Party Sorting

The concepts of realignment and party sorting have several overlapping features. First, they both describe an electoral behavioral change at the individual level that can ultimately alter the overall macro-partisanship in the country. Second, both mechanisms involve 'conversion' where some voters in the electorate switch affiliation from one party to another. Third, both mechanisms are elite-driven and are induced by changes in the ideological positions of the national parties.

There are several distinctions that separate these concepts. I summarize and contrast these distinctions in Figure 1.2. I begin with a simple example. Suppose race is an important electoral cleavage and there are two social groups, namely blacks and whites. At Time 1, whites would identify with the Democratic Party, and blacks would affiliate with the Republican Party. Realignment takes place when there is a 'wholesale conversion'. That is, at Time 2, white voters would affiliate with the Republican Party while black voters would identify themselves as Democrats. The top diagram in Figure 1.2 illustrates the switch in party affiliation. The Southern realignment after the Civil Rights Movement is a good example of this type of conversion, where the mapping between social groups and party affiliation experienced a dramatic shift.

Figure 1.2 Theoretical Distinction Between Wholesale Conversion and Party Sorting

Wholesale Conversion (Realignment)

<u>Time 1</u>   **<u>Time 2</u>**

Whites ———▶ Democratic Party   Whites ⟍   Democratic Party

Blacks ———▶ Republican Party   Blacks ⟋   Republican Party

Party Sorting (Strengthening Existing Alignment)

<u>Time 1</u>   **<u>Time 2</u>**

Whites ⟍   Democratic Party   Whites ⟍   Democratic Party

Blacks ⟋   Republican Party   Blacks ⟋   Republican Party
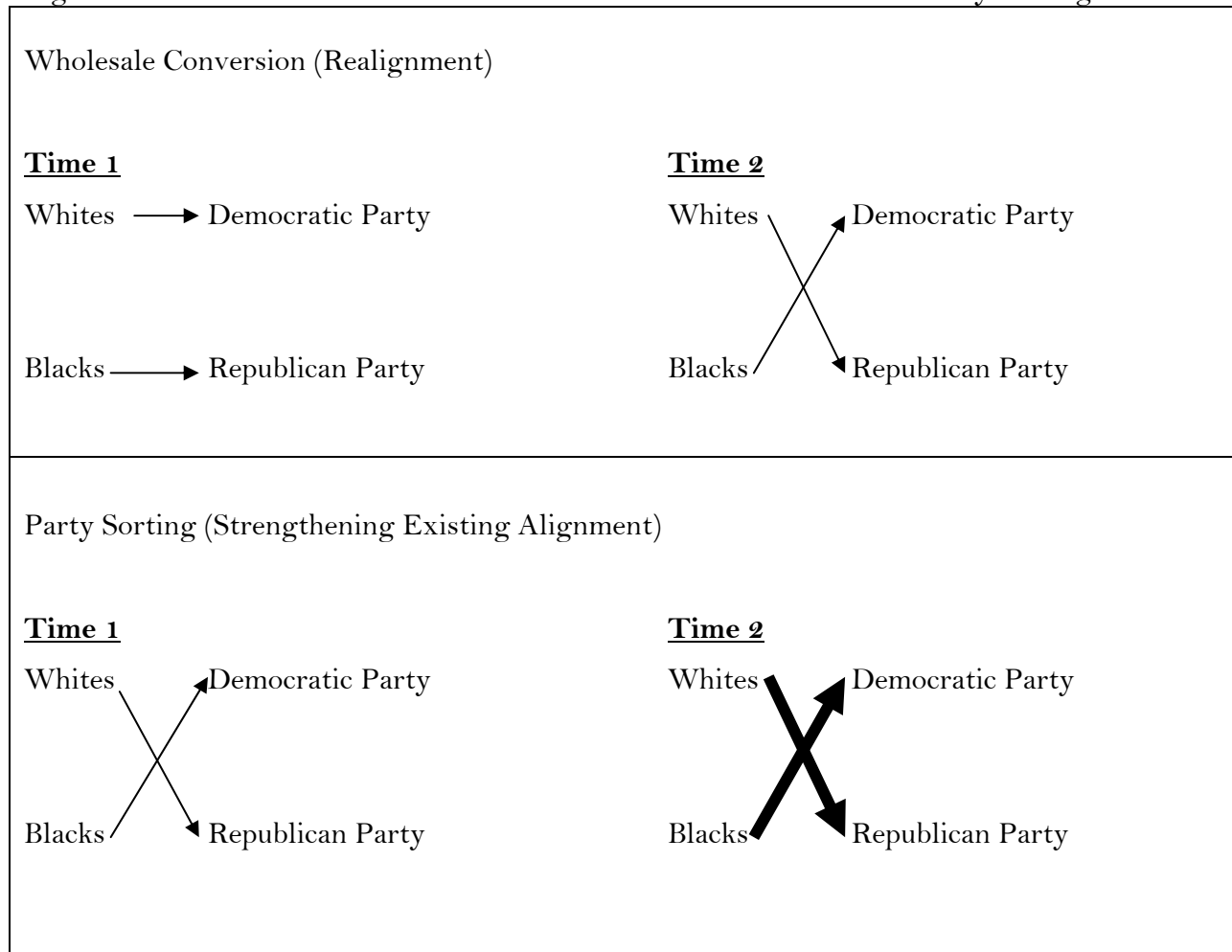
Contrary to realignment, party sorting involves strengthening of *existing* alignments. In Figure 1.2, I use thicker arrows to represent the increase in magnitude. Note that the mapping between social groups and their party affiliation remains largely unchanged. The only difference is that, at Time 2, a larger share of white voters would affiliate with the Republican Party and a bigger portion of black voters would identify themselves as Democrats. Similar to realignment, party sorting involves conversion at the individual level --- some white voters who were previously not affiliated with the Republican Party would now be converted at Time 2. However, unlike realignment that involves wholesale conversion, party sorting is associated with 'marginal conversion'. That is, the mapping between social groups and political parties remains unchanged --- only the magnitude of association strengthens gradually over time.

As previously discussed, the Civil Rights Movement led to the Southern realignment in the 1960s. In Chapter 4, I use the Field Poll data to examine the relationship between voters' socio-demographic characteristics and their partisan preferences between 1970 and 2008. The data offer little evidence of wholesale conversion. I show that social cleavages remain largely stable during these four decades. Hence party sorting is more appropriate to describe the electoral

behavioral changes after the Civil Rights Movement. In Chapter 4 and 5, I demonstrate how party sorting led to the onset of geographic polarization since 1980.

Mechanism 2: Spatial Compositional Change

Places have no political meaning unless one takes into account the types of voters who occupy the space. Fenno (1978) describes how members of Congress see their district in four concentric circles: the geographic constituency, the re-election constituency, the primary constituency and the personal constituency. The geographic constituency is the broadest among the four circles, and it is clearly defined by physical boundaries. Therefore in order to understand the behaviors and motivations of members of Congress, one must begin by studying the socio-political composition of their home districts. I argue that there are two mechanisms that can alter the spatial composition of voters over time. The first mechanism is selective migration. The second mechanism is place-varying generational replacement.

Selective Migration

America is a country of migrants. In 2005, the Current Population Survey estimated that about 12% of adults who were at least 18-year-old moved within the previous twelve months, and nearly 40% changed residence at least once within five years. Not to be confused with immigrants who migrated to the U.S. from another country, migrants can be any U.S. residents who change their place of residence. This latter group accounts for a larger fraction of residential movement in the country than immigrants. In my previous hypothetical example (Table 1.2), I show that the geographic polarization of partisan preferences can emerge when voters of certain characteristics cluster spatially. In that example, religious affiliation correlates with partisan preferences. When the religious voters segregate themselves from the non-religious voters, their spatial concentration makes the inland area more Republican in the second period.

It is important to distinguish 'selective migration' from the general concept of migration. By 'selective migration', I refer to a particular type of migration where the socio-demographic characteristics of migrants are correlated with their relocation decisions. In Chapter 3, I show that both residential mobility and residential choices are not random. Migrants who are native-born Caucasians, who are in the middle of the socio-economic spectrum (i.e. with moderate income and educational attainment) are more likely to move inland or out of California. Migrants who are at the bottom and at the top of the socio-economic spectrum are more likely to move to the pro-Democratic regions in the state. Over time, the accumulation of selective migration results in an increasingly skewed spatial distribution of voters of various socio-demographic characteristics.

In addition to altering the spatial composition of voters, selective migration can leave other economic, demographic and political impacts in the electoral districts.

Economic and Demographic Restructuring

From the Gold Rush to the recent flows of temporary workers to North Dakota[10], employment and economic opportunities have been prime motivations for migration. Selective migration can affect the economic, demographic and political compositions at both origins and destinations. Richer, more educated, higher-skilled and younger residents tend to have higher residential mobility. When regional economies revamp, the out-migration of these residents leaves their hometowns desolate as the remaining population becomes insufficient to support vibrant economic activities (Cushing 1999). Detroit, Cleveland, and many of the formerly industrial cities experience this kind of 'brain-drain' outflow when the once remunerative manufacturing and managerial jobs vanished. At the destinations, the concentration of finance, high-tech and major businesses attract skilled workers into metropolitan cities which in turn expands the pool of talented workers and attracts more business. The creation of the professional class simultaneously creates a demand for low-skilled and low-wage service workers (Kirn 1987). Regions with heavy in-migration may find their economies transformed as certain sectors, such as transportation and construction, grow rapidly (Pandit & Withers 1999). Immigrants provide a stable source of cheap labor for these lower paying jobs. Ethnic social networks funnel these newcomers into specialized economic activities where members of their ethnic group pass on 'insider jobs' (Waldinger 1996). Thus major cities typically feature an increasingly eclectic mix of high-skilled professionals and low-skilled and foreign born workers. This is why cities that have undergone rapid economic expansion tend to be more ethnically, culturally and politically diverse.

Florida (2002) observes that the growth in job opportunities in the cities is concentrated in the 'creative class' sector, and not the traditional blue-collar or managerial jobs. These occupations, such as high-tech engineers, web developers, artists and investment analysts tend to put a higher premium on originality and creativity. The characteristics of these workers can be represented by 3Ts--- talents, technology and tolerance. Florida finds that these creative class workers cherish cultural diversity and are usually more tolerant toward minorities or other socially marginalized groups, such as gays and atheists. They enjoy urban living not only because of the job opportunities, but because they enjoy the unique multicultural experiences the places offer. Hence residential choices reflect both economic standing as well as lifestyle preferences.

Migration can rapidly rewrite the spatial composition of a place through two types of out-migration. On the one hand, the influx of black residents may have caused the existing white residents to move out. On the other hand, poorer residents may be forced-out from their neighborhood reluctantly through gentrification. Selective migration has been facilitated by an increase in wage differentials in the last two decades. As income disparities grow, so does residential segregation by income. Sociologists have observed an intriguing phenomenon--- after the racial desegregation in the South, residential segregation in the country has actually gone up (Fischer & Hout 2006; Madden 2003a, 2003b). Income has become an increasingly powerful social sorting factor, signified by the growth in the number of socio-economic homogeneous gated communities. In what they refer to as 'American Apartheid', Massey & Denton (1993) argue that income segregation has profound social ramifications. The loss in

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[10] 'A State with Plenty of Jobs but Few Places to Live.' New York Times. April 20, 2010.

population in inner cities reduces state and federal transfers. Furthermore, the fleeing of the economically productive middle class also deprives communities of tax dollars that can be used for schools, hospitals, police and other social services. Concentrated poverty correlates with high unemployment rates, high crime rates, poor school performance and low graduation rates. Such social deprivation results not only in low social mobility among the current residents, but also creates a perpetual underclass that lasts for generations. The increase in income inequality therefore takes on a spatial dimension --- the uneven spatial distribution of income classes translates to the uneven distribution of resources available in the communities.

Political Restructuring

Bishop (2008) observes that the reason why 'red counties' are gaining population faster than 'blue counties' is not because residents in the red counties have a higher birth rate. When births and deaths are calculated, he finds that natural increases account for only ten percent of the growing difference in the population between Republican and Democratic counties. Domestic migration accounts for the remaining ninety percent. According to his calculation, between 1990 and 2006, 13 million people moved from Democratic to Republican-dominated counties.

Studying the effect of migration on political restructuring can be challenging methodologically as very few panel data exist. Glaser & Gilens (1997) compare the racial attitudes of white migrants who relocated between the racially conservative South and the more liberal North. Racial attitudes are believed to be deeply ingrained in one's psychology and there are significant regional differences. They find some striking differences between migrants and non-migrants in both North-to-South and South-to-North directions. They find that those who chose to leave are different from those who remained. Those who left the South are considerably more liberal than all Southern whites. Similarly, those who migrated from the North to the South also tend to be more conservative than their Northern counterparts. Using various attitudinal measures, the authors report that migrants are quite different from other residents of their former region, but are quite comparable to the averages of their new environment.

Thad Brown (1981, 1988) has examined the political consequences of internal migration for citizens. He shows that internal migration has pronounced effects on citizens' political actions, loyalties and beliefs. Contrary to the conventional belief that early socialization immunizes migrants from political influences present in new surroundings, his evidence lends support to the life-long openness thesis. He classified ANES respondents according to whether they moved to 'congruent', 'mixed', or 'incongruent' political environments. Migrants neither exit nor enter areas on the basis of partisan concentration. Once they settle down, they do gradually adapt to local political environments. Among those who moved into incongruent environments, he argues that they partially adapt to the new political environment by becoming political independents. They modify some of their political beliefs in the direction of their new environment. Thus relative to non-migrants, these incongruent migrants tend to exhibit a low degree of attitude consistency in policy preferences. By contrast, migrants who are in congruent settings are likely to have their existing political attitudes reinforced.

Using ANES data, Gainsborough (2001) shows that living in a suburb is associated with distinctive political preferences --- residents of suburbs are significantly more likely to support

the Republican Party and Republican congressional candidates. They are also more likely to support cutting federal aid to cities. Her finding suggests that the rise of a distinctive suburban politics is a relatively recent phenomenon since the late 1980s. As the number of suburban congressional district increases, the spatial disparity in partisan preferences allows the Republican Party to enjoy an electoral advantage.

In sum, selective migration can widen the spatial disparity in neighborhood resources, which in turn can lead to social deprivation and inequality. It can also increase the spatial disparity in policy preferences and exert pressure on members of Congress to respond to more polarized demands. Moreover, as electoral districts are geographically-based, the uneven distribution of socio-demographic characteristics can tip the partisan balance in Congress.

Place-Varying Generational Replacement

Apart from selective migration, I argue that there is another mechanism that can alter spatial composition in the long run--- place-varying generational replacement. In my second hypothetical scenario (Table 1.2), instead of having religious voters migrate and residentially cluster inland, one can imagine another scenario in which younger voters coming of age inland are more likely to be registered Republican while their counterparts in coastal region are more likely to develop a Democratic affiliation. As older voters pass away in the second period, the spatial disparity in partisan preferences among the younger voters leads to geographic polarization.

When I discuss realignment in the above section, I suggest that realignment can happen when voters convert from one political party to another. Some political scientists question whether such conversion is sufficient to account for any dramatic shifts in macro-partisanship. The skepticism is based on the belief that an individual's partisan identification is an 'unmoved mover' (Campbell et al. 1960; Green et al. 1998). Once a person develops an attachment to a political party, the affiliation tends to be persistent throughout his/her life. Given such durability and stability, some researchers argue it is not feasible to convert a large number of existing voters to dramatically alter the mapping between social groups and their party affiliations.

In response to such skepticism, scholars argue that conversion can happen primarily among the new voters. Generational replacement theory, also known as mobilization theory, hypothesizes that electoral realignment happens mostly among those who were previously uninvolved in politics. As the younger cohorts and those who were previously marginalized did not have strong attachment to any political parties, these groups are more susceptible to mobilization. Because it takes at least eighteen years for newborns to enter the electorate, the impact of generational replacement on the electorate often takes decades to become fully realized.

Norpoth (1987) reports a 'generational fault line' separating those who were born before 1905 and after 1910. When the economy dipped into major depression in the early 1930s, the latter group broke away from the Republicans and delivered the core votes Roosevelt needed to implement his reform programs. This group remained more likely to identify with the Democratic Party relative to other cohorts. Another fault-line is found among those who came of age in the early 1980s. He finds no evidence that the Republican Party has managed to

convert Democrats to any significant degree. Rather, the Republican gain came primarily from the younger group (under 30-year-old in 1985). This generation has largely abandoned the predominantly Democratic identification of their parents and responded to the new conservative movement.

Abramson & Inglehart (1992) argue that generational replacement is the main contributor to the growth of post-materialism values in eight Western European countries. Miller (1992) attributes the decline in aggregate voting turnout in the U.S. between the 1950s and 1980s to the changes in the generational composition of the electorate. The post- New Deal generation (first presidential vote in 1968 or later) votes at a lower rate than the older generations. The generational disparity is driven by differences in party identification and social connectedness (measured by indicators such as home ownership and church attendance). Lyons & Alexander (2000) revisit this question with recent data. They also confirm Miller's earlier finding that generational differences account for significant decrease in turnout among American citizens.

The entrance of new voters not only alters the composition of the electorate, but also modifies aggregate political preferences. Some social movements and major shifts in norms are believed to be induced by generational replacement. For example, recent polls report generational differences in attitudes towards homosexuality and gay marriages. In 1977, less than 30% of registered voters in California approved legislation that would legalize same-sex marriage. The support rose to 42% in 2003 and 51% in 2008.[11] One of the main reasons for this change is that voters coming of age in the last two decades are usually more receptive towards gay marriage than the older electorate. In 2008, Californians who are between age 18 and 29 favored gay marriage by a greater than two-to-one margin (68% support, 25% against). Those who were in the age group between 30 and 39 approved of this arrangement by 24 percentage points, whereas voters who were 65 years or older disapprove it by a wide margin (55% to 36%). As the younger cohorts continue to make up a bigger share of the electorate, the expectation is that the majority opinion will tilt in favor of same sex marriage.

While such conventional generational replacement continues to take place, in Chapter 4, I show that there is an additional form of generational replacement that is spatially dependent. And it first began in 1980. That is, in addition to the *time* in which one comes of age, the *place* in which one comes of age also matters. In Chapter 5, I demonstrate how selective migration and place-varying generational replacement combined reshape the spatial composition across geographic regions.

Section 1.7 Causal Theory

Theriault (2008) theorizes that political polarization has been brought about by three political processes. First, party sorting allows voters to sort themselves ideologically. Second, the creation of safe electoral districts results in more lopsided elections. Third, the increasingly polarized party activists in the nomination process leads to more ideologically extreme congressional candidates. While these processes sound very plausible, one critique is the lack of specific timing (McCarty 2009). Which mechanism took place first? Does geographic sorting

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[11] Field Poll Report, May 28, 2008.

make the creation of safe districts possible? If yes, then did selective migration occur prior to elite polarization? Do people 'vote with their feet' and migrate in response to changing politics?

Good social sciences begin with five Ws---who, what, when, where and why. The first two Ws are clear. The empirical puzzle is how can the country and Congress become more ideologically divided while the people composing them are not divided at all? The remaining three Ws, when, where and why, hold the answer to the puzzle.

Figure 1.3 graphically presents the causal mechanism proposed in this dissertation. The top diagram illustrates the basic components of the causal model. The bottom diagram explains how the dynamics among these components change over time. By studying various historic demographic datasets in Chapter 3, I show that selective migration long *preceded* party polarization. People of various socio-demographic backgrounds have different preferences for residential settlement. Over time, the accumulation of selective migration results in an increasingly skewed spatial distribution of voters of various socio-demographic characteristics. That is why the arrow that connects individual's socio-economic characteristics and residential choice is thicker in the bottom diagram.

Figure 1.3 Causal Mechanism
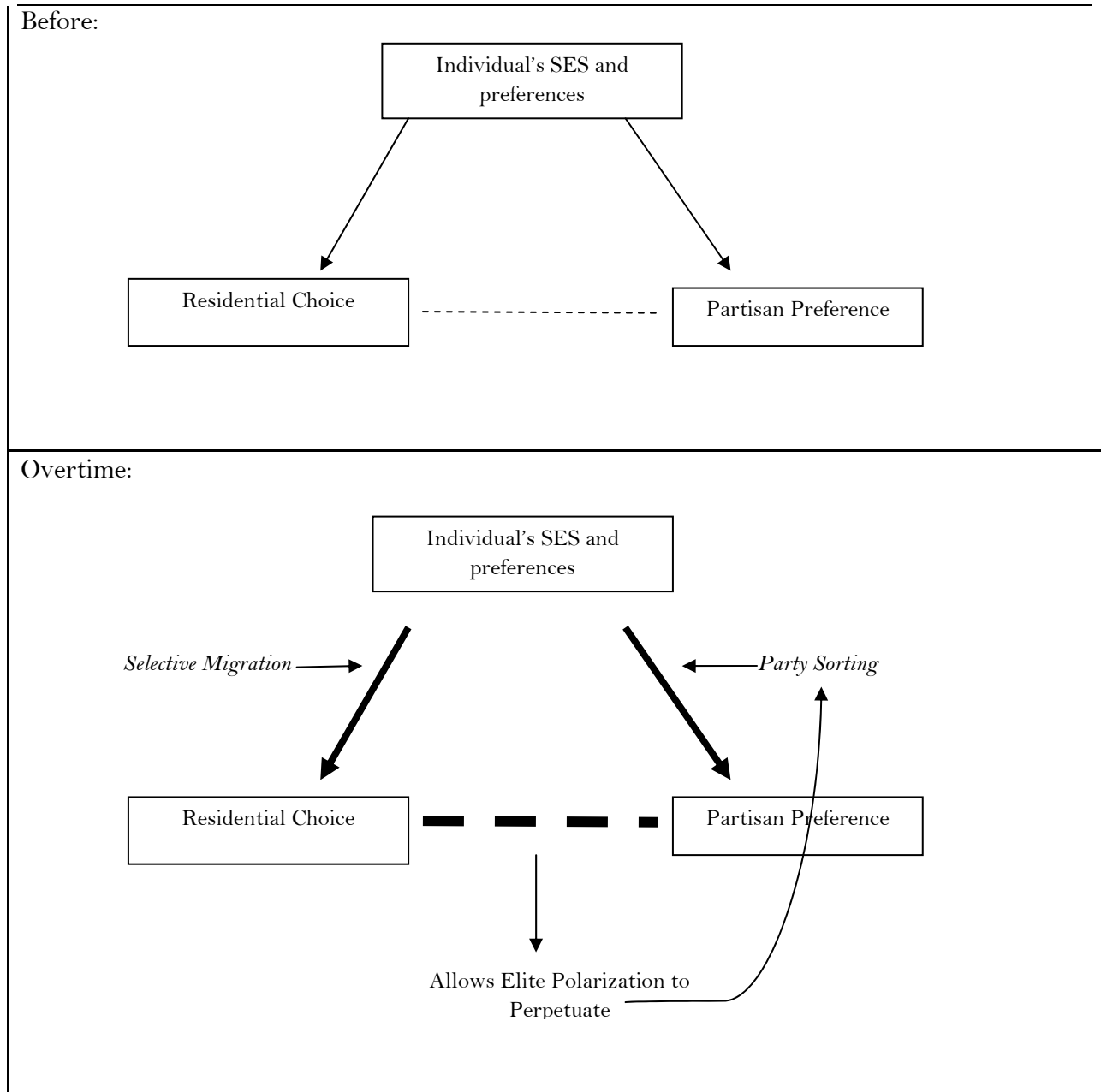
In Chapter 4, I examine the Field Poll Cumulative File and find strong evidence of party sorting that began in 1980. Party sorting happens as a response to the growing party polarization in Congress. It helps to clarify and strengthen the linkage between individual voters' socio-demographics and their partisan affiliation. This increase in correlation is again represented graphically by a thicker arrow in Figure 1.3.

Note that I use a dotted line, not an arrow, to represent the real but causally spurious association between residential choice and partisan preference. When party sorting began in

1980, it drew upon the pre-existing skewed spatial distribution of socio-demographic characteristics and strengthened the ties between partisan preferences and socio-demographic characteristics. This led to an increasing correlation between place of residence and partisanship. At the same time, the partisan affiliation of new generations entering the electorate became more correlated with the partisan make-up of the geographic region in which they lived. Younger voters coming of age in pro-Democratic regions were more likely to be Democrats, and those in Republican regions were more likely to be Republicans. Consequently, geographic regions became more and more distinctive in their aggregate partisan preferences. As federal elections are geographically based, the increasingly skewed spatial distribution of partisan preferences helps to perpetuate party polarization.

There are several questions I need to address before I can establish this causal theory. First, there is strong and clear evidence for elite polarization but the current literature on divided America is weak. Our eyes can fool us by seeing a geographic pattern even when there is none. Is there empirical evidence on geographic polarization? If yes, *when* and *where* did geographic polarization of partisan preferences emerge? Do we observe clear geographic clusters immediately after realignment in the 1960s? Or do geographic clusters emerge only recently, for example, after the competitive 2000 presidential election?

Second, when did electoral behavior begin to change? Does the evidence lend support to the realignment or party sorting theory? Other than religiosity, are there other electoral cleavages that get strengthened over time?

Third, as Fiorina aptly observes, the presence of non-competitive districts can simply be the result of polarized choices forced by the elites onto their voters. The decline in competitive electoral districts does not necessarily indicate the presence of selective migration. Many researchers have pointed to the social bases for party realignment in the mid 1960s, yet the empirical evidence is slim. Did demographic changes occur *temporally* prior to elite polarization? Is migration alone sufficient to explain the emergence of geographic polarization?

Forth, if significant selective migration has taken place, what are the motivations? Are moves driven by political consideration? Some people may speculate that the inland has turned more Republican due to the influx of religiously devout voters--- these voters, it is argued, vote with their feet by fleeing urban cities. Is that speculation correct? Can one observe an increase in the concentration of religious voters inland?

Lastly, how can the electoral behavioral and spatial compositional change explain the perpetuation of political and geographic polarization? Based on historic and current migration trends, can one predict whether the disequilibria will persist in the long run?

Section 1.8 California As Case Study

California is chosen as a case study for both theoretical and empirical reasons. First, the empirical conditions in the state mimic those at the national level. Figure 1.4 compares the distribution of DW-NOMINATE scores for all House members from the California delegation relative to those of all House members from 1941 to now. Note that Californian Congressional members do not deviate from the national norm. In fact, the over time pattern is almost

identical to the national trend --- one can observe the ideology of members from the two parties diverge over time.

Figure 1.4 DW-NOMINATE Scores for House of Representatives, National vs. California Delegates
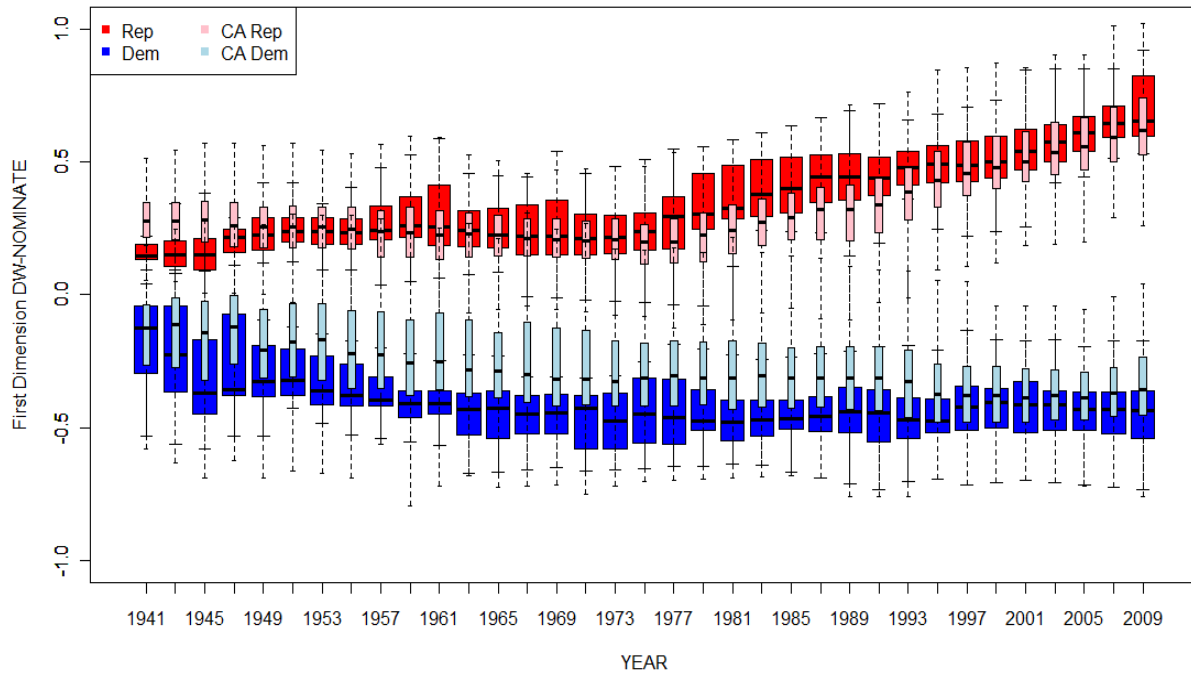
Data: Carroll et al. DW-NOMINATE project

While California has been a steady vote generator for the Democratic Party in recent presidential elections, the state is far from being politically homogeneous. Many analysts have observed that the pattern and extent of the inland-coastal divide in California rivals that at the national scale (Douzet & Miller 2008; Hui 2008; Kousser 2009). Figure 1.5 plots the percentage of two-party registrants who registered with the Republican Party in 2000. The coastal counties, especially those in the Bay Area, tend to a have higher average income than inland counties. These counties are also more likely to support the Democratic Party. This regional division is also apparent for the results of many ballot initiatives, such as Proposition 8 which attempted to ban same-sex marriages in California in 2008. Marin County opposed the initiative by a 3-to-1 margin (75% No, 25% Yes), whereas Fresno County supported it with a 70%-30% split.

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Figure 1.5 Percentage of Two-Party Republican Registration in 2000
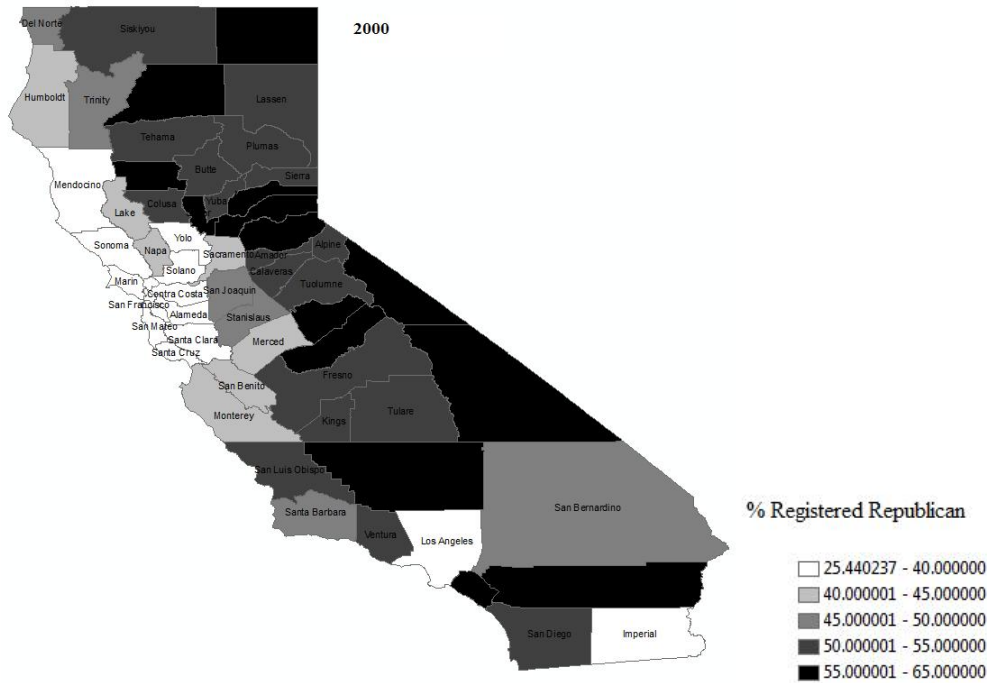
Data: CA Secretary of State Registration Records

These two Figures offer preliminary evidence on elite and geographic polarization. What is intriguing is that beneath these polarizing trends, California voters are not divided at all. The Field Poll has consistently surveyed public opinion in the Golden State. Although it has questions tapping into the ideological preferences of the respondents since the late 1950s, the question wording changes significantly over time such that it is difficult to compare questions asked in different time periods. From 1982 onward, the Field Poll consistently adopted the question, 'Generally speaking, in politics do you consider yourself as conservative, liberal, middle of the road, or don't you think of yourself in these terms?' I combine those who answered 'middle of the road', 'don't think in these terms' and 'don't know' into one category. Since some earlier Field Polls sampled adults instead of only registered voters, I only include registered voters to make the samples comparable over time. Figure 1.6 plots the percentage of respondents when identified themselves as 'liberal', 'conservative' and in the middle. The result echoes that reported by Fiorina (2005) using national data. Except for slight sampling fluctuations, the three trends are largely stable. Nearly half of the respondents consider themselves in the middle of the road. There is no evidence that the California electorate has become more ideologically extreme in either the conservative or liberal direction.

Figure 1.6 Distribution of Ideology Among Respondents 1982-2008.
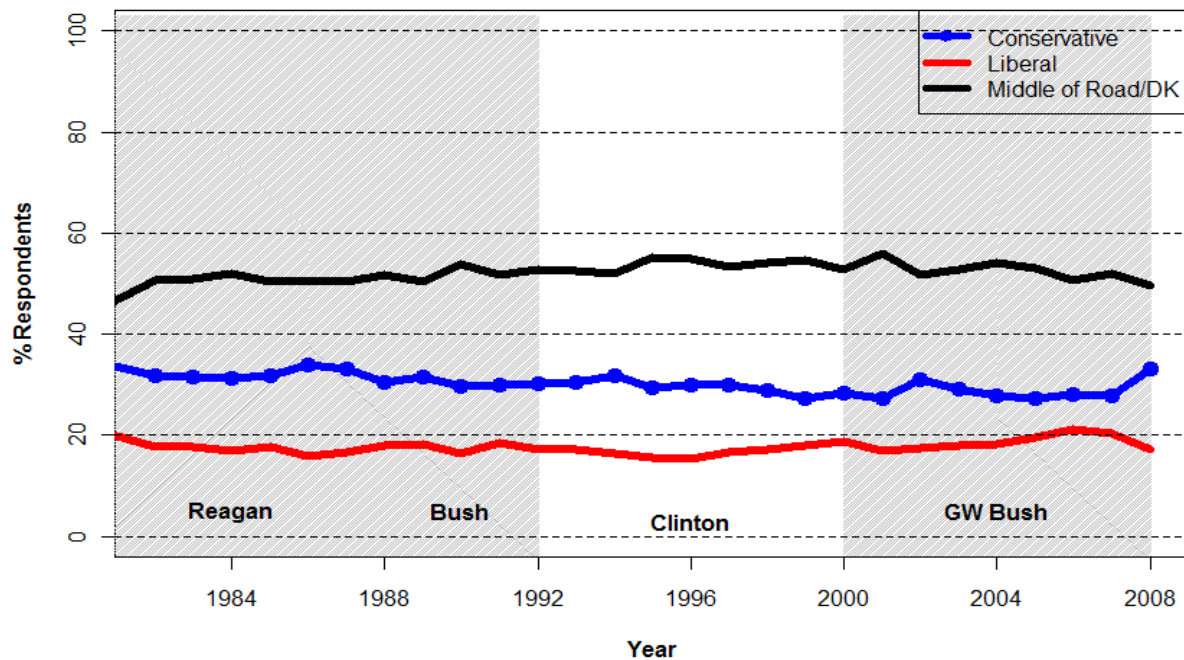
Data: Field Poll cumulative file

The second reason for using California as a case study is a theoretical one. As discussed above, scholars have argued that the Southern realignment following the Civil Rights Movement in the 1960s marked the onset of elite polarization. The enfranchisement and empowerment of African American voters are believed to be the main catalysts for political changes. Realignment can either be brought upon by generational replacement or changes in electoral behavior among the electorate. In terms of the timing of events, Southern electoral realignment completely overlapped with the onset of elite polarization. That temporal overlapping creates a chicken-and-egg dilemma --- which came first? Did voters respond to changes in elites' behaviors? Or did elites respond to changes in the demographic composition of their constituents?

The California case offers a solution to this endogeneity problem. Figure 1.4 shows that the ideological positions of the Californian delegates track with that of the national parties. Yet the state has a relatively small black population and did not experience a drastic increase in the size of the black electorate. Prior to 1950, less than 2% of the state's population was black. In 1950, the percentage doubled to 4.4%. Between 1970 and 2000, African Americans comprised about 7% to 8% of the state's population.[12]Undoubtedly the Civil Rights Movement in the 1960s had a large political impact on California. It, however, had a smaller impact on the *composition* of the Californian electorate than for many Southern states. Therefore the elite polarization at the

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[12] The figures were obtained from the "Historical Census Statistics on Population Totals by Race", published by the Census Bureau.

national level can be considered an exogenous shock that allows for separating the spatial compositional changes from elite polarization.

The third reason for using California as a case study is related to data availability. Empirically, studies on political polarization often employ historic county-level presidential electoral outcomes or national opinion polls.[13] There are several limitations with the national data. First, the American National Election Studies (ANES) and the General Social Surveys (GSS) are the most commonly employed datasets. These datasets are conducted every other year (prior to 1994, the GSS was usually conducted once a year). The sample sizes are relatively small and are not representative at the state level. Any analyses of social groups at the sub-national level are rendered unreliable. Second, presidential elections tend to be candidate-centered. Any measures of underlying political attitudes and partisan preferences obtained during an election cycle may have been affected by the intense presidential political campaign itself. Bill Clinton's campaign in 1992 is a good example. His hometown advantage enabled him to carry several Southern states, including Arkansas. His victory in the South, however, reflects a deviation rather than a real electoral realignment in political geography.

The substantial variation within California can be viewed as a microcosm of the variation at the national level. These insights generated from the California example can be easily applied to study the national pattern. Furthermore, there are many invaluable time-series datasets that are simply not available at the national level. To disentangle the reasons for geographic polarization, I have assembled an array of datasets on California. These datasets can be classified into two types by the unit of analysis, either at the individual level or county level. By reconciling the micro (individual) and macro (county) level data, I can conduct more comprehensive analyses. The main dataset for individual level information comes from the Field Poll cumulative file 1956-2008. Unlike ANES or GSS, the Field Poll conducts at least four to six polls per year. The cumulative file tallies to approximately 300,000 cases. Because of the long time series and dense coverage, I can isolate short term fluctuations from long term shifts in public opinion and partisan preferences. I supplement the Field Poll surveys with polls conducted by the Public Policy Institute of California between 1998 and 2008 as the latter contain more attitudinal questions. Apart from public opinion data, I utilize the Current Population Survey (March Supplement) from 1963 to 2008 to document the extent and pattern of mobility among Californians.

The county level datasets come from official printed and electronic records published by the California Secretary of State, the Statewide Database, the Census Bureau, the Bureau of Economic Data Analysis, the Association of Religion Data Archive, Internal Revenue Service (IRS) and the California Department of Finance Demographic (DOF) Research Unit. Appendix I offers a detailed discussion of the sources and how these datasets have been cleaned to ensure they match up seamlessly. To take advantage of the long time-series and frequent measures, I will use party registration (or party affiliation, a concept to be explained in the following chapter) instead of presidential vote choice as the main dependent variable. This measure is a superior measure to capture changes in the latent partisan preferences over time.[14]

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[13] See, for example, Gelman et al. 2008; McCarty 2008; Ansolabehere et al. 2006.

[14] Since only voters who move and re-register update their records, the party registration information remains the same for those who do not move. One concern may be whether the voter registration data accurately reflects the changes in the partisan preferences in the electorate. There are two ways to address this concern. First, in Chapter

Section 1.9 Organization of Chapters

Chapter 2 picks up on the discussion of 'divided country'. I argue that the term 'divided country' is too vague for vigorous empirical inquiry. I define a new and more specific which I call 'geographic polarization of partisan preferences' (or shortened as 'geographic polarization'). I propose a theoretical framework to conceptualize and empirically measure this social phenomenon. Using public opinion data and official voter registration records, I pin down the spatial-temporal evolution of the geographic polarization of partisan preferences. Contrary to the speculation that geographic clustering might have taken place before the national parties pulled apart in the 1960s, my data show that there was hardly any evidence of a regional pattern in California prior to 1980. Spatial clustering of partisan preferences began during the Reagan administration and matured under the Clinton era. The spatial pattern which emerged during the 1980s remains stable and persistent. By 2000, Bay Area counties formed an unambiguous cluster that leaned toward the Democratic Party. Los Angeles County stood diametrically opposed to its adjacent neighbors in partisan preferences. The inland counties have consistently grown toward favoring the Republican Party.

What gave rise to the geographic polarization in 1980? As discussed previously, there are two potential mechanisms, namely electoral behavioral and spatial composition change.

One of the major critiques of the current literature is that researchers have claimed demographic shifts occurred *prior* to elite polarization and subsequently *led* to greater delegation to leaders, but there is very little evidence to back up the claim (McCarty 2008). Using Census and Department of Finance demographic data, I examine the patterns of selective migration in Chapter 3. Economic concerns, housing considerations and family reasons are the primary causes for migration. The economic boom and drop in interest rates in the early 1980s led to an expansion of new residential communities inland. These residential moves produce major political consequences as migrants' socio-demographic characteristics are tied to both their political preferences and their residential choices. It is <u>not</u> true that the inland voters have grown more religious than their coastal counterparts. The widening regional disparity is found mainly in educational attainment, income and ethnic composition. Through examining IRS county-to-county data, I find residential moves tend to be geographically-incremental. There is strong spatial connectivity among residents in adjacent counties. Furthermore, moves also tend to be 'politically-incremental'. It is unlikely one would move from a predominantly Republican neighborhood to a predominantly Democratic neighborhood. Rather, there is a certain extent of 'political stickiness' in relocation pattern where the partisan composition of the origin and destination tends to be similar.

Chapter 4 explores electoral behavioral change over time. Using Field Poll data, I examine how various socio-demographic characteristics are linked to partisan preferences. There is no evidence of massive electoral realignment or abrupt behavioral changes. The evidence points to increasing party sorting which primarily responds to elite polarization. Other than religious

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3, I show that there is substantial residential movement. The voter registration data do largely reflect changes in the demographic and partisan composition of the electorate. Second, I will also employ public opinion data to validate my findings.

affiliation, I find that the linkages between other demographic characteristics such as education, occupation, marital status and gender and partisan preference also strengthened since 1980. In addition, my findings identify significant increases in the 'place effect' over time--- other characteristics being held equal, young voters coming of age in a pro-Democratic region are systematically more likely to affiliate with the Democratic Party than those growing up in a pro-Republican region.

Chapter 5 ties the findings in the previous chapters together to explain how California can appear to be more polarized even when its residents are not. By tracing voter registration records over time, I find that geographic polarization of partisan preferences is largely driven by a) the influx of migrants who are substantially more partisan (either more pro-Democratic or pro-Republican) than existing residents; and b) replacement of older cohorts by younger cohorts who are more partisan. Combined with the steady flow of selective migration, voters' demographic characteristics become more strongly correlated with their place of residence and their partisan preferences. Behavioral changes combined with compositional changes help to perpetuate a divided Congress and divided country. Given the widening disparity in regional demographic composition, together with frequent interactions and mixing of residents, I speculate that the existing spatial divergence is likely to persist in the long run.

Chapter 2:
Geographic Polarization of Partisan Preferences

"Of all the forces governing this campaign, the greatest may not be the candidates themselves or the jolt of external events but something far more basic: The split personality of the US electorate. The election is being played out on a political landscape more sharply - and evenly - divided than any other in generations…The "red-blue divide," as it has come to be known, entered public consciousness in the 2000 election, when the nation split down the middle between George W. Bush and Al Gore. The color-coded electoral map told a blunt geographic tale: Mr. Bush's red swept across the South, the Great Plains, and most of the Rocky Mountain West, while Mr. Gore's blue covered almost all of New England, the Mid-Atlantic, and the West Coast. The dramatic results recast the United States as a bipolar, "50-50 nation," in which where one lived translated into differences in culture, values - and partisan allegiance."[15]

November 7, 2000.

On the night of the Presidential election, millions of ordinary citizens turned to their televisions expecting to find out who would be the next president of the United States. Instead of getting a straight-forward answer, they were given a bad news, introduced to a new map and were taught to learn a new political vocabularies. The bad news was that the country was deeply divided, with half of the country rooting for the Democratic candidate, Al Gore, and another half supporting the Republican candidate, George W. Bush. The new vocabulary included 'red vs. blue', 'inland vs. coastal' and 'NASCAR Republican and latte drinking Democrat'. These terms continue to reinforce the fear that the citizens are divided into rival camps, where the chasm among social groups is too wide to breach. This 50-50 divide is not an oddity that merely happened by chance. It is rather a reflection of an extensive and entrenched 'war' rooted in culture, religious orientation, lifestyle and socio-political preferences (Hunter 1991; Frank 2004) that coincide with geography. Journalists scramble to offer their accounts of how residents in different parts of the country grew apart politically. Their reports further perpetuate the notion that underneath the divided country are a divided Congress and a divided electorate.

Section 2.1 A Divided Country?

Many critics have pointed out the simple red-and-blue map is misleading (Fiorina 2005, 2009; Ansolabehere et al. 2006; Glaeser & Ward 2006). When one examines the electoral outcomes at the county level, the country is indeed more 'purple'--- it is far less geographically divided than the state-level map has suggested. Despite the cartographic critique, there is perhaps one grain of truth. Comparing electoral maps over time with our naked eyes, the country does appear to become more geographically polarized. One cannot help but wonder is there any concrete empirical evidence on the 'divided country'? Or are we simply imposing pattern in our heads?

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[15] "Inside Red-and-Blue America", Christian Science Monitor. July 14, 2004.

Rodden (2010) laments that geography has always been a blind spot for political scientists. The academic interest in examining geographic polarization as a socio-political phenomenon, unfortunately, has been partially quenched by hasty conclusions that geography does not matter.

In what he coins as the 'culture war', Hunter (1991) predicts that a new set of political conflicts would be found on diverging values between the traditional (conservative) and the progressive (liberal). Frank (2004) adds that this culture war takes place over geography---while poor, inland voters have turned to the Republican Party because they care more about moral issues than economic self interests, the city voters have increasingly drawn to the Democratic Party. That division in electoral behavior, he argues, explains why the inland states have turned 'red' on the electoral map.

Ansolabehere et al. (2006) dismiss the culture war thesis as simply 'an old wine in a new bottle', where political geography is the new bottle. Culture war is nothing but an overrated myth. The authors dispute Frank's claim. They find that voters put more weight on economic matters than moral issues *regardless* of geographic region. Red state voters just happen to be more conservative on moral issues, even though these issues are less salient than economic issues in determining vote choice. The mere difference between red states and blue states, they contend, is attributable 'not to the way voters think, but to an accident of geography' (p.111). They report four statistics from 1900 to 2000: 1) a moving average of the vote margin of the winning candidate for president in each state; 2) a moving average of the vote margin for the leading party in each state computed using statewide offices; 3) a moving average of the percentage of races in which one party won more than 55 percent of the vote; 4) the average incidence of unified party control of state government. All four statistics show a downward trend. Based on these points, the authors speculate that geographic cleavages will shrink and become insignificant in the long run.

Fiorina (2005) begins his book *Culture War?* with the red-and-blue map and an empirical inquiry of whether the country is geographically divided. Using the 2000 ANES data, he assigns the respondents into either red states or blue states.[16] Looking through dozens of socio-demographic, political and attitudinal variables, he reports little differences between the red state residents and blue state residents in 2000.[17] He rejects the notion that the country is divided geographically and then moves on to examine whether popular polarization occured, that is, whether the public exhibits the same extent of ideological polarization as the elites. He reports no evidence of popular polarization. Since ordinary voters take cues from the political parties, as the two parties become more ideological distinct, the voters become further differentiated in their voting preferences. In other words, the geographic differences in vote choices do not stem from an inherently divided electorate. Rather, the differences reflect the choices imposed onto the moderate voters by the polarized parties (Fiorina 2005, 2009).

These two studies have prematurely concluded geography is irrelevant and casually dismissed the empirical inquiry on geographic polarization. The four downward trends presented by

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[16] It is unclear from the book how the states get assigned into the two groups.
[17] Some skeptics question his conclusion as Fiorina tends to dismiss ten or fifteen percentage point difference between the red and blue states as insignificant. Hetherington (2009) has a detail discussion of the critiques.

Ansolabehere et al. are insufficient to support the claim that geography will fade in importance. It is a mistake to conceive states as homogeneous units. After the breakdown of the New Deal Coalition, the Democratic Party expanded its appeal to the urban middle and working classes while the Republicans drew support from suburbs and rural areas (Stonecash et al. 2003; Gainsborough 2001). Even in the most pro-Democratic states such as California or New York, diverse communities and fierce competition within states exist. The decrease in average margin of victory, number of divided governments and number of lopsided races suggest the rise of two competitive national parties. The statistics may even point to the contrary conclusion--- the geo-political division within states have gone up instead of disappeared.

Using one cross-sectional ANES dataset and gross classification may have masked the amount of dissimilarities across geographic regions. Using data from 1952 to 2004, Black & Black (2008) examine political patterns in four stable historic regions, namely, Northeast, Pacific Coast, Midwest and Mountains/Plains. They find distinct forces within each region that drag the country in different directions. Analyses of 2008 presidential returns also confirm the persistence of geographic divergence (Gelman et al. 2009, Lesthaeghe & Neidert 2009). The goal of this chapter is to empirically examine the prevalence of geographic polarization, in particular, when did it emerge? Where are the geographic clusters?

Empirical Definition of Geographic Polarization of Partisan Preferences

Before I present the empirical evidence, it is important to lay down clear and concise operational definitions of the terms 'political polarization' and 'geographic polarization of partisan preferences'.

Simply entering the term 'political polarization' into Google, the search engine would return over 200,000 entries. This term has entered the realm of politics in recent decades and has become a cliché where it is commonly used but rarely understood. A quick examination of the internet entries reveal how the term takes on completely different meaning from one context to another.

> "In politics, polarization is the process by which the public opinion divides and goes to the extreme. If can also refer to when the extreme factions of a political party gain dominance in a party. In either case moderate voices often lose power and influence as a consequence." (Wikipedia)[18]

> "Another way to define Political Polarization is: the belief that one political party has a supremacy over another political party based on their beliefs, causes, and triumphs. While two political parties can be extremely different in their voice and color, they both might be arguing for the same overall cause, such as: freedom, to better the country they serve, or to ascend an ideal political leader through the ranks of government." (Bickerin Brothers)[19]

> "Properly defined, polarization of U.S. politics reflects a sorting of political convictions

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[18] Accessed March 1, 2010.
[19] http://bickerin.com. Accessed March 1, 2010

by either the mass public or ruling elites, or both, into roughly two distinct camps: persons inclined to support the Democratic or the Republican parties' politics and candidates for elective office." (Brookings Institute 2005)[20]

These definitions share a similar understanding of the term 'polarization'--- something gets divided into sharply opposing factions or groups. But what does that mean empirically? What are the objective measures to test if polarization has occurred? In addition, these definitions are unclear on *what* and *who* gets polarized? Is it the ideological preferences of the elected officials in Congress? Or is it the ideological preferences of the ordinary citizens? Or is it the ideal policy position of the Congressional members? Or is it the distribution of public opinion on a certain issue in the electorate?

The political science literature has drawn distinction between elite polarization and mass level polarization (also known as popular polarization). While this distinction helps readers to identify the political actors involved, it is still unclear what gets polarized and how to measure the extent of polarization. Gelman et al. (2008) suggest the term conflates three complementary but conceptually distinct notions. First, there is 'partisan polarization' which involves voters identifying with a political party that is close to their political ideology. For example, a conservative would identify with the Republican Party and a liberal with the Democratic Party. Partisan polarization happens when crossovers are rare. The second notion is 'opinion radicalization' where voters hold more extreme views on various policy issues. The third notion is 'issue alignment'. It is related to Converse's (1964) conceptualization of ideological constraint. It measures the extent to which views on policy issues correlate with each other. These three distinctions help to highlight the multifaceted nature of the concept and call for a flexible and adaptive measurement.

DiMaggio et al. (1996) offer an alternative framework to better understand and measure the concept. They argue that polarization can be studied both as a state and a process. When the concept is applied to study distribution of public opinion on various policy issues, polarization as a state refers to the extent to which opinions on issues are opposed in relation to some theoretical maximum. Polarization as a process refers to the increase in such opposition over time. Hence polarization of public opinion is characterized by <u>both</u> a wider dispersion of preferences between groups and bimodality (where preferences cluster along the two extremes). Statistically, these characteristics translate into a bigger difference in means between groups, and an increase in standard deviations in the distributions of public opinion.

Sorting vs. Polarization

Building on DiMaggio et al's definition and empirical measures of polarization, Fiorina & Levendusky (2006) introduces an alternative concept 'sorting' which is distinct from 'polarization'. They argue that the term 'polarization' should be reserved to describe a bimodal distribution of opinion, or movements toward a bimodal distribution of opinion. Polarization happens only when the political opinions and attitudes of the public—in the aggregate--- have been pushed away from the moderate, centrist positions to liberal or conservative extreme. What happens in reality, they argue, is party sorting. When the two political parties become

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more distinct, voters take cues and align with a political party that is closer to their ideology and political preferences. Party sorting, therefore, is a process by which a stronger correlation is brought between political ideology and party affiliation. Unlike polarization, the sorting mechanism does not produce a bimodal distribution of aggregated public opinion.

The key distinction between 'sorting' and 'polarization' (or 'polarizing') is whether the aggregate distribution of the subject of interest has changed over time. The former entails the following: a) the shape of the distribution is altered; b) the two ends of the distribution show increase in density; c) the middle of the distribution experiences decrease in density (this is what Fiorina refers to as 'the disappearance of the middle'). Let me use two examples to illustrate the difference. When one compares the distribution of DW-NOMINATE scores over time, it is easy to observe increasing density along the two ends of the spectrum. The change in distribution is accompanied by a thinning of cases in the middle of the spectrum. Judging by these changes, one can conclude that DW-NOMINATE scores, or the ideological standing of members of Congress, have become more polarized. The opposite example is ideology among the mass public. The American National Election Study (ANES) has routinely included a question that asks respondents to place themselves on a seven point ideological continuum. Researchers have noted that the distribution of these self placements have rarely shifted (Fiorina 2005; Fiorina & Abrams 2008; Fiorina & Levendusky 2006).[21] Hence, by definition, ideological placement of citizens has *not* become more polarized. The stronger correlation between voters' ideology and voting preference is explained by partisan learning and not by a more ideologically polarized public.

DiMaggio et al's definition is very useful in conceptualizing and measuring the distribution of public opinion that is continuous in nature, for example, how strongly do people agree with gay marriages? Since preferences in this case would fall along a continuum, one can examine if the shape of the distribution of such preference has changed over time. Following their conceptualization, one can test whether the group means and standard deviations have gone up (or down) over time. Their definition, however, becomes strained when applied to the study of vote choice or party registration. I am interested in studying the geographic polarization of partisan preferences. Given the dominance of the two political parties in the U.S., party registration or vote choice tends to be binary in nature. The total registration or total votes in a federal office race are largely split between the Democratic Party and the Republic Party. The distribution of a binary variable is often referred to as a 'one-parameter distribution', that is, the standard deviation is defined by the proportion. Put differently, when the vote share received by one party changes, the standard deviation changes in response. There is no way to separate out the change in difference in proportion and standard deviation. Therefore DeMiggio et al's conceptualization cannot be meaningfully applied to examine polarization in party registration or voting outcomes.

I propose another way to conceptualize and measure political polarization of partisan preferences. The term 'political polarization' per se has little meaning. Its definition becomes clear only when one frames it as: Has Y become more polarized in terms of X? For example, have partisan preferences (Y) become more polarized by income (X)? That is, compared to the

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[21] Abramowitz (2008, 2010) disputes with this account. He shows that the distribution has changed slightly, with more respondents identifying themselves as either strong liberal or strong conservative.

past and relative to those with lower income, have voters with higher income become more likely to identify with or vote for the Republican Party? There are three essential elements in the definition---outcome of interest (Y), a grouping factor (X) and time. To study polarization as a process, it involves comparing the conditional probability of Y given X at various time points. In order to conclude partisan preferences (Y) have become more polarized by X, one needs to show that the conditional probability of Y given X increases over time.

X can be income, or any demographic characteristics. It can also be conceived as geographic regions or electoral districts. Suppose there are two regions, inland and coastal. There are more conservative voters inland such that a randomly selected inland voter would have a higher probability to either identify or register with the Republican Party, or to vote for the Republican Party in an election. At any time point, one can compute the difference in the support for the Republican Party among residents within the inland and coastal regions using the following formula:

$$R_t = \frac{Pr(\text{Voted/Registered Rep} \mid \text{Region=Inland})_t}{Pr(\text{Voted/Registered Rep} \mid \text{Region=Coastal})_t}$$

In this example, this ratio (R_t) is likely to be larger than 1 since inland voters are more conservative in general. If the above quantity is computed for every year, one can detect whether the ratio has changed over time or not. Geographic polarization happens when the partisan preference <u>ratio</u> grows <u>continuously</u> over time, for example,

$$R_{t+4} > R_{t+3} > R_{t+2} > R_{t+1} > R_t$$

In other words, <u>on average</u>, residents in different regions not only hold diverging preferences, but also the contrast becomes more pronounced over time.[22] Geographic polarization of partisan preferences refers to the **<u>phenomenon</u>** in which the aggregated partisan choices of residents (Y) of certain geographic regions (X) are characterized by a wider dispersion with the means of the regions pulling apart over time such that notable geographic clusters emerge as a result of the process. That is, one finds adjacent neighbors becoming more alike in aggregate partisan preferences.

Let me return to the distinction between 'polarization' and 'sorting'. Some may wonder why I refer to the phenomenon as 'geographic polarization' instead of 'geographic sorting'. I refrain from using 'geographic sorting' because it has been used in the literature as synonymous with 'selective migration' (Oliver 2010; Cho et al. 2010). I want to reserve the term 'geographic polarization' for the socio-political <u>phenomenon</u> of interest and 'selective migration' for the <u>mechanism</u> that contributes to the phenomenon.

It is also important to distinguish the difference between 'geographic polarization' and 'partisan residential segregation'. The scale of geography differentiates these two concepts from one another. The former simply refers to the macro phenomenon that residents in different regions, on average, exhibit distinct partisan preferences; whereas, the latter suggests members of the same party living exclusively together and isolating themselves from members of the opposite

[22] It is important to distinguish 'intercept change' from ratio change. For example, the ratio between the Central Valley and Bay Area can grow despite the fact that California as a whole has become more pro-Democratic Party.

party. Bishop (2008) argues that over time Americans have sorted themselves into homogeneous neighborhoods, and that residential sorting explains why there are fewer competitive elections than before. In theory, both geographic polarization and residential segregation can happen simultaneously. Yet in reality, the empirical evidence of the latter is weak. Studies have shown that residential choices are more influenced by socio-economic factors than political identification (Cho et al. 2009, 2010). Neighborhoods that offer good schools, amenities or cheap housing attract both Democrats and Republicans alike. Entrance to established communities is limited by housing availability and often high housing costs. Aging, parenthood, career and family ties limit one's residential mobility and choices (Kim et al. 2005). As a result, high degree of partisan sorting in neighborhood is impossible. In many locales, heterogeneous neighborhoods are more of the norm than homogeneous partisan clusters (Cain 2009).

It is crucial to point out the presence of partisan heterogeneous neighborhoods does not negate the existence of geographic polarization. Let me use the Bay Area and the Central Valley example to elaborate. San Francisco, Berkeley and Oakland are probably three of the most liberal-leaning cities in the country. The Bay Area, nonetheless, consists of towns and cities that are conservative, such as Atherton, Alamo, Hillsborough and Danville, with over half of the residents registered as Republicans[23]. Similarly for the Central Valley, cities such as Fresno city, Modesto and Merced have more registered Democrats than Republicans[24]. Despite the diversity within each region, if one compares the aggregate partisan preferences of these two regions, one would immediately notice that over time, on average, the Bay Area has become more pro-Democratic than the Central Valley.

Skeptics of any studies on geographic polarization usually bring up three concerns. First, what is the value of studying such a macro phenomenon? Would it be more interesting to examine micro-processes that change the partisan composition at the neighborhood level instead? My response is that these are two valuable but separate empirical questions. Studying the residential choices made by individuals is different from studying how the spatial distribution of vote shares of the two parties varied in the country. The goal of this dissertation is not to study how individual's political preferences can be mediated by his/her residential environment. (I have separate papers on whether partisan composition of a neighborhood is a pull or push factor in one's residential choice (Gimpel & Hui, 2010)). For this dissertation, I focus primarily on the macro phenomenon for the theoretical reasons I laid out in the previous chapter.

Another concern skeptics raise is the selection of geography. The measurement of the phenomenon is obviously tied to the level of analysis. If state is chosen as the level of analysis, the country would appear to be very polarized. If a finer geography, such as precinct, or Census block is chosen instead, it may not reveal significant polarizing pattern. This is known as the Modifiable Areal Unit Problem (MAUP) where the quantity of interest varies by the level of geography used (Openshaw 1984). There is no 'solution' to the problem except a call to identify the 'appropriate' level of analysis. If the subject of interest is the ideological polarization among elites (usually measured by DW-NOMINATE scores), then Congressional District would be the right unit as Congressmen are elected by the constituents within each district. Similarly if

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[23] List of conservative towns in the Bay Area (September 21, 2007) composed by City-data.com.
[24] Voter Registration Statistics for the November Election, 2008, published by the California Secretary of State.

the subject of interest is state legislators' behavior, state legislative district would be the appropriate geographic level.

To study electoral outcomes or identification with the major political parties, I argue, county is the appropriate level of geography for the following reasons. First, it is the right 'electoral unit'. Citizens register to vote in the county they reside. County Registrars are responsible for maintaining and updating databases of registered voters. Voting systems and polling place assignments are determined independently by each county registrar. Votes are tallied by county registrars and are typically reported at the county level. Second, it is the right 'government unit'. County governments serve many administrative functions for state and federal laws, programs and services. Property value assessment, social welfare and hospital services that directly impact residents are often handled by the county governments. Third, it is also an appropriate 'political unit' as political parties or unions often have county level chapters. Fourth, county is chosen to enable spatial and temporal analyses. Many areas in the country are unincorporated and do not belong to any municipality. Using geography such as city or metropolitan area would leave out these areas in the study. Although congressional districts cover the entire state and are equally populated, reapportionment and frequent redistricting make over time comparison impossible. Given that most of the Census demographic and economic data are available at the county level, and county boundaries are relatively stable over time, it is a good choice of geography for practical reason.

The third concern skeptics might have is the classification of regions. Studies often use ad hoc measures based on electoral outcomes in recent elections to classify regions.[25] Incorrect classification may under-estimate the underlying heterogeneity.[26] In addition to the lack of consistency in defining regions, another fatal flaw of such practice is that the classification may reflect division in current time but may not be applicable to study the past. For example, the 'red-and-blue' classification may capture the division between inland and coastal states in the recent decades. It is not a meaningful classification to understand politics prior to 1950s where the North vs. South divide was the predominant political cleavage. By imposing a metric based on one's current understanding of politics, one may overlook other divisions that might have existed historically.

This is a particularly important concern. The soundness of this study not only builds upon a precise definition of the subject of interest, it also relies on a careful classification of geographic regions. In the following section, using data from public opinion polls and official voter registration reports, I will document *when* and *where* the geographical polarization of partisan preferences began to emerge. I will also examine whether the geographic division appears to be consistent and stable over time.

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[25] One example is from Ansolabehere et al. (2006). They classify the states in which the average share of the two-party vote cast for the Democratic presidential candidate in 1992, 1996, 2000 and 2004 was .51 or greater as 'blue states'. 'Red states' are those for which the average was .47 or less. The remaining states are classified as 'purple states'.

[26] Fiorina (2005) divides the country into either 'red' or 'blue' states. He shows that, in 2000, the demographic, partisan and attitudinal differences between the red state residents and blue state residents were unsubstantial. But when Black & Black (2007) examine voting patterns in four historic regions, they find significant regional divergence.

Section 2.2: Geographic Polarization of Partisan Preferences: Is It Real?

Before analyzing whether geographic polarization has occurred, let me begin with a brief overview of the aggregate partisan preferences in California. The Field Poll asked the respondents about their party registration. The typical question wording is 'Are you currently registered to vote as a Republican, a Democrat or just what?' Figure 2.1 plots the party registration from the mid 1950s to now. The top solid line shows the percentage of respondents who registered with the Democratic Party, and the dotted line displays the percentage of respondents who registered with the Republican Party. The diagram reveals that, despite the wax and wane, the Democratic Party has always been the dominant political party in California. The decline in the number of registered Democrats since 1976 was initially caused by defection to the Republican Party, and subsequently by the increase in likelihood to register as independent.

Figure 2.1 Percentage of Registered Republicans and Registered Democrats
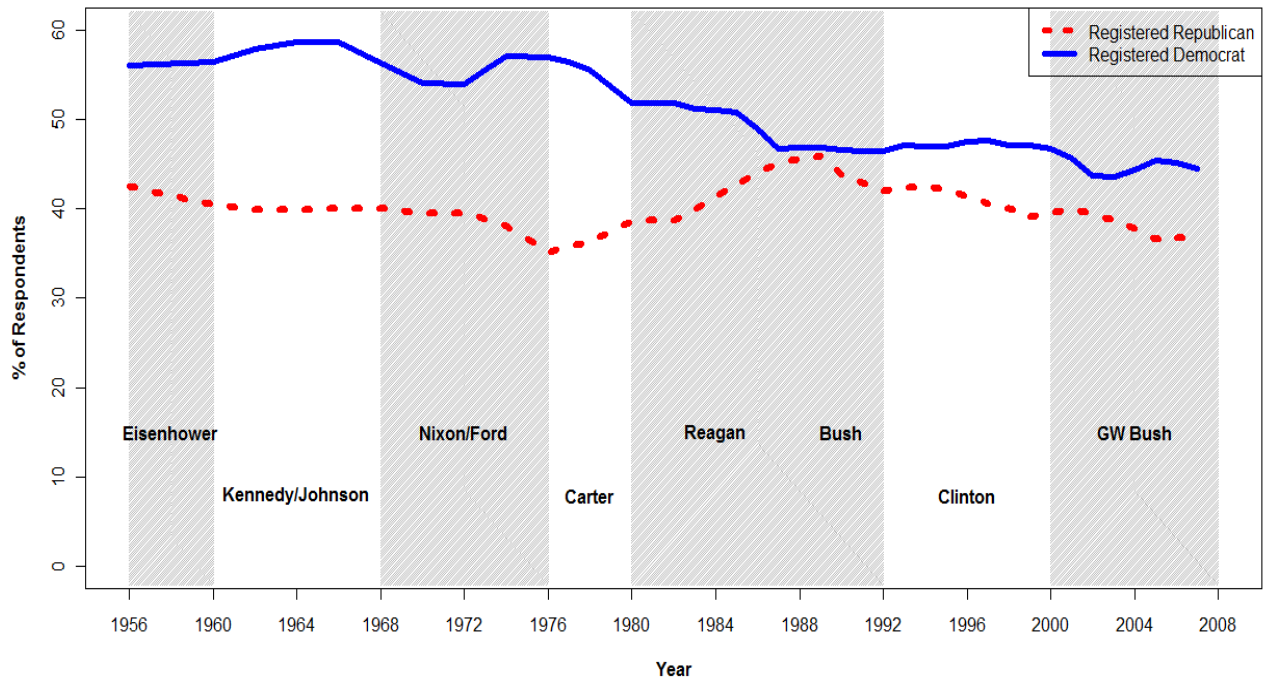
Data: Field Poll Cumulative File

The Field Polls have routinely included county of residence in the surveys. Since the sample was representative at the state level, not all counties were sampled and respondents interviewed were not necessarily representative of the county they lived in. Therefore, I grouped the counties into four regional groupings (shown in Figure 2.2). Due to its sheer population size, I have Los Angeles County as one distinct regional group. The Bay Area and Southern California (except Los Angeles County) are two other distinct groups. The remaining

counties are classified under 'Central and Mountain'.[27] Some may disagree with my classification. The bottom line is that as long as the densely populated counties are assigned into correct groupings, the analyses remain robust. In the next section, I will use spatial statistic tools to identify the spatial clusters and revisit this classification.

Figure 2.2 Classification of Counties into Four Regions

Figure 2.3 shows the raw percentages of registered Democrats and Republicans over time. The question on party registration, unfortunately, was not regularly asked in Field Polls prior to 1970s. When the party registration question was absent, the survey usually asked about party identification instead. One option is to retain polls that have party registration and discard all earlier polls that only asked party identification. The drawback, obviously, is losing valuable historic data that cannot be substituted by alternative data sources. As party registration and identification are highly correlated, the other option is to create a hybrid dependent variable 'party affiliation' by combining both variables. The new dependent variable is binary in nature. It captures the two-party orientation among respondents. It takes on a value of 1 for the respondents who registered as Republicans (or identified as Republicans, when the registration information is not available), and 0 for those who registered as Democrats.

For each year, I aggregated individual voters by regions and computed the percentage of respondents who affiliated with the Republican Party. Figure 2.3 plots the over time trends for the four regions. The black horizontal dotted line at the 50% sets the benchmark---if the trend

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[27] I tried other groupings. For example, I created a 'North Coastal' group that consists of the Bay Area and three northern coastal counties (Del Norte, Humboldt and Mendocino). I also tried to exclude Ventura from the 'Southern California' group. The results are almost identical as these counties have very few respondents.

falls <u>below</u> the benchmark, it means the region has a higher percentage of respondents who are affiliated with the <u>Democratic Party</u>. On the contrary, if the trend lies <u>above</u> the benchmark, it indicates the respondents in that region, on average, are more likely to be identified as <u>Republicans</u>. Note that in the 1960s, the four trend lines are closely packed below the benchmark, indicating that all the regions were pro-Democratic Party and there was little regional difference in terms of partisan preferences.

The election of Ronald Reagan, former Governor of California, in 1980 invigorated the national Republican Party. Using New York Times/CBS polls, Norpoth (1987) reported the election of Reagan led to an eight percentage point drop in the number of voters who identified with the Democratic Party in 1981. As the national Republican Party began to pick up strength, the regional differentiation began to diverge. Residents in Southern California (which excludes Los Angeles County) became more pro-Republican Party while the residents in Los Angeles County became more pro-Democratic. Despite the physical distance between the Bay Area and Los Angeles County, the two trends almost overlap as time progresses. By 1992, the inland-coastal divide has become evident---Southern California and the Central & Mountain regions have become far more pro-Republican; whereas the coastal counties in the Bay Area and Los Angeles have become more pro-Democratic. By mid 2000, the two-party Republican affiliation gap between the liberal and conservative regions was fifteen percentage points.

Figure 2.3 Two-Party Voter Registration by Regions
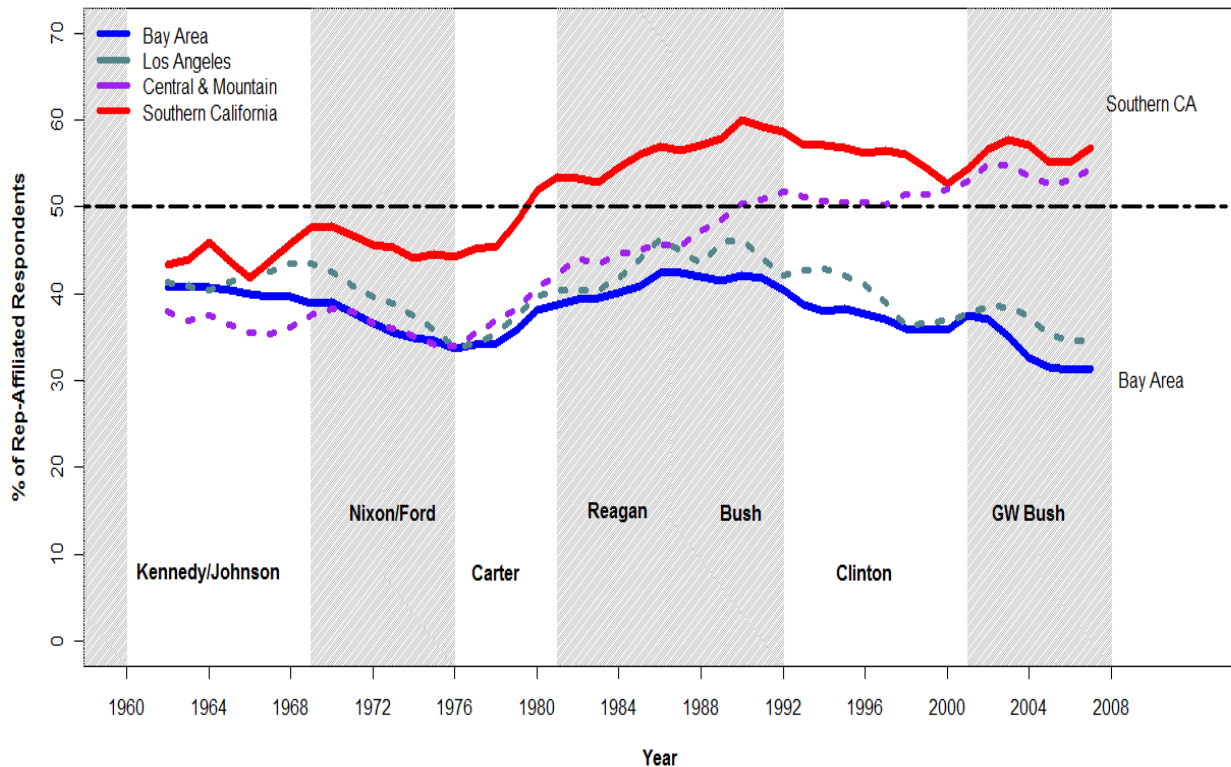
Data: Field Poll Cumulative File

Some may wonder whether the above divergence is an artifact of examining just two-party registration. The skepticism is unwarranted as there is little reason to believe the independents concentrate disproportionately in one region. To quench such skepticism, Figure 2.4 replicates the previous diagram, only this time it plots the raw percentages of those who affiliated with either the Republican or Democratic Party instead of two-party affiliation.

Figure 2.4 Voter Registration by Regions (Raw Percentages)
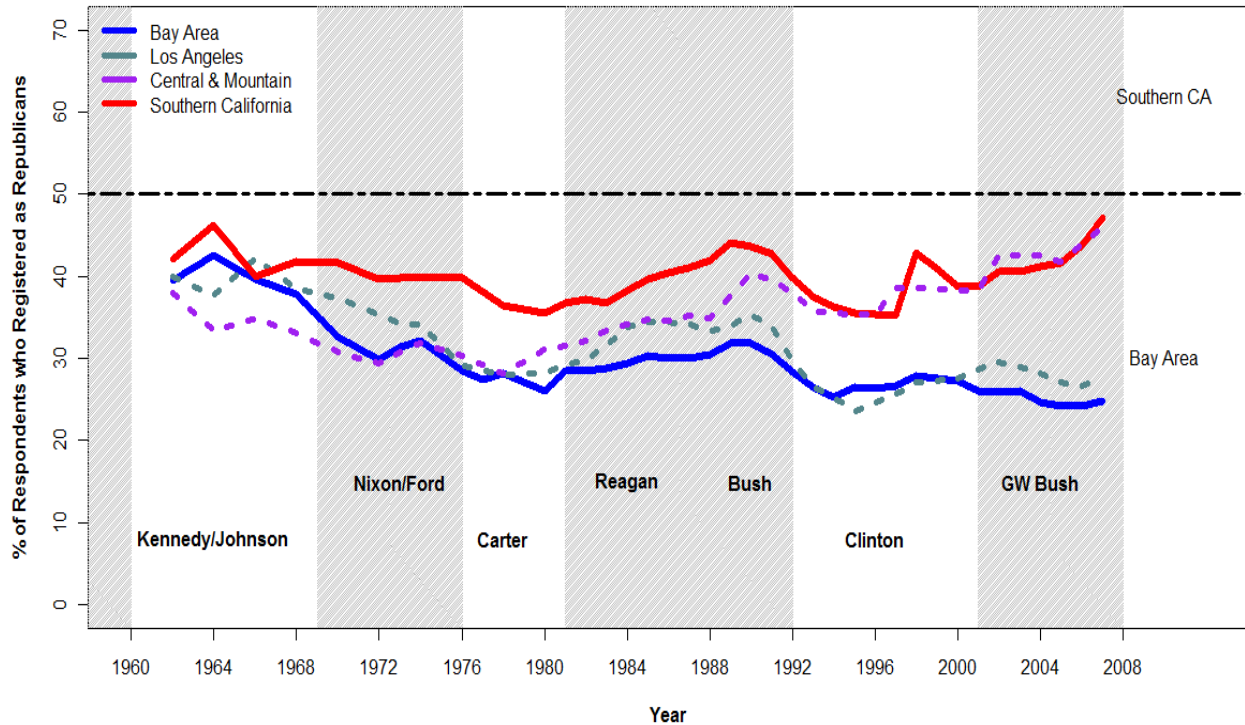
Data: Field Poll Cumulative File

The two graphs are almost identical with mirrored pattern of geographic divergence. The only difference lies in the intercepts---California historically is a Democratic stronghold and it has grown more so over time. The fact that the state, in aggregate, has become more liberal-leaning does *not* preclude the existence of growing geographic divergence. Recall the definition and measurement discussed in the previous section, the evidence for geographic polarization is one that captures growing *relative* difference over time. The inland voters, relative to their coastal counterparts, are more pro-Republican; whereas, relative to residents in many strong Republican states, they are more pro-Democratic.

While the Field Poll data present solid evidence of geographic polarization, it is impossible to precisely nail down the timing of such occurrence. Given the four rough geographic regions, it is also equally challenging to discover the underlying spatial pattern. I now turn to the official voter registration records for all fifty eight counties collected and published by the California Secretary of State. In order to conclude that geographic polarization of partisan preferences has taken place in California, two empirical conditions must be met. First, the overall distribution

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of partisan preferences at the county level must have changed over time---with more counties budging at the two tail ends and fewer counties huddling in the middle (the 'thinning' of the middle). Second, adjacent counties should become more alike in terms of partisan preferences.

Let me begin with the first condition. Figure 2.5 is a violin plot of the two-party registration for the fifty eight counties between 1962 and 2008. The red dots and green squares delineate the medians and means of the distributions. The distributions look relatively normal prior to the 1990s, with the means and medians almost overlapping. After the 1990s, the shape of the distributions becomes more skewed. The distributions look more bimodal than normal, with the means deviating further from the medians.

Figure 2.5 Distribution of Two-Party Registration for All Counties, 1962-2008
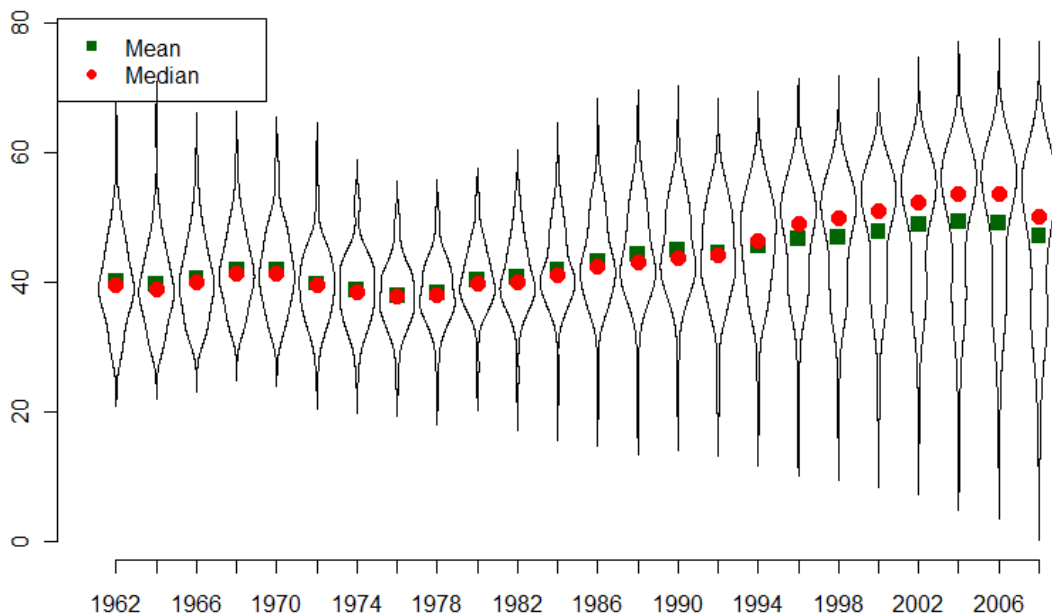
Data: CA Secretary of State Voter Registration Records

Figure 2.6 presents an alternative view of the above diagram. The panels in Figure 2.6 show the density distribution of the two-party registration by counties for selected presidential election years. 1992 appears to be the turning point with the most remarkable change in distribution. Since then, the distributions have become more skewed and bimodal.

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Figure 2.6 Density Distribution of Two-party Registration for All Counties (1976-2008)
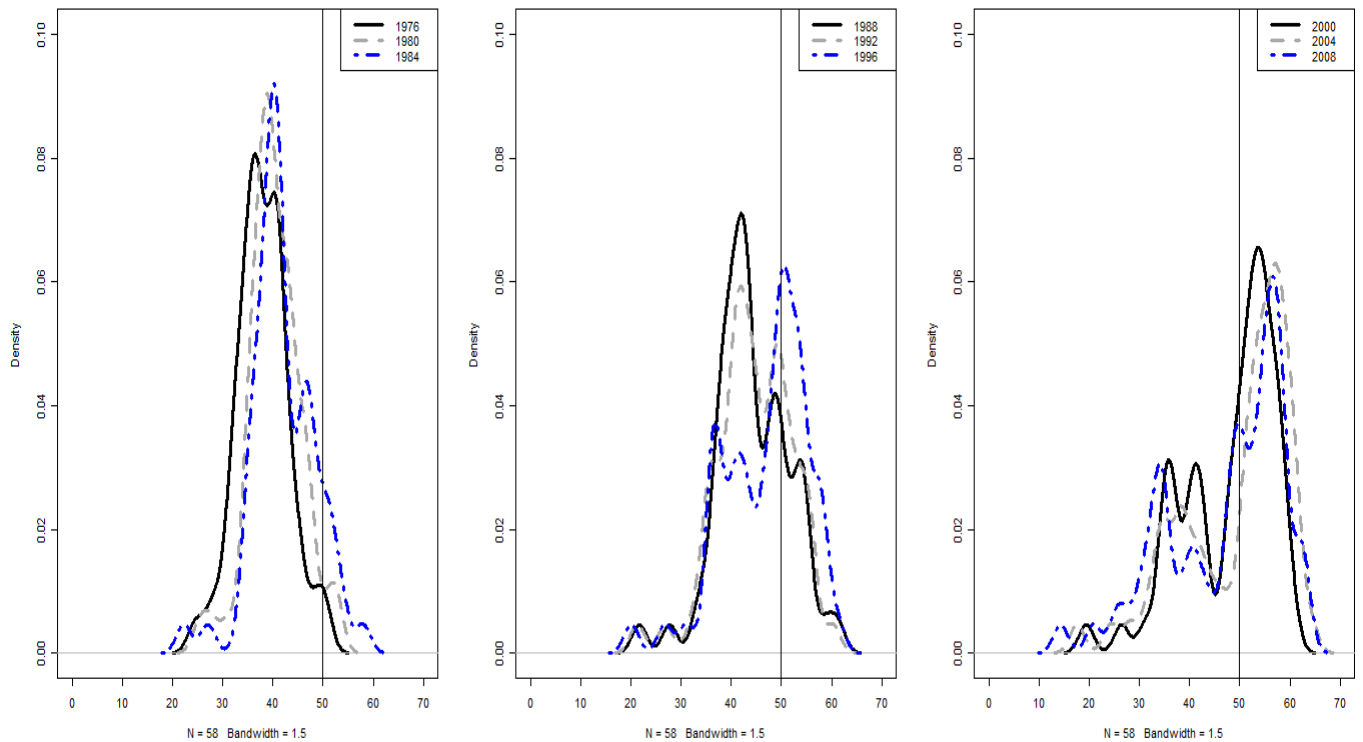
Data: CA Secretary of State Voter Registration Records

The two diagrams above offer solid evidence for the first condition. The second condition is to observe adjacent counties become increasingly likely to share similar partisan preferences. I begin by discussing global Moran's I which is a measure of overall spatial autocorrelation.[28] Unlike the congressional district unit, the advantage of using county as the unit of analysis is that county boundaries remain unchanged over time. For that reason, the changes in Moran's I statistics reflect changes in the correlation among adjacent counties. Figure 2.7 contains two diagrams. The first diagram shows the Moran's I statistics and the second one displays their corresponding p-values. Moran's I values are bounded between -1 and 1. Positive values indicate positive spatial autocorrelation (where adjacent units are similar) and negative values reveal potential repelling mechanism that makes adjacent units dissimilar. Zero values indicate random spatial pattern. The findings reinforce the observations made using the Field Poll data. There is no notable pattern in the 1960s, the Moran's I statistics are small and statistically insignificant. Based on these statistics, 1980 appears to be the year that demarcates a period of continuous growth in spatial autocorrelation.

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[28] Adjacency matrix is created using inverse distance, that is, closer neighbor gets heavier weight.

Figure 2.7 Moran's I Statistics and P-Values
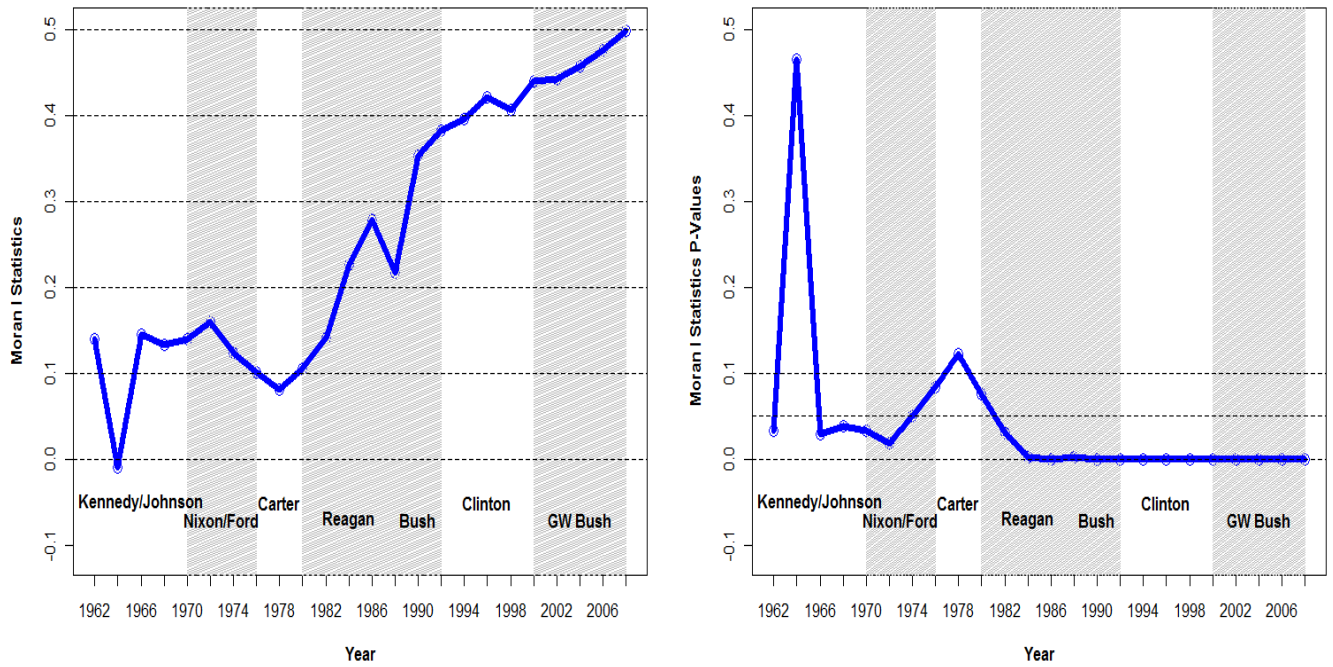
The global Moran's I statistics exemplify how the spatial pattern gets more apparent over time. Figure 2.8 plots the two-party registration for all fifty-eight counties from 1962 to 2008. The purpose of these two diagrams is to visually examine whether adjacent counties exhibit similar historic trends, or follow dissimilar trajectories. In Figure 2.8, I highlighted the Bay Area counties (in blue) and the Los Angeles County (in red), the Southern California counties (except Los Angeles) are colored in green.

Figure 2.8 Two Party Registration by Counties, 1962-2008
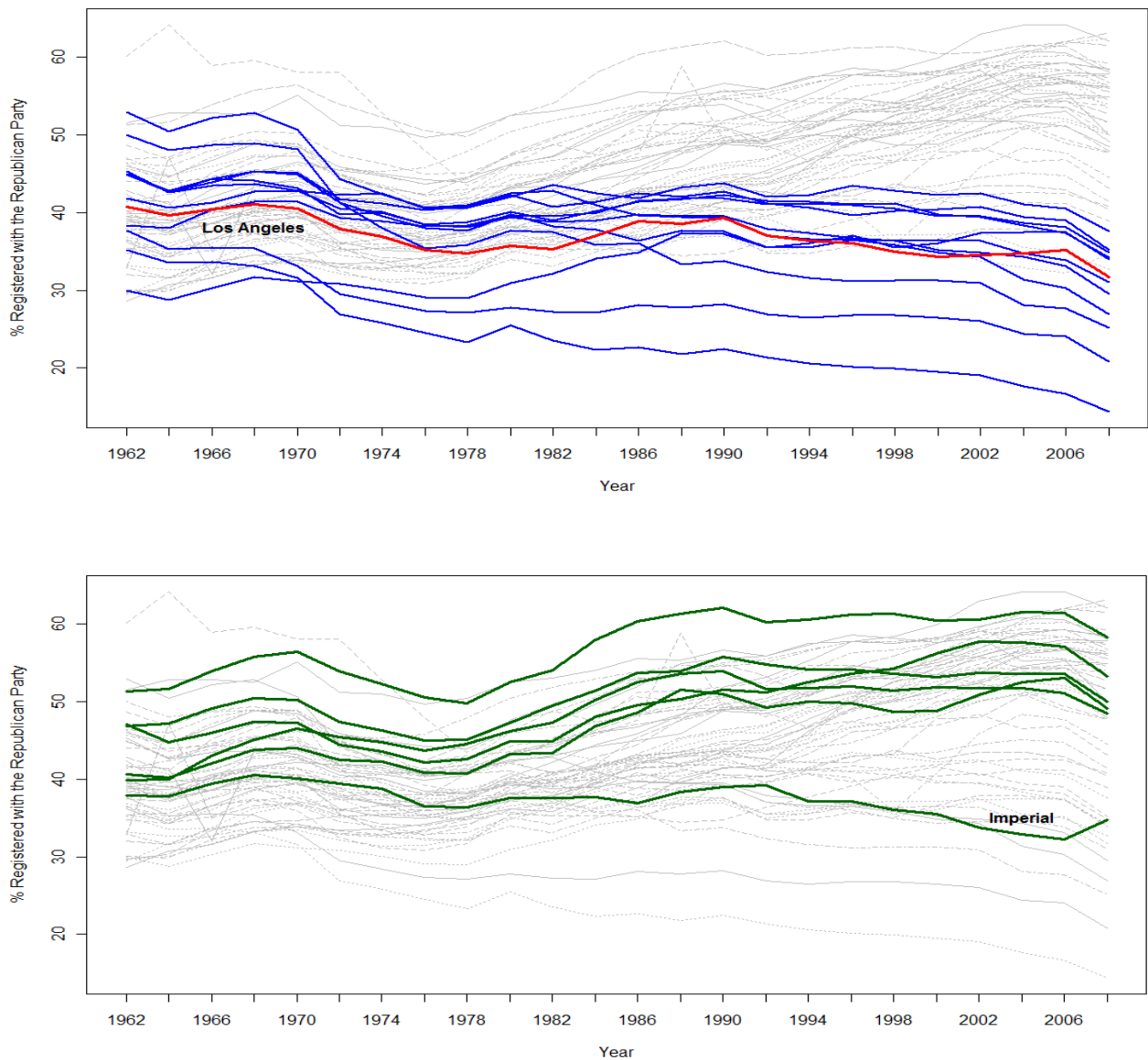
Echoing the findings from the Field Poll data, the Bay Area and Los Angeles have grown more politically alike, despite the 350 miles that separates them. As a result, Los Angeles County grows further apart from its neighboring counties in Southern California. Imperial County, a small county which borders San Diego on the left and Arizona on the right, had less than 150,000 residents in 2000. The influx of Hispanics that began in the 1990s has gradually transformed its aggregate partisan preferences (a topic that I will revisit in Chapter 3). Except for Los Angeles and Imperial County, neighboring counties assume comparable trajectories of partisan evolvement.

Section 2.3: When and Where Did It Emerge?

The global Moran's I statistics suggest that some spatial pattern first took shape in 1980. The next step is to identify the local clusters by using Local Indicators of Spatial Association (LISA). LISA is a decomposition of the global Moran's I, it evaluates the contribution of each observation to the global autocorrelation. It is often used to identify local pockets of non-stationarity, or hot spots, where adjacent units share similar values (Anselin 1995). In Figure 2.9, I plot the percentage of two-party registration on the left in grey scale. Darker colors indicate higher percentage of voters who registered with the Republican Party. On the right panel, I color the counties where LISA statistics are statistically significant at 0.05 level. Red color indicates that particular county share <u>similar </u>values with the adjacent neighbors (can be either pro-Republican Party or pro-Democratic Party), blue color represents county that has <u>opposite </u>partisan preferences than its neighbors. No color indicates an absence of statistically significant resemblance with its neighbors.

Figure 2.9 Two-Party Registration Share Received by the Republican Party and LISA Statistics

1976

1980

1988

1992

49
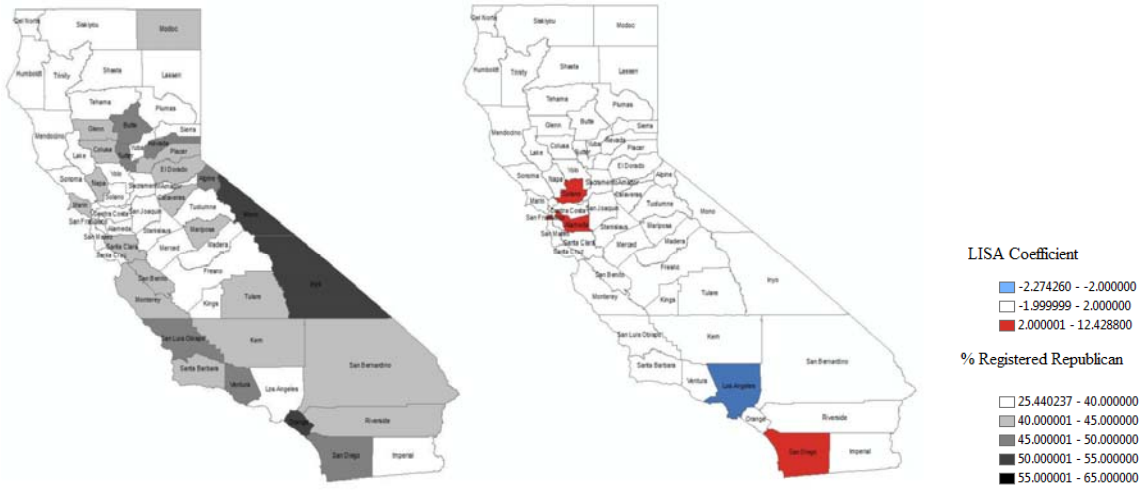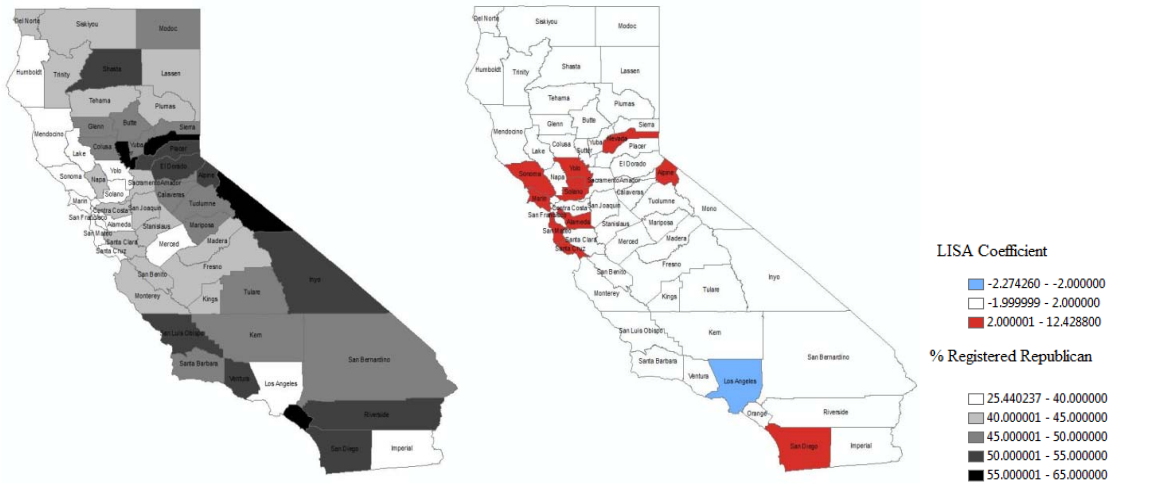
2000
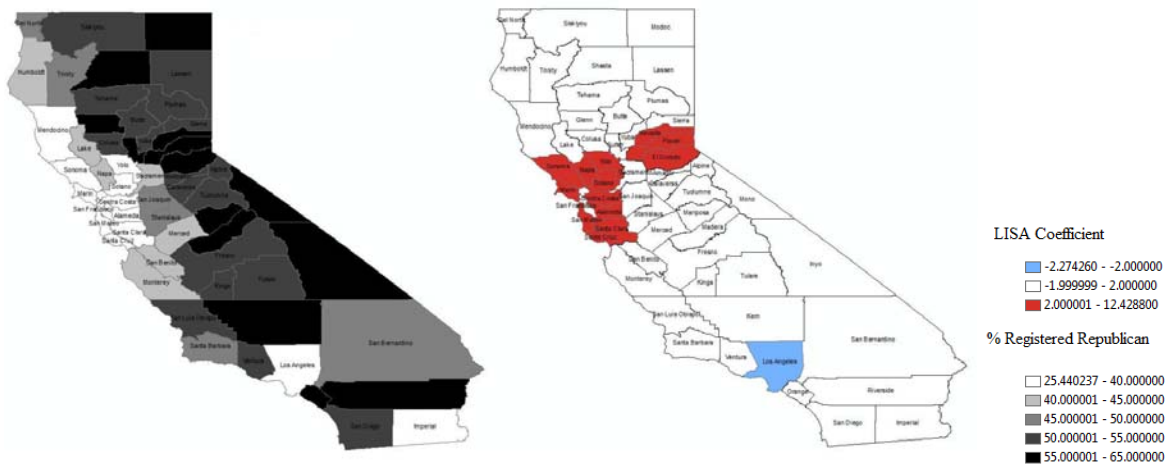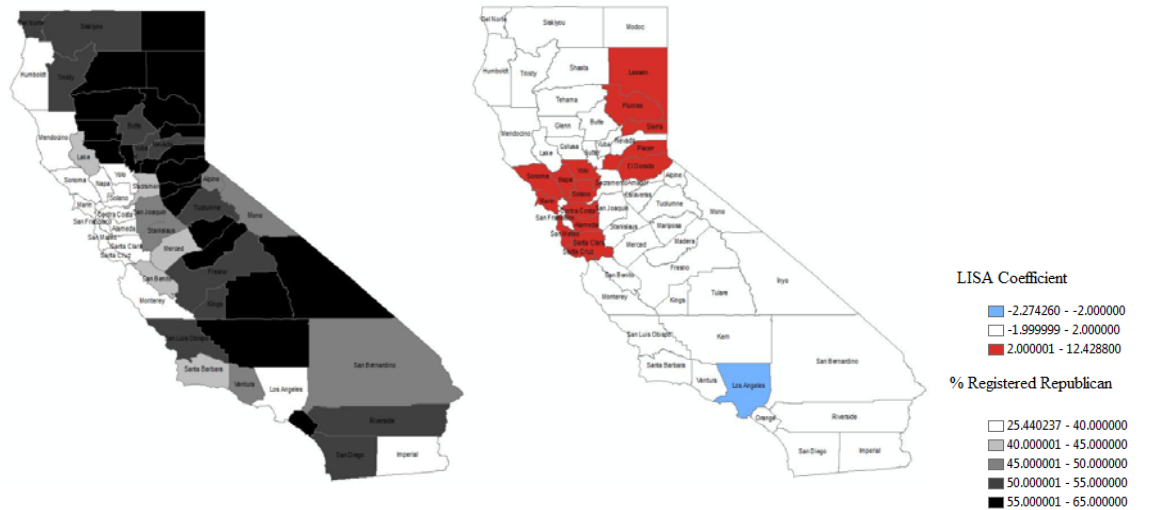
2008

Data: CA Secretary of State Voter Registration Records

As revealed by the global Moran's I, there is no statistically significant spatial cluster in 1976. Two spatial clusters gradually emerged between 1980 and 2008, one is in the Bay Area region, and another develops among the inland Mountain counties. The former grows to become the stronghold for the Democratic Party while the latter trends more conservative. It is important to note that these two regional systems are not only stable, but they expand continuously over time. Los Angeles County has consistently stood out from the adjacent counties given its liberal leaning. As revealed in Figure 2.9, the influx of Hispanics to Imperial County has tipped the partisan balance to the Democratic Party and its trajectory deviates from the adjacent counties in Southern California. This departure is the reason why the red color in the San Diego County faded after 1992.

Figure 2.10 and 2.11 present an alternative view of the above chloropleth maps by plotting the LISA coefficient against two-party registration for selected elections. The Bay Area counties

are labeled by blue-color text, and the five Southern California counties (except Los Angeles County) are highlighted in red-color. The y-axis displays the magnitude of LISA coefficients (the higher the coefficient, the more similar the county is to its neighbors). It is hard to spot any obvious spatial pattern prior to 1980. The LISA coefficients are usually low, indicating little spatial correlation. A clear pattern began to emerge after 1980 where the Bay Area counties (in blue) gradually cluster in the top-left quadrant of the graphs, and spatial correlation increases.

Figure 2.10 LISA Coefficients and Two Party Registration by Counties, 1964–1980
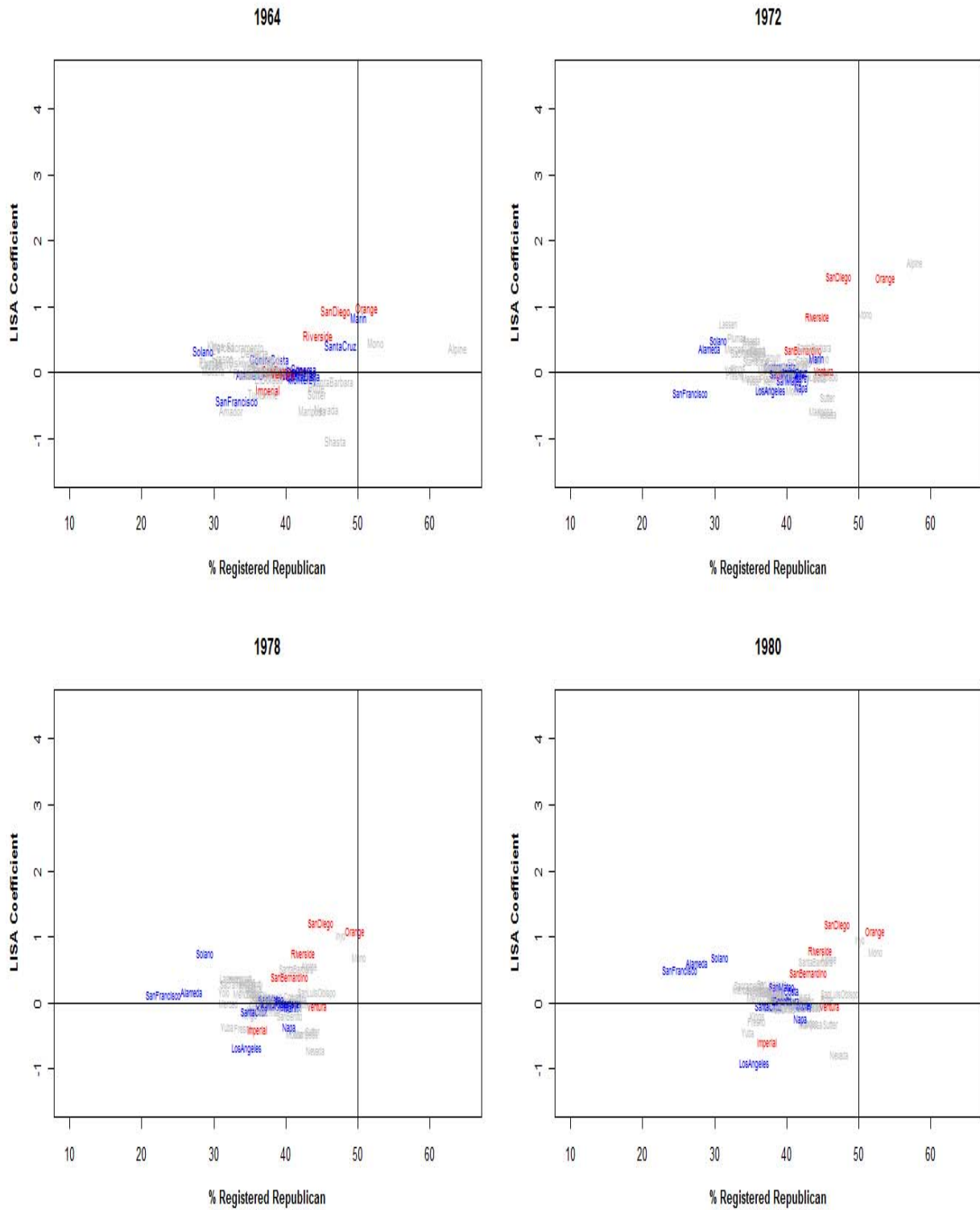
Figure 2.11 LISA Coefficients and Two Party Registration by Counties, 1984–2008
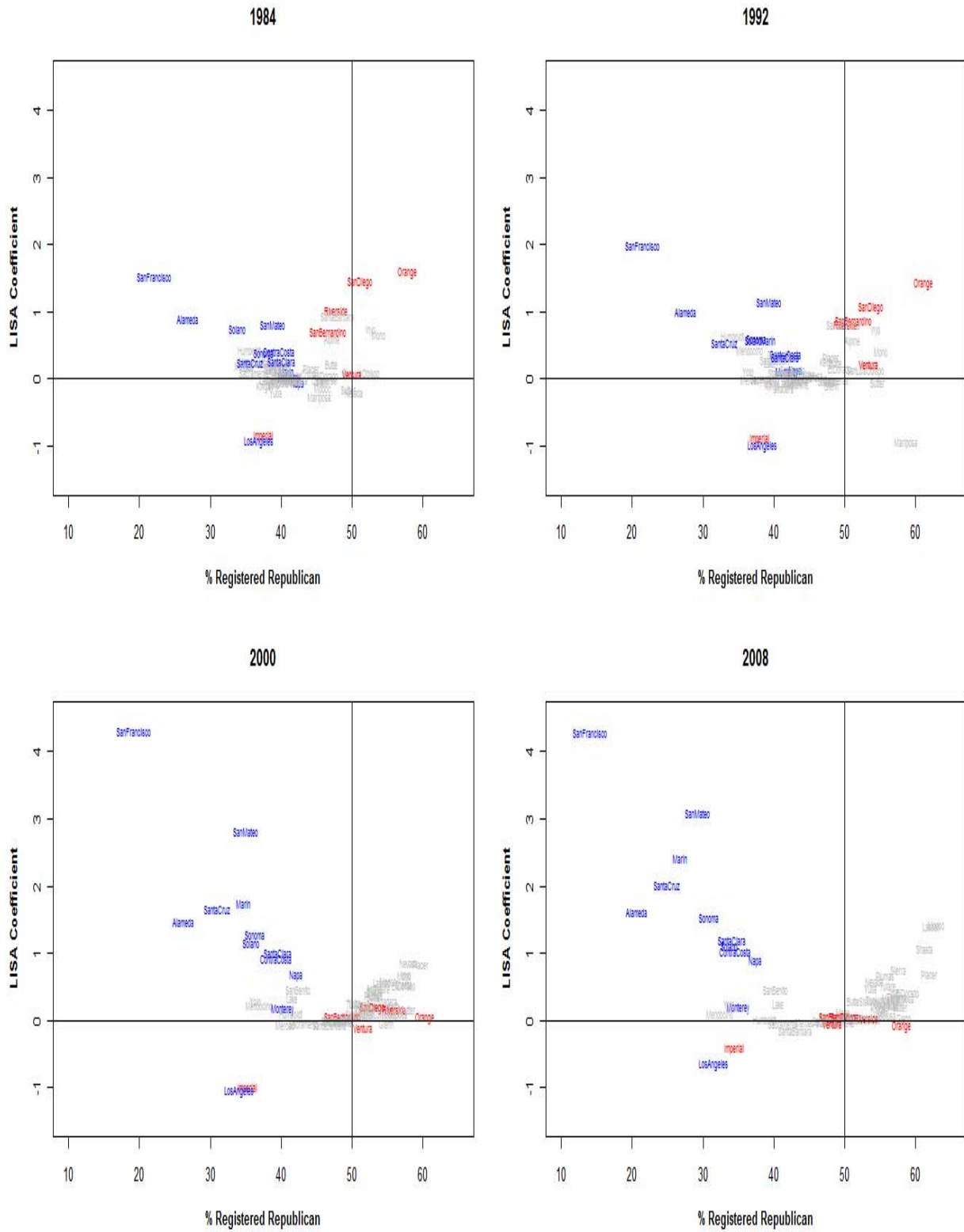
Data: CA Secretary of State Voter Registration Records

Section 2.4. Summary

Has the state become more geographically divided in terms of partisan preferences? The findings in this Chapter provide solid evidence for this phenomenon. Establishing the temporal and spatial presence is important in teasing out causal mechanisms. Contrary to the media hype, geographic polarization took shape long before the 2000 presidential election. In fact, 1980 seems to mark the beginning of this process. However, its emergence did not trace back to the 1960s where the two national parties started to pull apart.

Tobler's first law of geography states that "everything is related to everything else, but near things are more related than distant things". Through contagion or diffusion, it should be of no surprise to find neighboring places sharing similar preferences. Yet there are several enticing puzzles: why did spatial pattern emerge only in 1980, almost two decades after national parties diverged? And why did the pattern grow more conspicuously over time? Why did the inland counties turn more pro-Republican? Another intriguing observation is that despite the distance that separates the Bay Area from Los Angeles, these two metropolitan regions have become more alike in aggregate political preferences. Was this due to movements of people? Or was it driven by changes in national politics that leave uniform impacts on residents?

Chapter 3
Migration & Spatial Compositional Changes

Almost every scholar who has written on elite polarization believes that demographic changes are partially responsible for the onset of elite polarization (Stonecash et al.; Polsby; Thereuit; Black & Black). It is true that the growth of ideological polarization in Congress tracks with aggregate trends, such as the increases in income inequality, or the growing regional disparity in income and educational attainment. However, what is unclear is the causal mechanism between migration and elite polarization. Did selective migration create electoral pressure on the elites such that they needed to become more ideologically extreme in order to respond to their constituents? Chapter 2 provides solid empirical evidence of geographic polarization that initially emerged in the early 1980s. Many congressional scholars would agree that elite polarization resumed in the 1960s. If so, why did geographic polarization emerge only two decades later? What gave rise to it? How does the temporal sequence shed light on the causal mechanism between migration, geographic polarization and elite polarization?

As discussed in Chapter 1, there are two mechanisms that can potentially explain geographic polarization. The first mechanism is electoral behavioral change. Through party sorting, an individual's socio-economic characteristics become more linked to their partisan preferences. The other mechanism is spatial compositional change. Place varying generational replacement and selective migration can alter the spatial composition of voters across electoral districts. The primary goal of this Chapter is to document the presence and extent of selective migration. The first step is to establish the temporal sequence. Using historic migration data at both individual and county-levels, I will show that migration *preceded* elite polarization. Yet temporal precedence alone is not enough to prove causality. One can imagine a case where the mobility rate is high but migration is completely random. That is, the decision to move and where to settle can be completely uncorrelated with one's individual characteristics. In that case, even if millions of Americans move every year, the spatial composition across geographic regions would remain unchanged.

Hence, the next step in causal inference is to examine if migration is selective in nature. First, who moves? And why do they move? Are the moves driven by political consideration? Does the decision to move correlate with an individual's socio-demographic characteristics? Second, does the relocation pattern correlate with an individual's socio-demographic characteristics? Do we observe particular types of voters clustering in one region while other voters prefer another destination? Did the California inland become pro-Republican due to the influx of religiously devoted voters? Did these voters vote with their feet by fleeing from urban cities?

I argue that although migration is politically neutral and is driven mostly by economic fluctuations, an individual's characteristics do act as powerful sorting agents in determining residential choice. One unintended political consequence of selective migration is that the demographic composition of voters across regions becomes disproportionately uneven (similar to the second scenario in my hypothetical example in Chapter 1). Then in Chapter 4, I will show that during the Reagan administration, individual characteristics became more linked to

partisan affiliation. Apart from that, since the 1980s, young voters coming of age in different regions responded differently to elite polarization. The combined effect of spatial compositional change, generational replacement and party sorting contributed to the emergence of geographic polarization since 1980s.

Section 3.1 Spatial Compositional Change Over Time

Let me begin with an overview of the demographic shifts in California over time. Between 1950 and 2000, the California population tripled from 10.5 million to 33.9 million. The Census Bureau estimates an additional 3 million residents entered the state between 2001 and 2008. Population change during this period is driven by two main components, namely, natural increase and migration. Natural increase is defined as the difference between the number of deaths and the number of births. A positive "net natural increase" implies there are more newborns than deceased. Negative net increase shrinks the population as the number of deceased outnumbers the newborns. Migration refers to movements in the population, and it includes both domestic and international migration. A positive "net migration" suggests there are more in-migrants moving into the state than out-migrants. A zero net migration indicates the volume of outflow is identical to that of inflow.

The California Department of Finance (DOF) has released county-level demographic estimates on a yearly basis since 1971. The yearly estimates provided by DOF have a major advantage over Census bicentennial data--- the numbers accurately reflect fluctuations within a decade. This rich dataset contains estimates on the total population, and breaks down the changes in total population by natural increase and migration. For each year, I aggregate the population changes by the four regions and compute the net natural increase and net migration by regions. Figure 3.1 begins by showing the changes in total population for the four regions between 1971 and 2008.

Figure 3.1 Changes in Total Population by Regions, 1971-2008
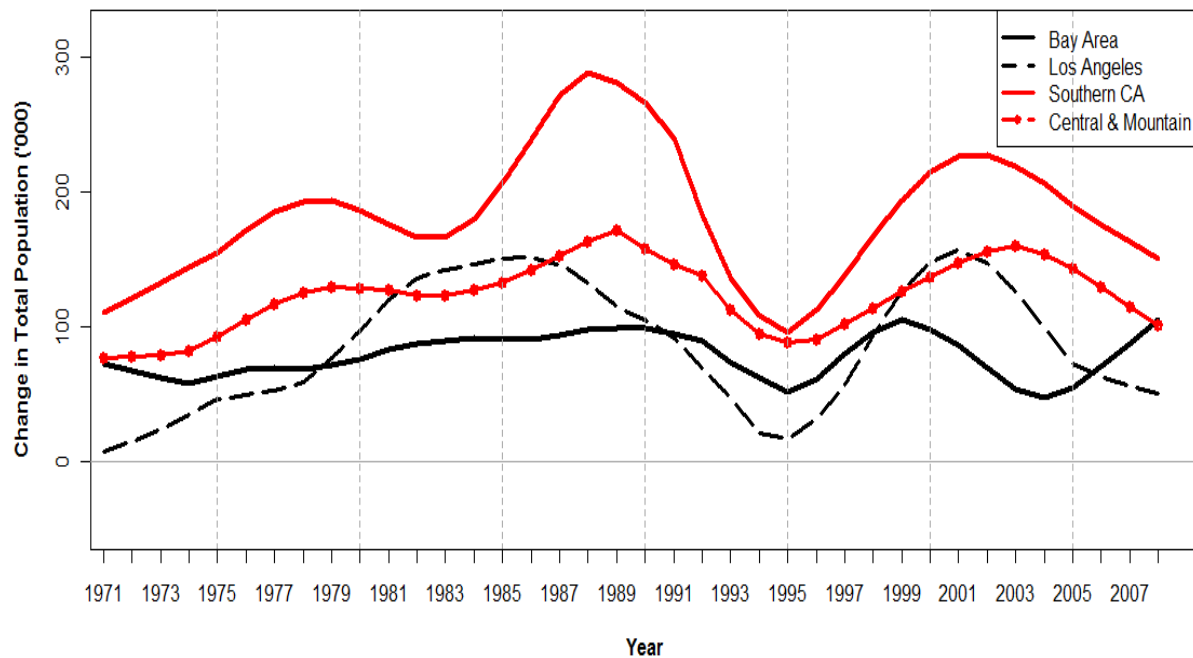
Data: CA DOF

Population growth is represented by positive values above the zero horizontal line, whereas population decline is represented by negative values below the zero line. Note that all four trends *never* dip below the zero line. Even during the economic downturns in the late 1970s, population in California continued to expand. The expansion was partly driven by the out-migration of the baby-boomer generation from the Northeastern and Midwestern regions to the Southern and Western regions in the 1970s (Plane 1992). California received a significant share of these domestic migrants. The second population growth peaked around 1988, and then it gradually decreased during the first half of 1990s. The latter half of 1990s witnessed another peak where each region posted at least 75,000 additional residents per year. Among the four regions, counties in Southern California and the inland region (represented by the two red lines) experienced the greatest numbers of population gain.

What contributed to the continual population growth? Figures 3.2 and 3.3 decompose the changes in total population into net natural increase and net migration. Figure 3.2 depicts the natural increases by regions during the study period. Natural increases average to approximately 1% of the region's total population per year. Except for a kink in the early 1990s, the trends are relatively flat over time. Due to a higher concentration of Latinos who, on average, have higher fertility rates than whites and Asians, Los Angeles and adjacent counties in Southern California received the largest volume of newborns. This steady natural increase rejuvenates the state such that its median age is lower than the national average.[29] This

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[29] Figures obtained from the Census Bureau State and County Quick Facts.

constant supply of young people helps to reshape the composition of the electorate through place-varying generational replacement, a subject I will return to in the Chapter 4.

Figure 3.2 Total Net Natural Increase by Regions, 1971-2008.
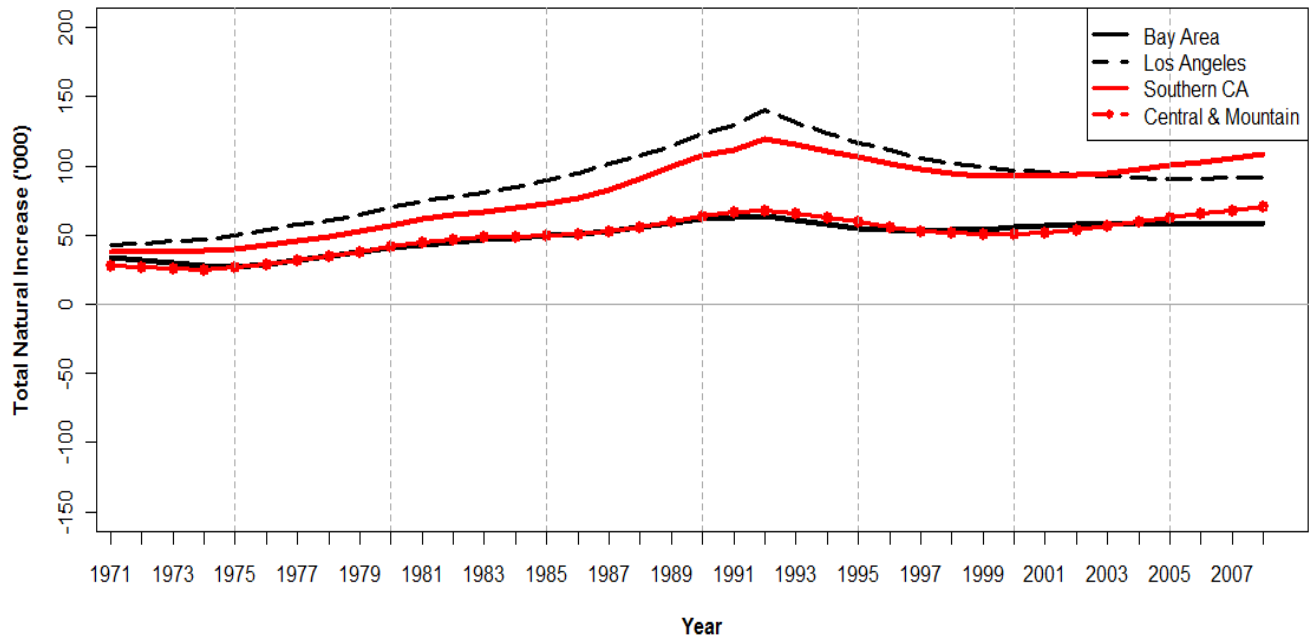
Data: CA DOF

Unfortunately, prior to 1990, DOF only provided aggregated migration counts and did not further subdivide the flows into domestic and international migration. Hence I only report net migration flows in Figure 3.3. Again, if the values fall above the zero line, that indicate there was more inflow than outflow; otherwise, it suggests migrants were leaving the region at a faster pace than migrants were moving in. Figure 3.3 shows the net migration count. The annual net migration rate never exceeds 2% of the regional population.

If one is compares Figures 3.1, 3.2 and 3.3, one immediately notices that to a large extent, Figure 3.3 resembles the aggregate changes in total population. The insight is that migration, not natural increase, primarily dictates the extent of population change in California. The wanes and waxes of migration largely responded to economic fluctuations. The economic slowdown in the early 1990s and housing market crash in the mid 2000s led to lower inflow into California. Similar to Figure 3.1, notice that the two red trends lie above the black trends. The implication is that in-migration plays a bigger role in expanding the population in Southern California and its inland counties than in the other regions. Among the four regions, Los Angeles County experienced the heaviest out-migration. Between 1990 and 1997, the County lost, on average, at least 50,000 residents per year. Later in the Chapter, I will show that many of these migrants moved to nearby counties, namely, San Bernardino, San Diego, Orange, Riverside County. The steady natural increase explains why despite the economic

downturns and notable out-migration in some parts of the state, the overall population keeps expanding on a yearly basis.

Figure 3.3 Total Net Migration by Regions, 1971-2008.
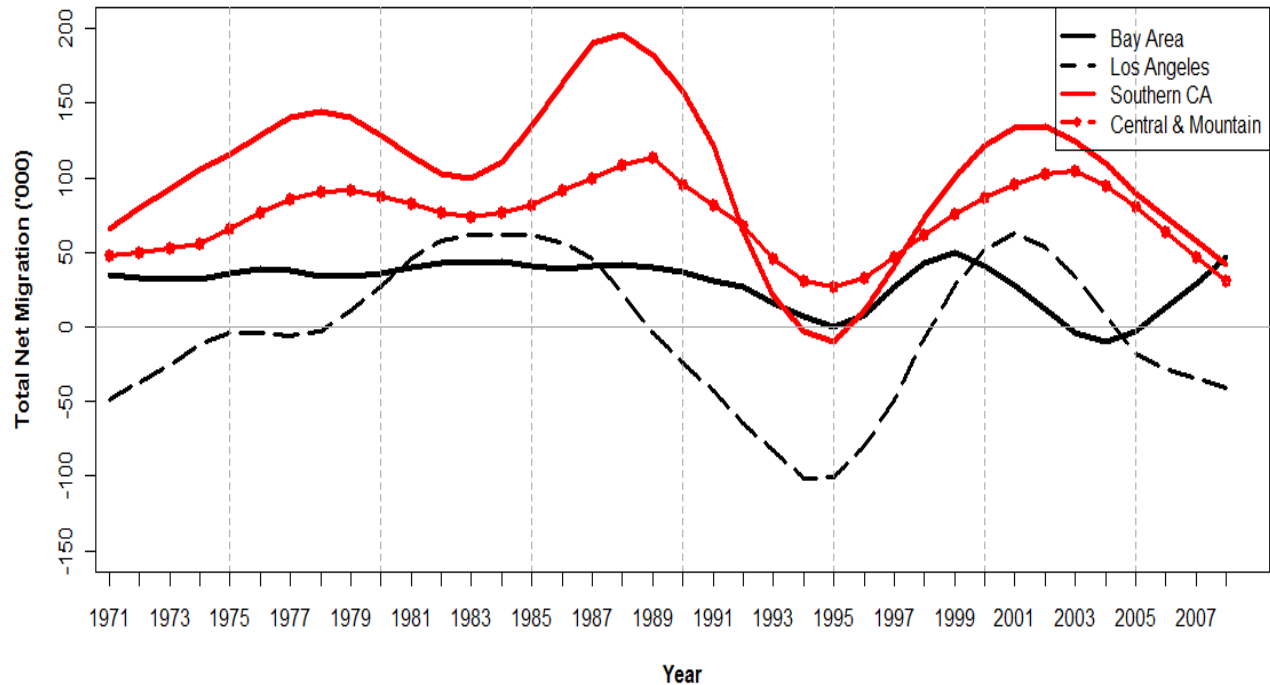
Given the relatively low annual net migration rate (under 2%), some readers may dismiss the importance of migration as a contributing factor for elite polarization. The low annual rate is deceptive in nature. Since a zero net migration rate can either result from no movement or from heavy outflow matched by an equally heavy inflow, it is important to examine the in- and out-migration rates separately.

Figure 3.4 plots the in-migration rates and out-migration rates for all of the fifty eight counties in 1980 (observations in blue color) and 2007 (observations in red color). The 45-degree line denotes zero net migration where the size of in-migration equals out-migration. Note that many observations fall along, or just above this 45-degree line. This explains why the net migration rates are much lower than the true extent of mobility. In 1980, most of the counties appear to have low net migration rates when in fact the separate in- and out-migration rates were above 10%. When the economy entered into recession in the mid 2000s, migration slowed down. That explains why the observations in 2007 (in red color) cluster in the lower left hand corner of the graph. In spite of the slowdown, the average in and outflows still comprised 5 to10% of the county population. The low annual net migration rates under-represent the full extent of movement among residents in California. To fully capture the extent and pattern of

movement, I will examine individual-level data from the Current Population Survey (CPS) in the next section.

Figure 3.4 In and Out Migration Rates by Counties, 1980 and 2007
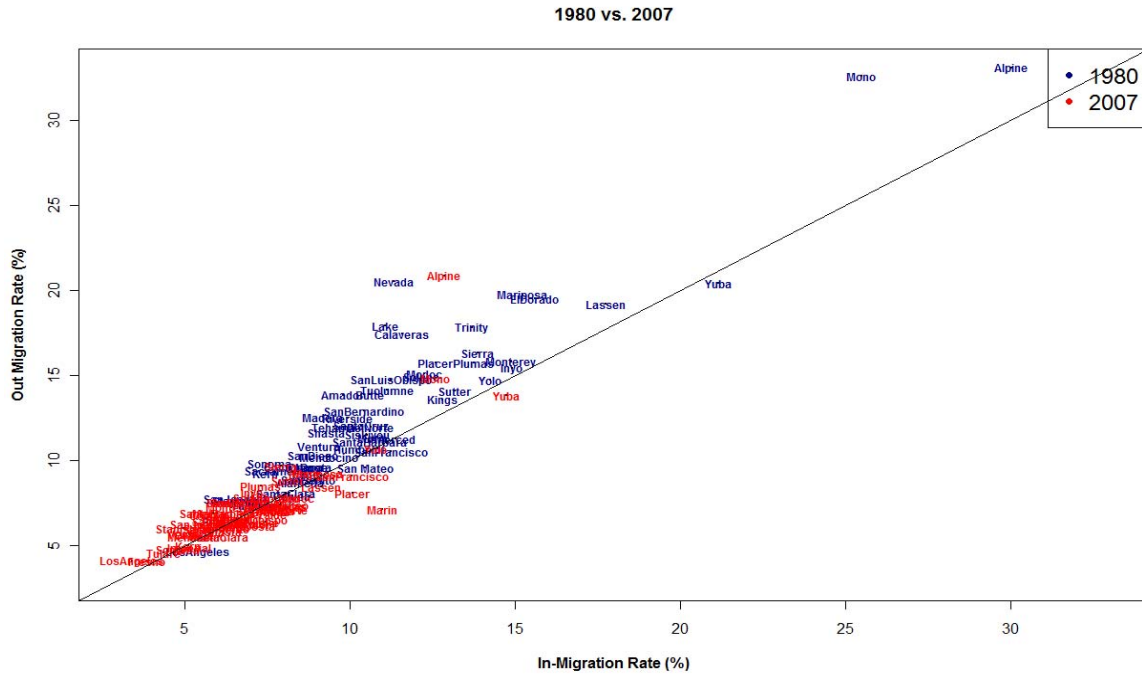
Figure 3.4b Zoom in of the Previous Figure

60
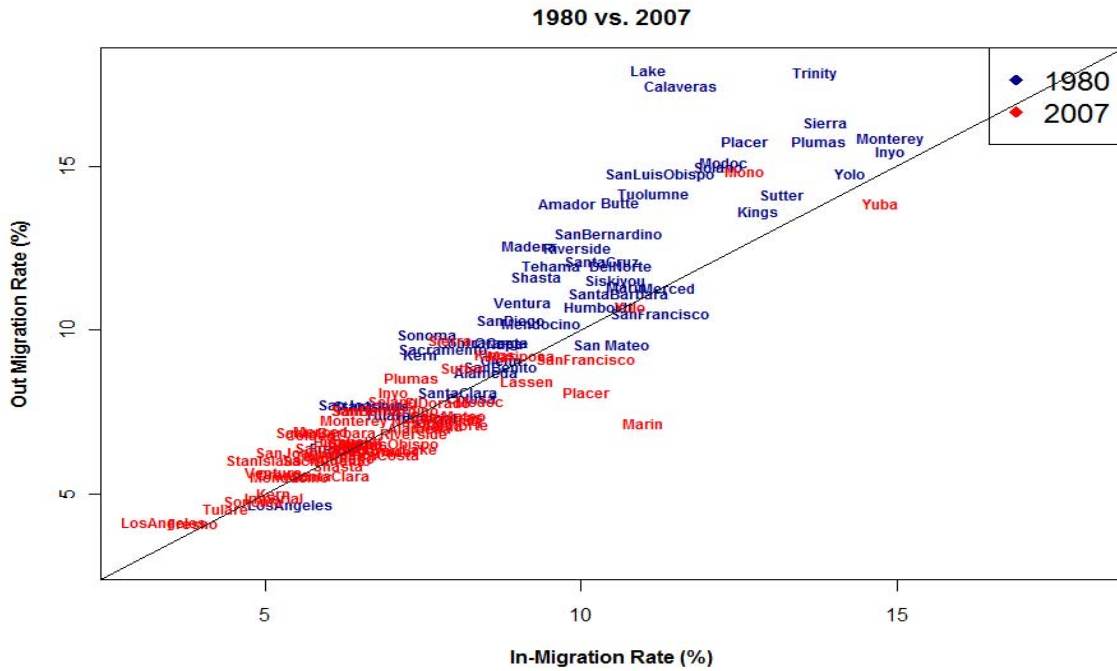
Section 3.2 Residential Mobility In Historic Perspective

America is a country of movers. Starting in 1963, every March Supplement of the Current Population Survey (CPS) includes a battery of questions about residential mobility. The primary sampling unit for CPS is the household. Given the large sample size, the CPS sample is representative at the state level. Respondents are asked whether they have lived in the same residence within the last twelve months. If the respondent answers 'no', he/she would be asked a follow up question concerning where he/she used to live previously. These two questions combined capture the extent of mobility in the population, as well as the pattern of movement among the movers.

While some readers may suspect residential mobility may have gone up in recent decades due to the expansion of roads and suburbanization, the evidence from the CPS proves the opposite. Frey (2009) reports that from 2007-2008, the overall U.S. migration rate reached its lowest point since World War II. At the national level, between 1963 and 1964, 20% of the general population (including those who are under 18-year-old) changed residence within the last twelve months. The rate dropped down to 16% in 1997-1998 and slid further to 12% in 2007-2008.[30] For this Chapter, I extracted the California sample for analyses. Figure 3.5 illustrates the extent of mobility among adults who are aged 18 years or older in California. The California trend is highly comparable to that at the national level. As shown in Figure 3.5, in the early 1960s, about one in four California adults changed residence within the previous twelve months. Residential mobility steadily declines for the next four decades, and the rate has dropped by almost half to 15% in 2005.

Figure 3.5 Percentage of Californian Adults who Moved Within Last Year, 1963-2009
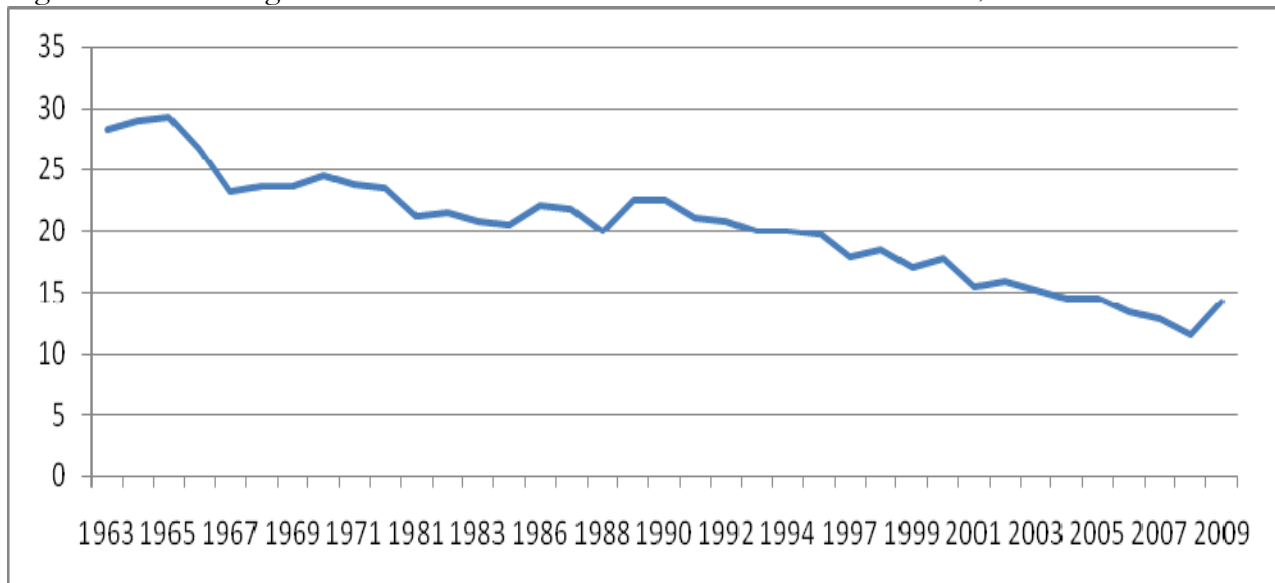
Data: Current Population Survey March Supplement

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[30] The national figures are obtained from the report published by the Census Bureau, Annual Geographical Mobility Rates by Type of Movement, 1947-2009. It can be downloaded via (http://www.census.gov/population/socdemo/migration/tab-a-1.pdf). Accessed 3 August 2010.

Although these CPS records only begin in 1963, the Census Bureau has published national mobility rates that date back to 1947. In 1963, the national mobility rate among all U.S. residents was 20%. Similar rates were observed between 1947 and 1963.[31] It seems reasonable to assume similar, if not higher, migration rates were observed in California prior to 1963. It is also reasonable to conclude that migration began long *before* elite polarization. Given the high volume of moves, migration potentially reshapes the spatial composition of the electorate. The next step in causal inference is to examine if the migration decision is selective in nature.

Who Moves?

Selective migration is often perceived as a privilege for the resourceful. There are two reasons behind this perception. First, moving is costly. From packing to renting a U-haul truck, or hiring a moving company, anyone who has moved can testify that relocation expenses can add up quickly. Second, richer people can afford to be more selective. Some neighborhoods are inaccessible to many people given high housing costs. For example, a two bedroom apartment in the San Francisco downtown area averages to over $3000 in rent per month but it is less than $800 in Bakersfield, a predominantly blue collar metro area in Kern County[32]. An analysis of the 2005 American Housing Survey shows that respondents with a household income of more than $150,000, on average, check out 15 houses before they pick the final residence. Those with household income between $50, 000 to $75,000 check out, on average, 9 houses, while those with less than $30,000 income only explore 5 houses before they make a decision.[33] Based on these reasons, it seems logical to hypothesize that geographic sorting is undertaken by the economically privileged.

To examine this hypothesis, I computed the mobility rates for various social groups using the CPS March Supplement. Since the patterns are stable over time, I only report the statistics for select years[34]. Table 3.1 displays the percentages of adult respondents (those who are at least 18-year-old) who have changed residence within the past twelve months at the time of interview. In order to make income categories comparable over time, I classified the respondents into five equal size income groups based on their reported total household income. Table 3.1 presents a quick portrait of movers. Contrary to conventional expectation, as household income increases, residential mobility actually decreases. In 1968, among those who were in the lowest income quintile, 29% of these adult respondents reported changing residence in the previous year, compared to only 16% among the respondents in the top income quintile. The contrast remains in 2006. Among the bottom quintile, fifteen percent of adult respondents moved, compared to only 10% among those in the top quintile.

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[31] Ibid.

[32] The figures come from two websites: SFRentStats tracks cost of rental prices in San Francisco (http://mullinslab2.ucsf.edu/SFrentstats/) and Apartment Ratings (http://www.apartmentratings.com/) (accessed 3 August 2010).

[33] My own calculation using 2005 American Housing Survey.

[34] Household income information is available in the dataset since 1968. I picked one survey for each decade --- 1976, 1986, 1996 and 2006 --- because these surveys have consistent questions on residential mobility within the past twelve months. The mid decade surveys (for example, 1975, 1985) sometimes only have question on residential mobility within the past five years.

Another key predictor of mobility is age. There are several distinct types of age-specific moves that are associated with life-cycle changes, including moves to attend college, leave college, enter the job market, start a family and retire (Plane & Heins 2003; Geist & McManus 2008). Table 3.1 shows that those who are between age 18 and 25 has the highest mobility. As one ages, mobility decreases and senior citizens are the least mobile group.

The mobility disparity by educational attainment, however, is relatively insignificant. In 1976, those who had some college education or graduated from college seemed to have the highest mobility. Yet the finding does not hold in other years. The category 'Latino' has appeared in CPS surveys since the 1980s, and the category 'Asian/Pacific Islanders' was put on surveys after the 1990s. Similar to educational attainment, there is also little mobility disparity across racial groups.

Table 3.1 Percentages of Adult Respondents who Moved in Past Twelve Months by Selected Characteristics

	1968	1976	1986	1996	2006
1st income quintile	29%	28%	24%	24%	15%
2nd income quintile	27%	28%	21%	22%	11%
3rd income quintile	22%	22%	21%	17%	12%
4th income quintile	22%	18%	19%	17%	10%
5th income quintile	16%	18%	15%	14%	10%
HS or less	23%	20%	20%	20%	12%
Some College	25%	26%	21%	17%	11%
BA or above	23%	27%	20%	17%	11%
White	23%	22%	20%	18%	11%
Black	26%	25%	19%	20%	15%
API	--	--	--	18%	12%
Latino	--	20%	19%	21%	12%
Age18-25	45%	43%	38%	33%	22%
Age26-35	32%	30%	30%	305	20%
Age36-45	18%	17%	19%	18%	13%
Age46-55	13%	10%	14%	15%	8%
Age56-65	11%	9%	11%	8%	8%
Sample N	9181	9708	9427	8695	13360

Data: Current Population Survey March Supplement

These descriptive statistics give a brief overview of who moves. It is important to move beyond univariate description to see how these variables work in tandem. Recent college graduates tend to be young and may have lower starting salaries than older citizens. Their presence may have confounded our understanding of the relationship between income and mobility. To tease out the relationship among the variables, I employed logistic regression to model the decision to move. The dependent variable is binary in nature (1=moved within the past year; 0=did not move). For each year, I ran the following model:

$$Y = \alpha_0 + \alpha_1 Male + \alpha_2 Marital + \alpha_3 Education + \alpha_4 Income + \alpha_5 Race + \alpha_6 Age + \alpha_7 LaborForce$$

The explanatory variables are all categorical. For income, the baseline category is the bottom income quintile. For age, the oldest group, those who are 65-year-old or above is the reference group. For education and marital status, those who received a high school education or less and those who are single/never married form the baseline category. For race, the respondents who neither identify themselves as White, Black, Asian or Latino comprise the baseline group.

Table 3.2 Logistic Regression Results for Decision to Move

	1968		1976		1986		1996		2006	
	B	S.E. (B)	B	S.E. (B)	B	S.E. (B)	B	S.E. (B)	B	S.E. (B)
Intercept	-2.58*	0.19	-2.05*	0.17	-2.46*	0.16	-2.15*	0.31	-2.71*	0.20
2nd Income quintile	-0.44*	0.08	-0.30*	0.08	-0.40*	0.09	-0.16*	0.09	-0.54*	0.09
3rd Income quintile	-0.78*	0.08	-0.74*	0.09	-0.51*	0.09	-0.66*	0.10	-0.51*	0.09
4th Income quintile	-0.81*	0.08	-1.01*	0.09	-0.77*	0.09	-0.72*	0.10	-0.70*	0.09
5th Income quintile	-1.09*	0.09	-1.10*	0.09	-1.05*	0.09	-0.91*	0.10	-0.76*	0.09
Male	0.07	0.06	0.14*	0.06	0.15*	0.06	-0.02	0.06	0.10	0.06
White	0.55*	0.16	-0.19	0.12	0.15*	0.10	-0.45	0.28	-0.28	0.14
Black	0.38*	0.19	-0.29*	0.16	-0.16	0.15	-0.46	0.30	0.05	0.18
Latino			-0.46*	0.07	-0.57*	0.07	-0.27*	0.07	-0.18*	0.07
Asian							-0.53	0.29	-0.19	0.16
Married	0.60*	0.22	0.73*	0.22	0.92*	0.19	0.78*	0.22	0.56*	0.16
Separated/Divorced/ Widowed	0.49*	0.12	0.42*	0.14	0.15	0.16	0.47*	0.18	0.02	0.20
Age 18-25	2.33*	0.12	2.43*	0.13	2.22*	0.14	2.32*	0.16	1.95*	0.15
Age 26-35	1.77*	0.12	1.87*	0.13	1.80*	0.14	2.14*	0.15	1.75*	0.15
Age 36-45	1.03*	0.13	1.17*	0.14	1.23*	0.14	1.48*	0.16	1.18*	0.15
Age 46-55	0.58*	0.12	0.56*	0.13	0.83*	0.14	1.09*	0.16	0.49*	0.15
Age 56-65	0.13	0.12	0.27*	0.13	0.36*	0.14	0.33*	0.16	0.31*	0.15
Some college	-0.11	0.07	0.03	0.06	-0.07	0.07	-0.17*	0.07	-0.11	0.07
BA or above	0.19*	0.08	0.38*	0.08	0.09	0.08	0.12	0.09	0.21*	0.08
Active in labor force	0.18*	0.06	0.16*	0.06	0.22*	0.07	0.17*	0.07	0.23*	0.07
N	9455		9980		9637		8858		13660	
-2 Log L	9150		9332		8822		7777		9071	

Data: Current Population Survey March Supplement

Across the decades, there is an inverse relationship between age and mobility. The youngest group, those who are between age 18 and 25, includes the people most likely to move. Mobility declines continuously as one ages. Those who are active in the labor force are more likely to move, probably for job opportunities. Those who have higher education or advanced degrees tend to have slightly higher mobility, though the effect of education is smaller compared to that of age or income. Even after controlling for other demographic characteristics, the relationship between income and mobility remains negative. That is, higher income groups are in fact *less* likely to move. And this finding holds consistently for the last four decades.[35]

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[35] Home ownership information was not available in the 1968 survey. I therefore excluded home ownership in order to make the regression results comparable across the decades. The coefficients for various income categories would be smaller if I have controlled for home ownership. However, the direction of relationship with the dependent variable would remain the same.

What explains the negative relationship between income and mobility? As discussed in Chapter 1, several mechanisms may contribute to this. The growth in income inequality has priced out many working families from the prime urban neighborhoods. Gentrification has turned previously affordable areas into heavens for professionals and the new 'creative class'. In the following section, I will show that many of the moves were indeed out-migration to the inland counties and out-of-state where the cost of living is lower.

Why Moves?

Migration can be thought of as a two-step process (Brown et al. 1999). The first step involves choosing a general region on the basis of conventional migration factors (e.g. wages, job availability, cost of living). The second stage involves picking residence based on factors such as accessibility, school district performance or amenities. Employment considerations may remain central to the migration decision but not to choosing a specific place of residence. Previous studies have shown that residential choices are not driven by economic considerations alone. Clark & Cosgrove (1991) find that both labor market opportunities and availability of amenities are equally important in determining relocation. Bailey (2005) examines the residential choices of single mothers who are on welfare. Although the welfare benefits offered by the state do have an impact on the migration decision, the impact is much smaller than the effect of family ties. Kim et al. (2005) report that home and workplace location choices vary based on one's stage in the life cycle. Individuals with children often prefer places with more green space and recreational amenities, while singles prefer smaller residential lots and locations with access to services. They also find that overall people place heavier emphasis on residential location than their job location. Hence the final residential choice reveals one's economic standing, as well as lifestyle preferences.

What are the reasons for moving? The CPS has addressed this question since 1999. The pattern has been largely stable between 1999 and 2009. Table 3.3 reports the primary reason mentioned by the respondents between 1999 and 2009. I categorize the reasons into five main types: 1) family; 2) job-related; 3) housing concern; 4) life-cycle factor; 5) natural disaster-induced. Echoing Kim et al's finding, housing concerns typically account for at least 40% of the moves, and job related reasons comprise less than 20% of the moves. Moving into a newer or better house is the single most common reason cited by the respondents.

Table 3.3 Reasons for Moving, 1999-2009

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Family Reason	26%	27%	27%	26%	26%	24%	27%	28%	30%	31%	26%
Change in marital status	6%	6%	6%	6%	7%	6%	7%	6%	6%	6%	5%
Establish own household	8%	7%	8%	8%	7%	7%	8%	9%	10%	10%	9%
Other family reason	12%	13%	14%	12%	13%	11%	12%	13%	14%	14%	11%
Job Related	16%	17%	16%	17%	15%	17%	17%	18%	20%	21%	18%
New job or job transfer	9%	10%	10%	11%	9%	9%	10%	9%	10%	8%	9%
Look for work or lost job	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Other job related reason	2%	1%	1%	2%	1%	1%	1%	4%	4%	4%	1%
Easier commute	3%	3%	3%	3%	3%	4%	3%	4%	5%	6%	5%
Housing Concern	50%	50%	48%	50%	51%	53%	47%	46%	42%	40%	46%
Want to own home, not rent	8%	11%	10%	11%	10%	9%	9%	9%	6%	6%	5%
Want new or better housing	21%	18%	18%	19%	20%	21%	18%	18%	16%	14%	15%
Want better neighborhood	4%	4%	4%	4%	4%	5%	4%	4%	6%	5%	5%
Want cheaper housing	6%	5%	5%	6%	7%	7%	7%	6%	8%	8%	11%
Other housing reason	11%	11%	11%	10%	11%	10%	9%	9%	7%	7%	10%
Life Cycle	8%	6%	8%	7%	7%	6%	8%	6%	7%	8%	9%
Attend/leave college	2%	2%	3%	3%	3%	3%	3%	3%	2%	2%	3%
Retirement	1%	0%	1%	1%	0%	0%	1%	0%	1%	0%	0%
Health reason	1%	1%	1%	1%	1%	1%	2%	1%	1%	1%	2%
Other reasons	4%	2%	3%	2%	2%	1%	3%	2%	3%	4%	5%
Natural Disaster	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%

Data: Current Population Survey March Supplement

Section 3.3 Migration Pattern

Is migration a significant factor in understanding geographic polarization? In the above section, I have shown that it is a force to be reckoned with because of the high mobility in the population. Apart from that, evidence from the CPS shows that the migration decision is not random. Those who have lower incomes and are younger are significantly more mobile than those who are older and have higher household income. This section will explore whether these characteristics correlate with their residential choices.

Figure 3.6 examines the pattern of migration among the movers. I break down the relocation into four main types: moved within the same county; moved across county but stayed within state; moved out of state and from abroad. The Californian pattern, once again, mimics the

historic national pattern reported by the Census Bureau. The first category, moved within the same county, accounts for over 60% of the moves. The second category, moved across county, constitutes another 20%. The remaining 20% are made up by in-migrants from other states in the US and from other countries. To understand the substantive implication of these figures, let me assume that 20% of adults have moved within the past year and, on average, 35% of them moved away from their previous county of residence. That would translate to an average rate of 7% (i.e. 100*.2*.35) of all adults moveing across a county border on a <u>yearly basis</u>.

Figure 3.6 Pattern of Migration Among Adult Californian Movers, 1963-2009
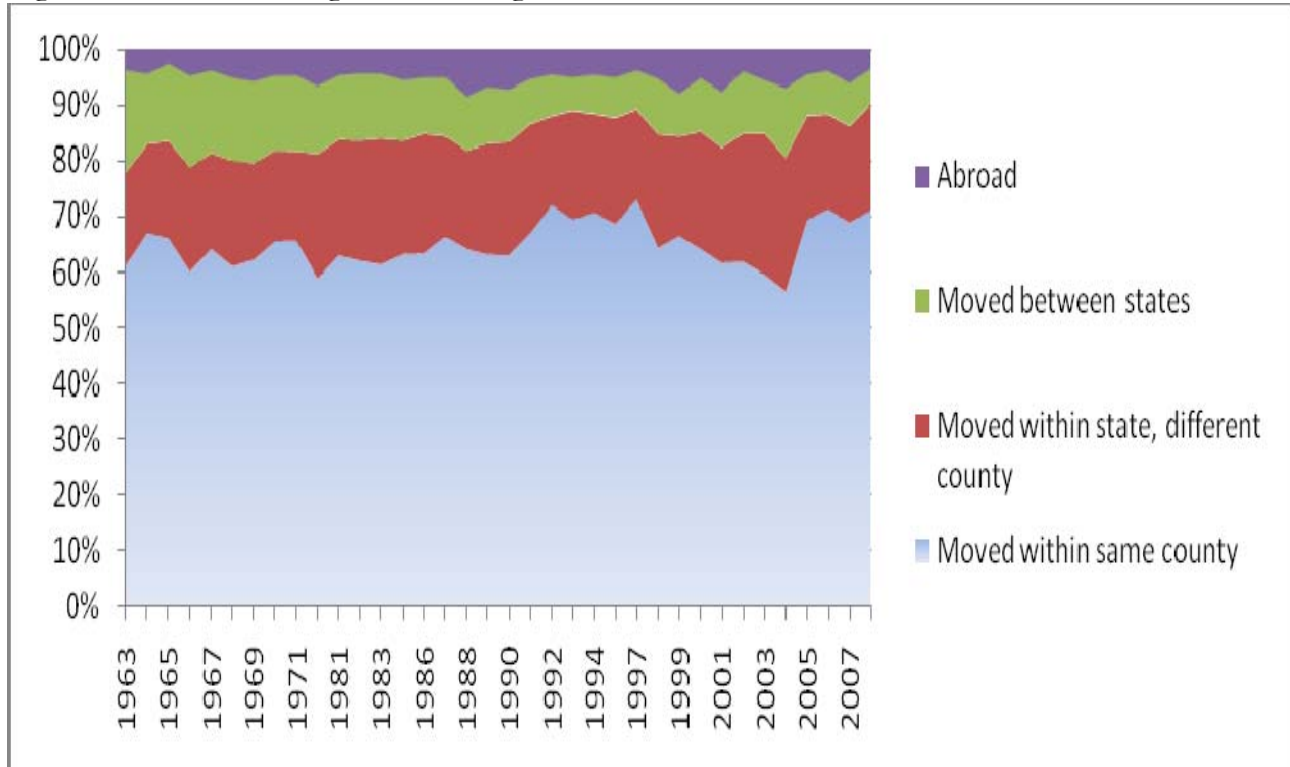
Starting in 1980, CPS surveys include an additional question on whether respondents moved within the last five years. This question is repeated every five years. Table 3.4 compares the migration pattern for adults in California in 1980 and 2005. Similar to the overall trend observed in Figure 3.5, the percentage of movers has dropped from 58% in 1980 to only 43% in 2005. Despite the decline, the pattern of migration has remained largely the same. Again, to translate these numeric figures into substantive understanding--- suppose 45% of adults moved within five years and among them, 40% moved away from their previous county of residence. This would translate to a rate of 18% among all adults (100*.45*.4) for every five year interval[36].

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[36] It is lower than the one year rate because a fraction of these movers probably have moved multiple times.

Table 3.4 Mobility Pattern Among Those Who Moved in Last Five Years, 1980 and 2005

	Moved in Last Five Years (1980)	Moved in Last Five Years (2005)
Percentage among all adults	58%	43%
Same county	54%	56%
Different county, same state	23%	24%
Different between states	15%	11%
Abroad	8%	9%

Data: Current Population Survey March Supplement

Differential Migration Preferences

How does that level of residential turnover reshape the spatial composition of the American electorate? Imagine these two scenarios: first, a resident who moves out of a city has an average household income of $150,000, and every new resident who moves into that city has an income below the poverty line of $20,000. Such replacement would lower the average household income of the city in the long run. In the second scenario, suppose the income of an average out-migrant is identical to an in-migrant. Even a turnover rate of 18% per every five year period would leave no impact on the income distribution of the city. The political consequence of mobility depends not only on the volume of flows, but also on the extent to which an individual's socio-demographic characteristics correlate with the migration pattern.

Frey (1995) points out that there are two different types of migration systems operating in California. The first is the immigration-induced 'flight' out of California to the nearby states of Washington, Oregon, Nevada and Arizona. This type consists of migrants who tend to have moderate income and educational attainment. This group is more sensitive to low-skilled immigration flows and reacts to competition for jobs and housing associated with immigration. The flight leads to the continual loss of native born domestic migrants to neighboring states. The second is more conventional migration from the rest of the country that involves the redistribution of better educated, higher income migrants. This group is more responsive to changes in the labor market. They arrive to fill the demand for professionals, and are less affected by the presence of low-educated immigrants.

Table 3.5 and Table 3.6 examine the connection between an individual's characteristics and the types of moves for 1968 and 1976. I combine all the moves within California (either within county or across counties) into one category. I also examine domestic migration from other states into California, as well as international immigration into California. The raw counts in the top row show the relative sizes of these types of migration. In both 1968 and 1976, domestic in-migration exceeded international migration. This perhaps is an artifact from the potential under-representation of illegal immigration, especially from Mexico and Central America, in the CPS sample. The immigrant sample in 1968 appears to be unusually affluent (the average household income exceeds that of the other two groups). Males also comprise 74% of the immigrant sample. Perhaps European immigrants dominated the 1968 immigrant sample. Unfortunately, I cannot verify this speculation as the 1968 survey only inquires about the race of the respondents but not their ethnicity or ancestry.

Domestic migrants as a group consistently had the highest educational attainment. In 1968, 19% of them had at least a bachelor's degree, compared to 14% among immigrants. In 1976, the educational gap further widened --- 22% of domestic migrants received a college education, compared to 13% among immigrants. The group also enjoyed the highest average household income. In terms of ethnic composition, domestic migration was dominated by non-Hispanic whites. Only 8% of domestic migrants were Hispanics, compared to 43% among international immigrants.

Table 3.5 Socio-demographic Characteristics by Types of Moves for 1968

Variable	Moved within CA (N=1805)		Domestic Migration Moved Into CA (N=318)		International Migration Moved Into CA (N=74)	
	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev
Household income ($)	9091	6591	8949	6607	10724	7780
Age	35.48	15.40	32.63	14.13	29.53	10.61
% Active in labor force	66 %		64%		70 %	
% Married	67 %		70 %		64 %	
% White	91 %		92 %		89 %	
% Male	46 %		47 %		74 %	
% HS Grad or Less	69 %		65 %		60 %	
% Some College	20 %		14 %		27 %	
% BA or above	11 %		19 %		14 %	

Data: Current Population Survey March Supplement

Table 3.6 Socio-demographic Characteristics by Types of Moves for 1976

Variable	Moved within CA (N=1847)		Domestic Migration Moved Into CA (N=283)		International Migration Moved Into CA (N=72)	
	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev
Household income ($)	14189	10556	15164	10949	11128	9134
Age	32.67	14.45	33.89	14.70	30.56	13.01
% Active in labor force	73 %		67%		61%	
% Married	56 %		62%		64%	
% Non-Hispanic White	70 %		82%		41%	
% Hispanics	19 %		8%		43%	
% Male	49 %		53%		57%	
% HS Grad or Less	56 %		58%		68 %	
% Some College	26 %		20%		19 %	
% BA or above	18 %		22%		13 %	

Data: Current Population Survey March Supplement

From 1986 onwards, the CPS has asked an additional question that allows me to identify the respondents who used to reside in California a year prior to the interview. As discussed in Chapter 1, both in-migration and out-migration can reshape the spatial composition of voters. For example, the out-migration of professionals and productive workers (the so-called 'brain drain') in Detroit left the city desolate. The 'white flight' from inner cities to suburbs increases the relative concentration of minorities in urban areas. This additional information in the CPS survey enables me to compare the characteristics of those who entered California and those who chose to leave the state. Table 3.7 to 3.9 present the characteristics of migrants by the four types of migration.

Generally speaking, out-migrants tend to be slightly older than in-migrants. Frey (1995) reports that out-migration from California has significant impact on the demographic composition of surrounding states. Out-migration of the elderly people from California accounted for 80% of the elderly population gain in Oregon, 62% in Nevada and 56% in Washington. The three Tables show that those who left California tend to be older than those who either remained or entered the state. Domestic migration still represents the influx of the 'best and the brightest'. In 1986, 29% of these domestic migrants received at least a bachelor's degree. The economic downturn did not deter their entrance into the Golden State. In fact, domestic migration into California appears to have become even more selective. The educational attainment disparity widened in 2006 with more than 40% of domestic migrants having received at least college education. By 2006, domestic migrants from other states enjoyed the highest average household income ($83,648). International immigration continues to be dominated by Latinos. At least half of these international migrants were Hispanics and their average household income was the lowest among all groups.

Since 1996, California experienced significant out-migration. The number of domestic migrants moving out of the state exceeded the number of international immigrants and domestic in-migrants from other states combined.[37] In 1996, 71% of those who left the state were non-Hispanic whites. Although in the same year, 71% of domestic migrants were Non-Hispanic whites, the state actually experienced a net loss of non-Hispanic white residents as the *volume* of outflow (N=220) exceeds that of the inflow (N=98). Among those who moved out of California, nearly 85% were either native born or naturalized citizens. The implication is that the state is losing eligible voters to the rest of the country.

Table 3.7 Socio-demographic Characteristics by Types of Moves for 1986

Variable	Moved within CA (N=1601)		Domestic Migration Moved Into CA (N=202)		International Migration Moved Into CA (N=124)		Domestic Migration Moved Out of CA (N=322)	
	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev
Household income ($)	32291	23475	30675	21577	24284	29752	31133	22956
Age	33.71	13.39	33.88	14.01	33.90	14.5	34.49	13.79
% Active in labor force	76 %		81%		58%		73%	
% Married	50%		46%		51%		59%	
% Non-Hispanic White	61%		71%		25 %		81 %	
% Hispanics	26 %		16%		53 %		7 %	
% Male	52 %		51%		53 %		54 %	
% HS Grad or Less	58 %		49%		76 %		48 %	
% Some College	24 %		22%		11 %		23 %	
% BA or above	17 %		29%		13 %		28 %	

Data: Current Population Survey March Supplement

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[37] The CPS is likely to under-capture the number of international immigrants, especially those who entered the country illegally.

Table 3.8 Socio-demographic Characteristics by Types of Moves for 1996

Variable	Moved within CA (N=1461)		Domestic Migration Moved Into CA (N=98)		International Migration Moved Into CA (N=72)		Domestic Migration Moved Out of CA (N=220)	
	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev
Household income ($)	46113	49619	58080	71448	33491	63805	44510	43926
Age	34.44	12.78	39.19	16.94	33.29	11.80	36.64	13.85
% Native born	55%		87%		10%		79%	
% Naturalized citizen	8%		4%		1%		6%	
% Active in labor force	73%		73%		63%		71%	
% Married	47%		43%		56%		51%	
% Non-Hispanic White	39%		71%		24%		71%	
% Hispanics	45%		7%		53%		17%	
% Male	48%		50%		58%		46%	
% HS Grad or Less	56%		39%		64%		41%	
% Some College	25%		31%		15%		34%	
% BA or above	19%		31%		21%		25%	

Data: Current Population Survey March Supplement

Table 3.9 Socio-demographic Characteristics by Types of Moves for 2006

Variable	Moved within CA (N=1387)		Domestic Migration Moved Into CA (N=106)		International Migration Moved Into CA (N=68)		Domestic Migration Moved Out of CA (N=305)	
	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev
Household income ($)	70375	73512	83648	77726	53132	38736	73537	69874
Age	35.44	13.28	31.06	10.63	33.72	14.32	41.07	15.98
% Native born	59%		79%		16%		75%	
% Naturalized citizen	14%		8%		7%		9%	
% Active in labor force	76%		73%		62%		63%	
% Married	46%		34%		54%		55%	
% Non-Hispanic White	35%		57%		6%		58%	
% Hispanics	44%		12%		57%		16%	
% Male	51%		50%		59%		49%	
% HS Grad or Less	48%		30%		68%		38%	
% Some College	28%		26%		19%		32%	
% BA or above	24%		44%		13%		30%	

Data: Current Population Survey March Supplement

To get a better understanding of the socio-demographic disparities between inflows and outflows, I employed multinominal logit to delineate the relationship between individual characteristics and various types of migration. Since the out-migration data are available from 1986 onward, I only analyzed the CPS data for 1986, 1996 and 2006. For each selected year, I ran the following model:

$$Y = \alpha_0 + \alpha_1 Male + \alpha_2 Marital + \alpha_3 Education + \alpha_4 Income + \alpha_5 Race + \alpha_6 Age + \alpha_7 LaborForce$$

The dependent variable contains four categories:
  1=moved within California (baseline category)
  2= domestic migration into California from other states
  3= international migration into California from other countries
  4= moved out of California into other states

Table 3.10 to 3.12 present the regression outputs. The results echo most of the findings based on univariate descriptive statistics. Two major patterns stand out consistently over time. Even after controlling for various demographic characteristics, non-Hispanic whites remain more likely to leave the state (β=0.41 in 1986; β=0.75 in 1996; β=0.25 in 2006). Being married is another demographic marker that distinguishes the out-migrants. The coefficients are all positive and statistically significant at 0.05 level (β=0.68 in 1986; β=0.61 in 1996; β=0.41 in 2006), indicating that those who are married are more likely to choose to leave the state. As the housing bubble burst in the mid 2000s, domestic out-migration from California slowed down considerably (Frey 2009). Younger couples and singles with moderate education levels used to dominate the group leaving California for lower-cost housing and job opportunities in surrounding states. The economic slowdown retained many of these out-migrants as housing costs in previously pricey areas decreased. That explains the negative coefficients for the various age groups in 2006.

Using 1980 Census data, Kritz & Nogle (1994) find that international immigrants tend to avoid states that already have a high concentration of their co-nationals. That explains why the coefficients for Latino under international immigration are statistically insignificant in 1986 (β=0.22), and negative in 1996 and 2006 (β=0.89 and β=0.86). As the Latino population grew, more Latino immigrants avoided entering the state. As immigrants settled in other states that were not traditionally immigrant-rich, this spread of geography entails that immigration is no longer an isolated issue of interest confined to a few states. Immigration will evolve to affect every part of the country (Bohn 2009).

Table 3.10 Multinominal Logistic Regression Results for 1986

	Moved Out of California			International Migration			Domestic Migration Into California		
	B	S.E. (B)	p-value	B	S.E. (B)	p-value	B	S.E. (B)	p-value
Intercept	-2.27*	0.41	0.00	-1.22*	0.59	0.04	-1.75*	0.47	0.00
2nd Income quintile	0.01	0.20	0.97	-0.51	0.28	0.07	0.25	0.23	0.28
3rd Income quintile	-0.07	0.20	0.71	-0.37	0.26	0.16	-0.20	0.24	0.42
4th Income quintile	-0.25	0.21	0.24	-0.68*	0.33	0.04	-0.15	0.25	0.54
5th Income quintile	-0.63*	0.22	0.00	-0.91*	0.39	0.02	-0.54*	0.27	0.04
Male	0.20	0.13	0.14	0.32	0.21	0.14	-0.16	0.16	0.31
Non-Hispanic White	0.41*	0.20	0.04	-1.20*	0.29	0.00	0.15	0.24	0.53
Latino	-1.33*	0.29	0.00	0.22	0.26	0.39	-0.41	0.29	0.15
Married	0.68*	0.17	0.00	-0.17	0.24	0.46	-0.09	0.19	0.63
Separated/Divorced/ Widowed	0.46*	0.22	0.04	-0.48	0.35	0.17	-0.06	0.25	0.81
Age 18-25	0.42	0.36	0.24	0.02	0.55	0.98	-0.56	0.43	0.19
Age 26-35	0.36	0.35	0.31	-0.24	0.55	0.66	-0.43	0.42	0.30
Age 36-45	0.04	0.37	0.91	0.21	0.56	0.70	-0.68	0.44	0.12
Age 46-55	0.19	0.39	0.63	0.44	0.59	0.46	-0.50	0.47	0.29
Age 56-65	-0.16	0.42	0.70	0.04	0.65	0.95	-0.71	0.52	0.17
Some college	0.04	0.16	0.82	-0.49	0.31	0.11	-0.01	0.20	0.96
BA or above	0.59*	0.17	0.00	0.17	0.31	0.59	0.68*	0.20	0.00
In active labor force	-0.32	0.17	0.05	-0.70*	0.23	0.00	0.35	0.22	0.12
N	2249								
Likelihood ratio chi-square	1809								
Pr>Chi-sq	1.0								

Data: Current Population Survey March Supplement

* Statistically significant at 0.5 level

Table 3.11 Multinominal Logistic Regression Results for 1996

	Moved Out of California			International Migration Into California			Domestic Migration Into California		
	B	S.E. (B)	p-value	B	S.E. (B)	p-value	B	S.E. (B)	p-value
Intercept	-2.84*	0.56	0.00	-0.20	0.80	0.81	-2.00*	0.64	0.00
2nd Income quintile	-0.70*	0.23	0.00	-0.61	0.32	0.06	-0.13	0.35	0.72
3rd Income quintile	-0.70*	0.25	0.00	-0.89*	0.39	0.02	0.07	0.36	0.84
4th Income quintile	-0.98*	0.25	0.00	-3.16*	1.04	0.00	-0.23	0.36	0.53
5th Income quintile	-0.80*	0.25	0.00	-1.18*	0.47	0.01	-0.27	0.38	0.49
Male	-0.02	0.16	0.92	0.40	0.29	0.17	0.11	0.23	0.63
Non-Hispanic White	0.75*	0.24	0.00	0.51	0.43	0.24	-0.06	0.28	0.82
Latino	-0.56	0.29	0.05	-0.89*	0.38	0.02	-1.95*	0.47	0.00
Married	0.61*	0.20	0.00	-0.05	0.31	0.86	0.09	0.28	0.74
Separated/Divorced/ Widowed	0.31	0.26	0.23	-0.91	0.64	0.15	0.00	0.35	0.99
Age 18-25	0.53	0.49	0.27	-0.88	0.76	0.25	-1.37*	0.55	0.01
Age 26-35	0.31	0.47	0.51	-0.77	0.74	0.30	-1.23*	0.50	0.01
Age 36-45	0.06	0.48	0.91	-0.77	0.75	0.30	-1.10*	0.50	0.03
Age 46-55	0.71	0.48	0.14	-1.42	0.85	0.10	-1.26*	0.54	0.02
Age 56-65	0.42	0.55	0.45	--	--	--	-1.01	0.67	0.13
Some college	0.14	0.19	0.45	0.07	0.39	0.85	-0.06	0.27	0.83
BA or above	0.08	0.22	0.72	0.57	0.43	0.18	0.11	0.29	0.70
In active labor force	0.07	0.19	0.73	-0.16	0.32	0.63	0.29	0.31	0.34
Native born	0.65*	0.25	0.01	-3.16*	0.48	0.00	0.96*	0.40	0.02
Naturalized citizen	0.31	0.37	0.40	-2.85*	1.03	0.01	-0.11	0.63	0.86
N	1851								
Likelihood ratio chi-square	1474								
Pr>Chi-sq	1.0								

Data: Current Population Survey March Supplement

* Statistically significant at 0.5 level

Table 3.12 Multinominal Logistic Regression Results for 2006

	Moved Out of California			International Migration Into California			Domestic Migration Into California		
	B	S.E. (B)	p-value	B	S.E. (B)	p-value	B	S.E. (B)	p-value
Intercept	-1.02*	0.33	0.00	-1.26*	0.58	0.03	-5.13*	1.11	<.0001
2nd Income quintile	0.55*	0.22	0.01	0.15	0.38	0.69	-0.23	0.42	0.59
3rd Income quintile	0.37	0.22	0.09	-0.18	0.44	0.68	0.51	0.33	0.12
4th Income quintile	0.31	0.22	0.16	0.71	0.36	0.05	0.30	0.36	0.41
5th Income quintile	0.10	0.23	0.67	0.01	0.52	0.99	0.49	0.35	0.16
Male	0.06	0.14	0.68	0.37	0.28	0.19	0.03	0.21	0.87
Non-Hispanic White	0.25	0.17	0.13	-1.70*	0.57	0.00	-0.03	0.25	0.92
Latino	-1.09*	0.21	0.00	-0.86*	0.33	0.01	-1.45*	0.35	0.00
Married	0.41*	0.18	0.02	0.30	0.32	0.36	-0.24	0.26	0.37
Separated/Divorced/ Widowed	0.06	0.23	0.78	-0.18	0.56	0.75	0.22	0.35	0.52
Age 18-25	-0.76*	0.26	0.00	0.28	0.51	0.58	3.04*	1.05	0.00
Age 26-35	-0.81*	0.23	0.00	-0.28	0.50	0.57	2.83*	1.04	0.01
Age 36-45	-0.64*	0.23	0.00	-0.47	0.55	0.39	2.30*	1.04	0.03
Age 46-55	-0.58*	0.26	0.03	-0.31	0.63	0.62	2.30*	1.06	0.03
Age 56-65	-0.03*	0.17	0.03	-0.29	0.44	0.43	--	--	--
Some college	0.07	0.17	0.69	-0.21	0.36	0.55	-0.05	0.28	0.87
BA or above	0.06	0.18	0.72	-0.37	0.44	0.40	0.65*	0.27	0.02
In active labor force	-0.52*	0.16	0.00	-0.55	0.31	0.08	-0.60*	0.25	0.02
Native born	0.26	0.20	0.19	-2.04*	0.37	0.00	0.49	0.34	0.14
Naturalized citizen	-0.38	0.27	0.15	-1.69*	0.50	0.00	-0.01	0.46	0.98
N	1866								
Likelihood ratio chi-square	1780								
Pr>Chi-sq	1.0								

Data: Current Population Survey March Supplement

* Statistically significant at 0.5 level

These descriptive statistics reveal several important insights. First, an individual's socio-demographic characteristics correlate not only with migration decision (to move or not to move?), but also with one's migration pattern (move to where?). The data suggest the demographic composition of the state has gradually become more polarized. The state is losing residents in the middle of the socio-economic spectrum (those who have moderate educational attainment and income), and is gaining residents in *both* the lower end (foreign immigrants with less education), and higher end of the spectrum (domestic in-migrants who tend to be skilled workers). Chapter 4 will show that the first group (middle of SES) is more inclined to support the Republican Party while the latter two groups(lower and higher SES) are more prone to identify with the Democratic Party in recent years. Second, the demographic disparities not only reshape the electorate in California, they also affect other parts of the country. Given its sheer population size, the out-migrants from California constitute significant additions to other states. The exit of native born non-Hispanic whites who are more likely to be married and have moderate educational attainment in search of cheaper housing and job opportunities may have supplied new blood for the Republican Party in other states.

Section 3.4 Inter- and Intra-regional Migration

To protect privacy, CPS only reports the broad types of moves made by domestic migrants (whether they moved within county, across county or across state). There is no information on their county of origin and destination. Figure 3.3 shows that a significant flow of migrants entered the Southern California and inland counties since the mid 1980s. One may wonder where these immigrants came from? Were these migrants from the Bay Area who voted with their feet by fleeing the liberal areas? Are residential moves 'geographically-incremental'? That is, when deciding where to resettle, do migrants tend to start in a completely new environment? Or do they usually stick to the region with which they are familiar?

To examine the extent of interregional migration, I turn to the Internal Revenue Services (IRS) county-to-county migration data. The IRS migration data is the largest dataset that tracks movement of people from county to county. Since the dataset captures those who file federal income tax returns, one limitation of the dataset is that it under-represents the poor. The dataset also excludes a small percentage of individuals who obtained late extension to file their tax returns. As this group tends to be high-income earners, the migration dataset can also underrepresent the very wealthy (Gross 2005). By comparing the previous and current address of the tax payers, IRS created a dataset that documents county-to-county flow. I extracted the dataset for 1980-1981 and created the matrix in Figure 3.7. The rows represent the county of origin for the within-state migrants in 1980 and the columns display their county of destination in 1981. The full matrix represents the volume and direction of flows within California. One can examine which counties sent out the most migrants, and which counties were on the receiving ends. I arrange the counties based on their increasing physical distance from Del Norte County, the northern county in California that borders Oregon. That is why San Diego and Imperial County appear at the bottom of the scale as they share the border with Mexico.

I present the raw counts of flow instead of rates for two reasons. First, raw counts can represent both direction of inflows and outflows. In order to create rates, I need to either row or column-standardize the matrix. Take Humboldt County for example, if I row-standardize

the matrix, the cells represent the percentage of migrants who lived in Humboldt County in 1980 and arrived at, say, Del Norte, Trinity, Alameda or Los Angeles County in 1981. If I choose to column-standardize the matrix, the cells display the county of origin among migrants who arrived at Humboldt County in 1981. Either way, only one direction of the flow can be represented. The second reason is that the raw count is a better way to represent volume of flows. Alpine, a small county south of Lake Tahoe and north of Yosemite, had a population of fewer than 1,500 in 2000. It only has 148 migrants in 2000, compared to 69,000 in Alameda County and 287,000 migrants in Los Angeles County. The matrix, if presented in percentages (either by row or column) would fail to distinguish the vast variance in volume of flows. For display purposes, I choose not to display the low flows among less populated small counties so as to enhance visualization.

Figure 3.7 illustrates the county-to-county migration pattern in 1980-1981. The colors represent the volumes of flow. Note that the colored cells tend to cluster along the diagonal, suggesting that there is usually a high volume of flows among adjacent counties. Another way to interpret this is that moves tend to be geographically incremental---there is significant regional 'stickiness' where migrants tend to remain in the region of origin. Santa Clara County was a major magnet of in-migrants (as illustrated by the large number of colored cells in the Santa Clara column). It received in-migrants from almost two-thirds of the counties. This period witnessed the expansion of the Silicon Valley. Significant inflows can also be observed for other adjacent Bay Area counties, including San Mateo, Alameda, San Francisco and Contra Costa County.

Los Angeles County experienced heavy in- and out-migration flows. In Figure 3.7, 3.8, and 3.9, the big color patch near the bottom right-hand-corner of the diagram indicates heavy exchanges between Los Angeles and its adjacent counties, such as Ventura, Orange, San Bernardino, Riverside and San Diego County. Riverside County, which is situated in the southeastern part of the state and shares the border with Arizona, experienced the highest annual net domestic migration in 2003-2004 in the U.S.. Within that year, the County received a net gain of 95,221 migrants, compared to 66,231 for the second highest place (Phoenix, Arizona) and 53,848 for the third highest place (Las Vegas, Nevada) (Frey 2009). A majority of in-migrants arrived from Los Angeles County and Orange County. It is interesting also to observe the significant volume of exchanges between the Bay Area and Los Angeles County. The inter-regional flows may partially account for their growing political similarity over time.

Another region that experienced tremendous growth is the San Joaquin Valley. It is made up of eight counties: San Joaquin, Fresno, Kern, Kings, Madera, Merced, Stanislaus and Tulare. Avalos (2010) finds that almost three-quarters of in-migrants to the San Joaquin Valley came from other California counties, in particular Los Angeles County. The moves were motivated by job opportunities, as well as low housing prices and low property crime rates.

As domestic migration is sensitive to economic condition, the recession that began during the second term of George W. Bush administration helped to decrease the total number of moves in California, as indicated by fewer numbers of colored cells in Figure 3.9. However, the overall pattern in these three decades is very comparable. Within-regional moves tend to dominate, with the exception of the regular exchanges between the Bay Area and Southern California counties. One important insight drawn from the three matrices is that there are high volumes

of both intra-regional and inter-regional migration. While inter-regional migration may have contributed to the changing spatial composition of voters across electoral districts, intra-regional migration may have contributed to the increasing spatial autocorrelation among adjacent counties in a region, as illustrated in Chapter 2.
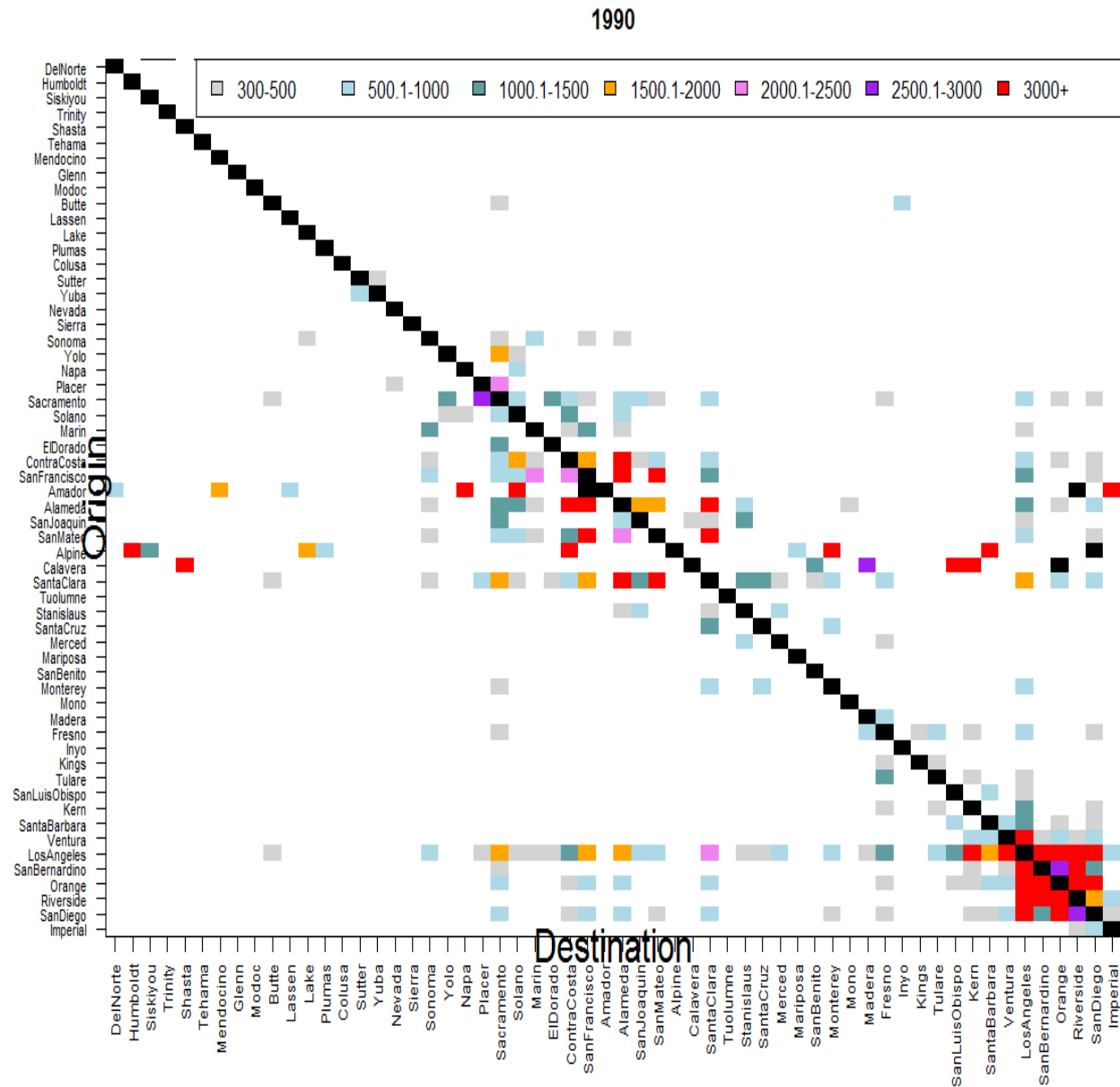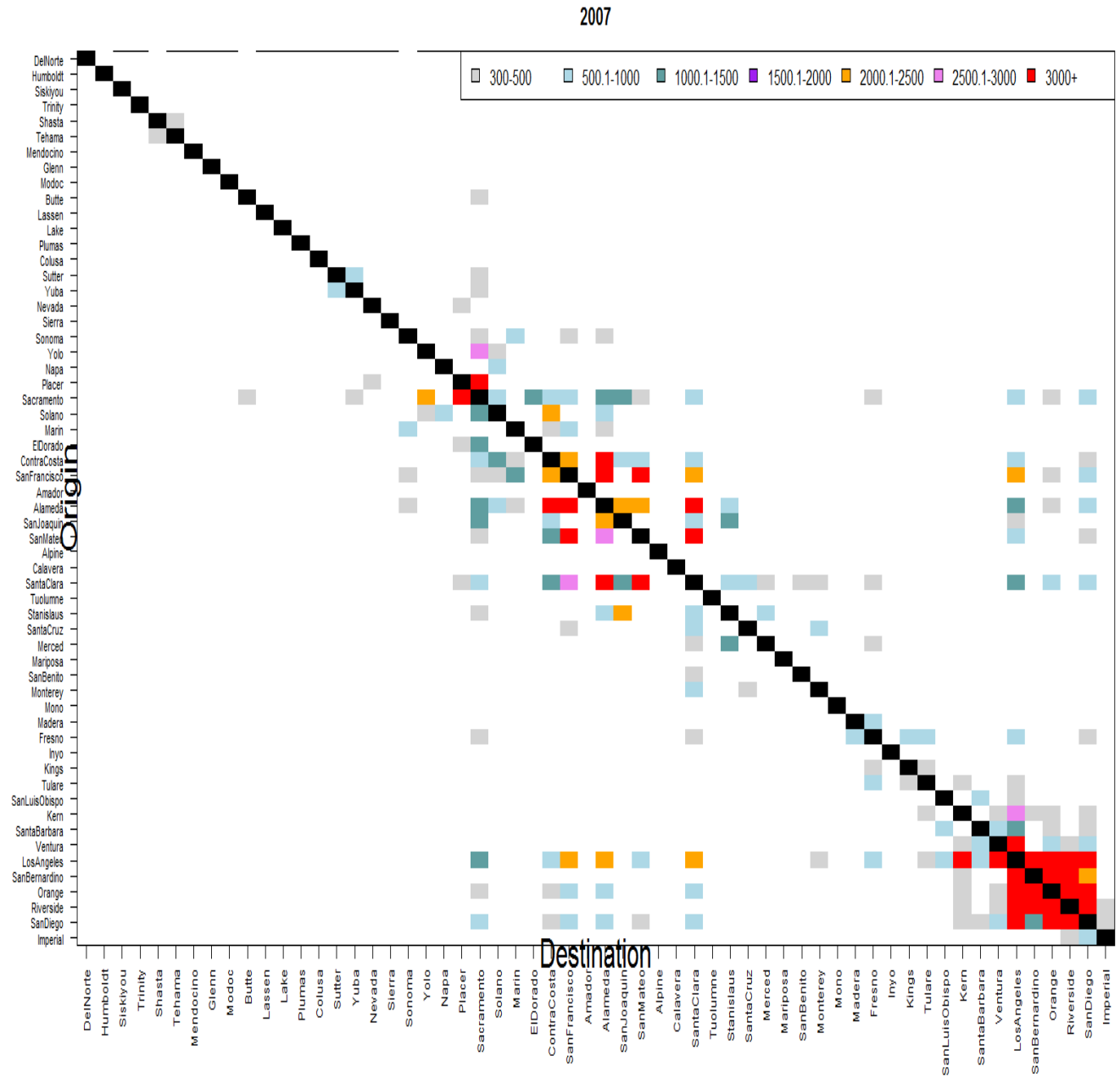
Figure 3.7 County-to-County Migration: Origin and Destination Matrix, 1980-1981
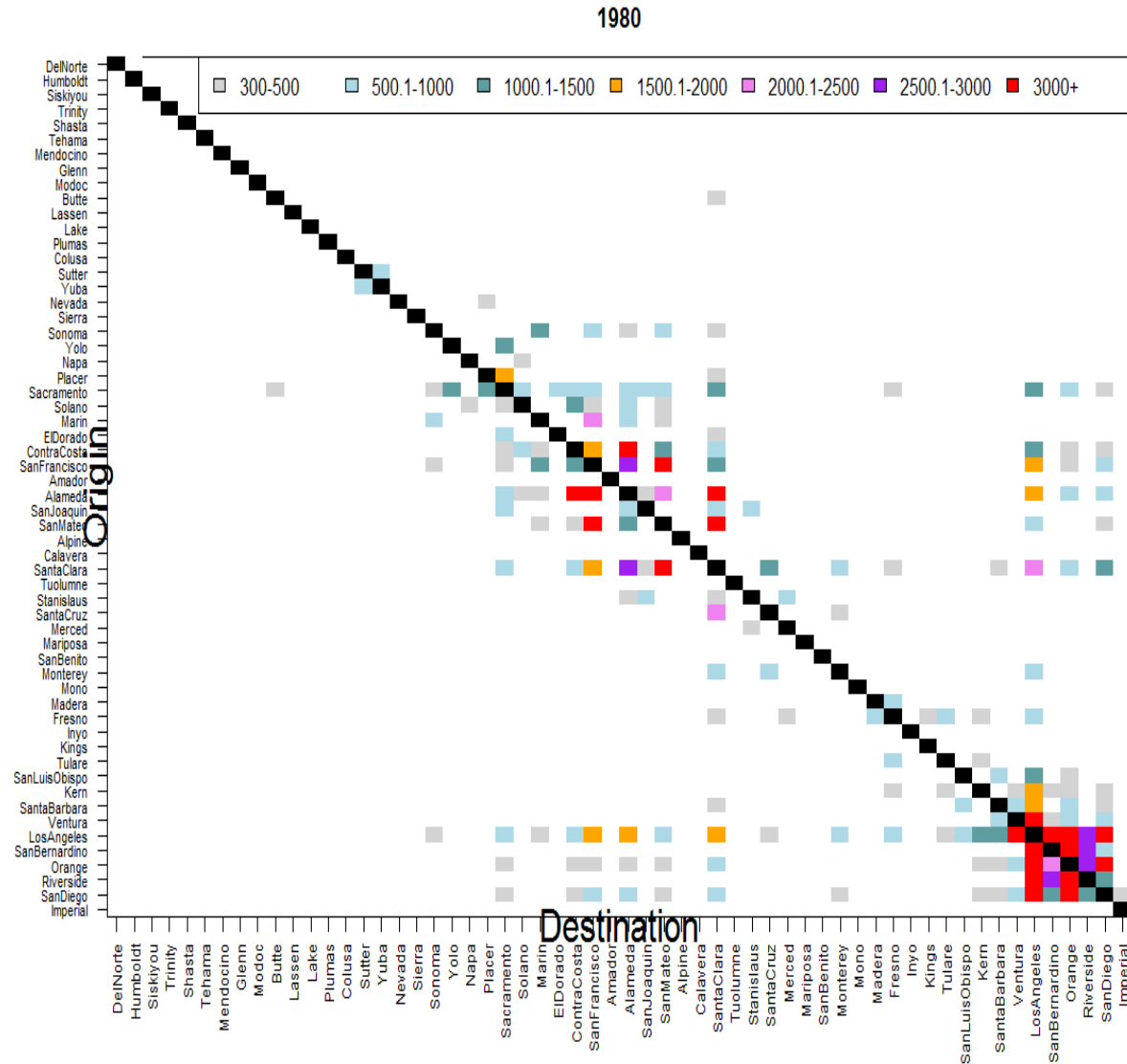
Data: IRS County-to-County Migration data

Figure 3.8 County-to-County Migration: Origin and Destination Matrix, 1990-1991

Data: IRS County-to-County Migration data

Figure 3.9 County-to-County Migration: Origin and Destination Matrix, 2007-2008

Data: IRS County-to-County Migration data

Section 3.5 Macroeconomic Conditions

The above section focuses primarily on individual-level migration consideration. As discussed previously, migration is a two-step process. The first step involves picking a region that offers potential employment opportunities. The second step involves selecting a specific neighborhood to settle down within the region. The CPS data shed light on the second step and explore the linkage between an individual's characteristics and residential choices. This section will discuss the macroeconomic conditions that facilitate regional migration. Figure 3.1 shows the Southern California and inland counties gained population especially since the early 1980s. What contributed to that expansion?

The country experienced a deep recession during the oil crisis. Figure 3.10 tracks the prime interest rate[38] and the number of new housing construction permits by year. The prime interest rate forms the basis for various types of the mortgage interest rates. A high prime rate would push up construction costs and raise mortgage rates. Notice that the prime rate was around 10% in mid the 1970s, and that it jumped to almost 20% in early 1980. The high costs of construction depressed the real estate industry. The total number of new construction permits issued in the entire state plummeted to fewer than 100,000 in 1983. The 'supply-side economics' during the Reagan administration advocated stimulating private sector growth through tax reduction. As the economy improved, that triggered a major bloom in the real estate market. Most of the growth concentrated in newly developed areas. For example, between 2000 and 2002, seven cities, namely, Tracy (San Joaquin County), Folsom (Sacramento County), Temecula (Riverside County), Roseville (Placer County), Irvine (Orange County), San Macros (San Diego County) and Rancho Cucamonga (San Bernardino County) ranked among the top twenty fastest growing cities in the country.[39]

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[38] The data obtained from Mortgage-X.com. Prime rate is the base rate on corporate loans posted by at least 75% of the nation's 30 largest banks.
[39] The list, "Top 100 Fastest Growing Cities from 2000 and 2002 (pop. 50,000+)" was compiled by the City Data website. It is available via: http://www.city-data.com/top32.html

Figure 3.10 Prime Interest Rates and Number of New Housing Permits by Year.
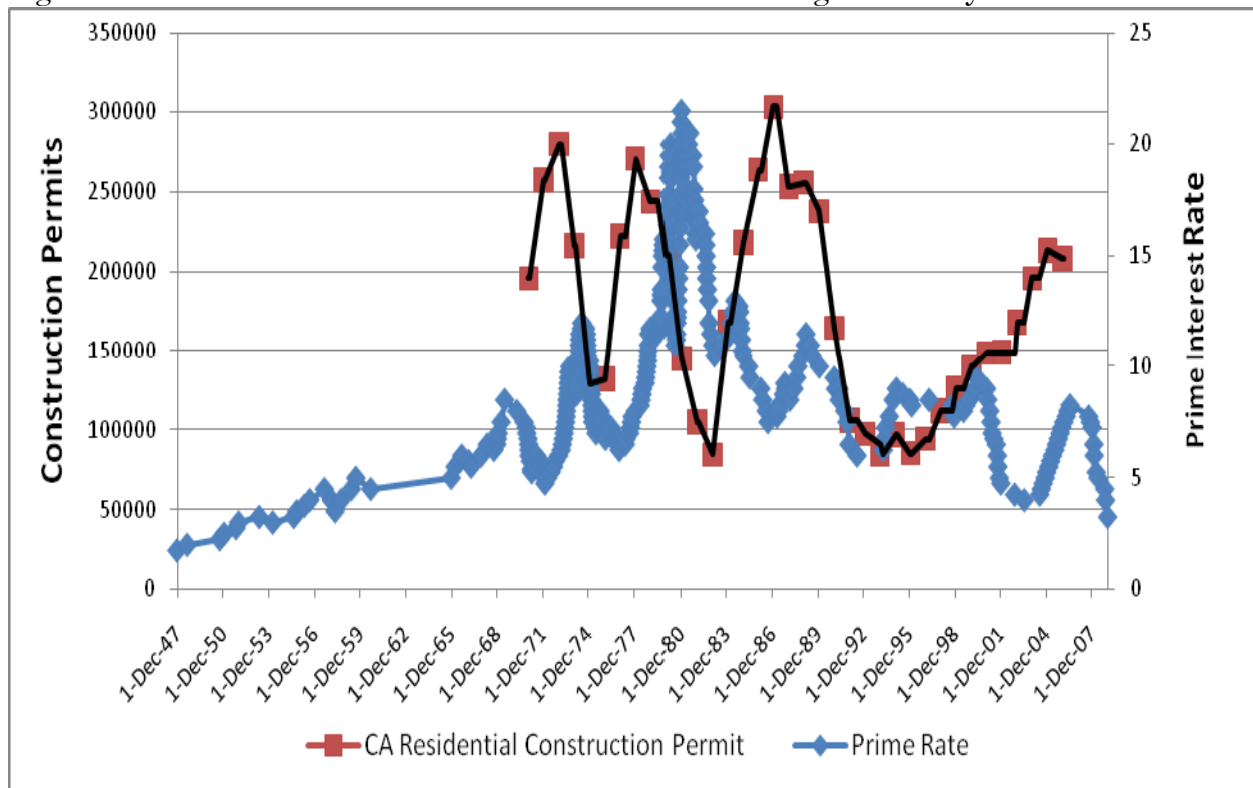
Data: RAND, Mortgage-X.com

Are there variations in the push-and-pull factors across counties? To examine that question, I created a panel data at the county-level that span from 1972 to 2000. The unit of analysis is the county. The dependent variable is <u>yearly</u> net migration counts reported by the Department of Finance. An array of explanatory variables (*Z*) come from several different sources. The yearly per capita income data come from the Bureau of Economic Analyses, I adjusted the figures for inflation using the California CPI-index published by the Department of Industrial Relations under the Bureau of Labor Statistics. The yearly racial/ethnic composition and population density are obtained from DOF yearly population estimates. Since DOF does not report yearly statistics on educational attainment and home ownership, the data are drawn from bicentennial Census data. The yearly employment numbers by industries are reported by the Bureau of Economic Analysis. Appendix I offers a thorough description on these data. Since the industry classification categories changed dramatically after 2000, my panel data are limited to the years before 2000. Altogether, the dataset has 1740 observations. It contains yearly figures for all fifty eight counties between 1972 and 2000. To account for time and spatial variation, I ran a fixed effect model on the pooled data and weighted it by population size:

$$Y_{it} = \alpha_0 + \alpha_1 Z_{it} + \alpha_2 Year_{it} + \alpha_3 County_{it}$$

Table 3.13 Regression Results, Fixed Year and County Effect Model Weighted by Population Size

Dependent variable =Net migration	B	SE(B)	
Intercept	266.64	66.36	*
CPI adjusted per capita income ('000)	0.25	0.84	
Pop density per 1000 square mile	-37.37	4.64	*
Percent of population aged 25-64	-1.79	0.96	
Percent of population aged 65 or above	-10.71	1.14	*
Percent of whites	0.59	0.41	
Percent of Hispanics	-5.15	0.38	*
Percent of population with at least BA degree*	-1.96	0.63	*
Percent of population who own home*	-0.01	0.36	
Farm employment ('000)	0.18	0.26	
Construction employment ('000)	-0.70	0.14	*
Manufacturing employment ('000)	0.03	0.04	
Wholesale trade employment ('000)	1.05	0.13	*
Retail trade employment ('000)	-0.59	0.12	*
Finance, insurance & real estate employment ('000)	0.97	0.09	*
Services employment ('000)	-0.04	0.02	
Military employment ('000)	-0.76	0.14	*
Federal, state & local government employment ('000)	0.25	0.11	*
County dummies	Yes		
Year dummies (every year 1972-2000)	Yes		
N	1740		
Adjusted R-squared	0.46		

Data: CA DOF, Census City and County Book, Bureau of Economic Analysis, ARDA
* statistically significant at .05 level

Between 1972 and 2000, migrants moved out of densely populated areas in search of open space. The coefficient for population density is -37.37, statistically significant at 0.05 level. It implies that counties with lower population densities experienced heavier in-migration. Counties with higher concentration of college graduates experienced lower levels of net migration (β=-1.96). This is probably because educated people tend to cluster in metropolitan areas with high costs of living. After accounting for their concentration, the mean income level does not appear to influence migration. The coefficient for CPI adjusted per capita income (β = 0.25) is not statistically significant at 0.05 level. Migrants appear to have avoided areas with a high concentration of senior citizens. This can be explained by the fact that age composition reflects the economic structure of a place. Counties with larger concentration of elderly are often areas with less vibrant local economies, and young workers leave these areas in search for more jobs or educational opportunities. Counties with high concentrations of Hispanics were less attractive to migrants. This is induced in parts by the outmigration of white residents from Los Angeles County, a subject I will further examine in the last part of this Chapter.

As domestic migration is especially sensitive to the performance of economy, the data on employment number by industry section offer a rare opportunity to examine how the regional economic restructuring affects the pattern of migration. I included nine major industry sectors in my regression model. The regional economy varies tremendously in California. The Bay Area, home for the Silicon Valley, offers more high-tech professional jobs. Sacramento County, where the State Capitol is located, has the highest concentration of government employees. Because of the naval base, San Diego, Riverside and San Bernardino Counties have a vibrant presence of military-related industries. The inland counties that rely on agriculture hire more farm workers than the entire Bay Area combined.

The pooled coefficients for the industrial sectors in Table 3.13 cannot fully represent the spatial variation. In order to locate the economic factors that led to the expansion of population inland, I ran the following two models where the type of industry interacts with the county dummies. In particular, two sectors --- construction employment and military employment--- exhibit the most intriguing spatial variation.

$$Y_{it}=\alpha_0+\alpha_1 Z_{it}+\alpha_2 Year_{it}+\alpha_3 County_{it}+\alpha_4(Construction\ Employment*County)_{it}$$
$$Y_{it}=\alpha_0+\alpha_1 Z_{it}+\alpha_2 Year_{it}+\alpha_3 County_{it}+\alpha_4(Military\ Employment*County)_{it}$$

To facilitate interpretation and to save space in reporting, I extracted the coefficients and 95% confidence intervals for the interaction terms and present them in Figure 3.8 and 3.9. Alameda County is the baseline category. The dots denote the size of the coefficients and the tails represent the 95% confidence intervals. If the interval includes zero, it implies that the pattern for that county is not statistically distinguishable from that in Alameda County. I highlighted the interaction terms that are statistically significant at the 0.05 level in red color. If the highlighted coefficient is above zero, it suggests the employment in that particular sector significantly propelled in-migration. As Figure 3.11 shows, Kern, Riverside, San Bernardino and Tulare, four counties near Los Angeles County experienced major increase in construction employment. The growth in this sector was primarily driven by the housing booms in the mid-1980s. The new, cheaper housing not only attracted bargain-hunters, but the construction created job opportunities which further attracted the influx of labor into the region.

Figure 3.11 Coefficients and 95% Confidence Interval for Construction Employment & County Interaction Terms

Construction Employment
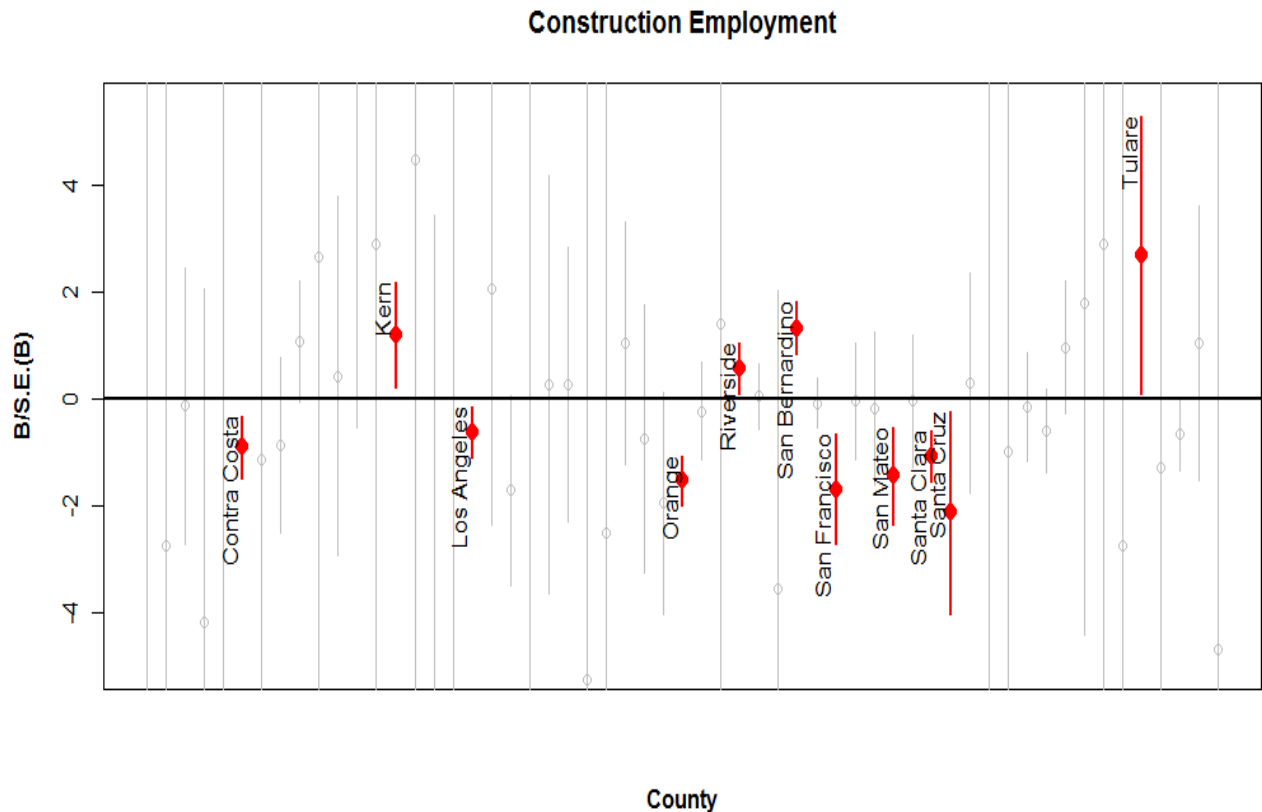
Data: CA DOF, Census City and County Book, Bureau of Economic Analysis, ARDA

During the Second World War, Michigan and the Great Lakes states led the production of conventional weapons such as tanks and ammunition. As the Cold War began, production focus began to switch away from conventional weapons to aerospace science. California, Washington, Kansas and Connecticut were the biggest recipients of military prime contract awards because of their aircraft production (Crump 1989). After the Second World War, over half of California's contract awards were on aircraft and airplane parts. Reagan's Strategic Defense Initiative (SDI) resulted in further expansion of the aerospace industry in the state. In 1984, for example, the Department of Defence spent $29 billion on contracts in California, compared to $141 billion in all other states combined (Freedman & Ransdell 2005). Alameda County, again, is the baseline category. It had a Naval Air Station that was closed down in 1997. As shown in Figure 3.9, the growth concentrated in several Southern counties, namely Orange, Riverside and San Bernardino. These counties have positive coefficients that are statistically significant at the 0.05 level. Although San Diego County has a large military base, the coefficient surprisingly does not show up statistically significant. Los Angeles, San Francisco and Santa Clara County had significantly fewer military-related employments than the Alameda County.

The regression results suggest a correlation between the number of employment in the military-based industries and net increase in migration. However, what is the direction of the

relationship? Did the jobs follow people or did migrants follow the jobs? Ellis et al. (1993) find evidence to support the latter claim. They address this question with a special focus on the defense industry. Since the Carter-Reagan defense build-up, the defense industry experienced significant growth. By tracing the migration pattern of the workers who were employed in the defense industry, they find that the skilled researchers and scientists who concentrated in several states (New England, Florida, Texas and California) were out-migrants from manufacturing belt and plains states. Blue collar workers also relocated from the rust belt for job opportunities. Ellis et al.'s finding is also supported by the reverse trend---when the federal government began cutting military spending, the state economy suffered a major hit and workers migrated out of the region or even out of the state.

In 1988, Congress passed the Defense Savings Act which paved a new wave of military base closure efforts (Warf 1997). A list of 32 facilities was scheduled for shutdown and 54 others were mandated to restructure. In 1991, an additional 73 facilities were scheduled to shut down. In 1993, the Clinton administration added another 50 facilities to the list. The spatial distribution of these military closures, however, is highly uneven. While most of the inland states experienced minimal job losses, California suffered the biggest economic impact (Warf 1997; Warf & Glasmeier 1993). In 1988, the state lost five facilities and over 150,000 jobs. In 1991, the state lost another twelve facilities and 285,000 jobs. The state further lost ten facilities and over 300,000 jobs in the 1993 round of reduction (Warf 1997). Although a study of three California communities (near George Air Force Base in San Bernardino County, Fort Ord in Monterey County and Castle Air Force Base in Merced County) reports the economic impacts were not 'catastrophic', the job losses had ripple effects in the local communities (RAND 1996). The loss of jobs entails loss of tax revenue for local governments, as well as a drop in demand for other service industries. This explains why the Southern California counties, in particular, experienced the biggest decrease in net-migration in the early 1990s in Figure 3.3.

Figure 3.12 Coefficients and 95% Confidence Interval for Military Employment & County Interaction Terms

Military Employment
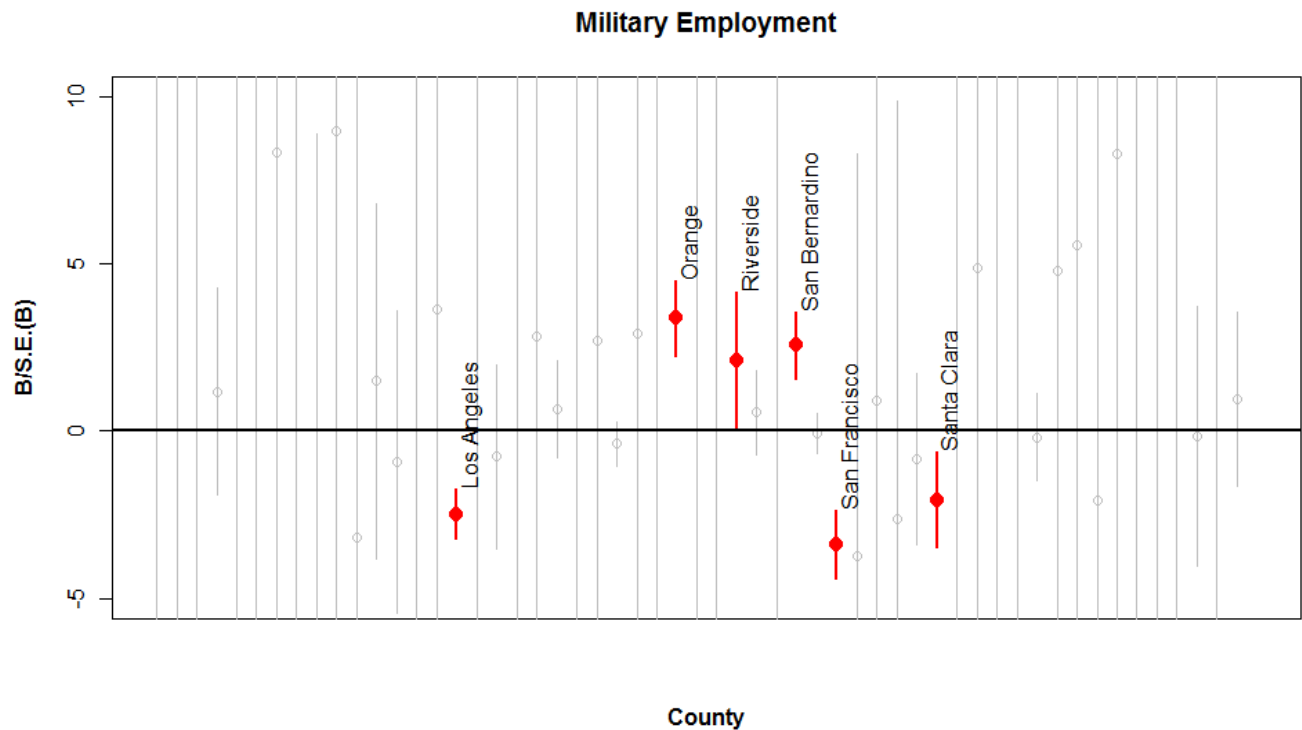
Data: CA DOF, Census City and County Book, Bureau of Economic Analysis, ARDA

Section 3.6 Changing Spatial Composition Over Time

In the above sections, I have examined individual-level survey data and establish the connection between individual's socio-demographic characteristics and their migration preferences. I also document how changes in the macro-economic conditions affect migration flows. In this section, I will present county-level data to illustrate how uncoordinated migration decisions made by thousands of households each year reshapes the spatial composition of voters over time.

The DOF publishes yearly net migration estimates by race for all counties. Figure 3.13 and 3.14 contrast the migration pattern for several most populated counties. The black color lines represent the overall net migration rates; the red and blue color lines are for Hispanics and non-Hispanic whites, respectively. For both Los Angeles county and the two leading counties in the Bay Area (Santa Clara and Alameda county), the blue color line consistently lies below the zero benchmark. This implies that both regions have experienced a persistent out-migration of white residents. The loss of white population is primarily compensated by the influx of Hispanics, as well as Asian migrants (statistics not shown on the graph). Between 1970 and 1990, a significant proportion of these white out-migrants, especially those who left

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Los Angeles County, resettled in the nearby counties. The Southern California and Central Valley regions received a boost in white population during the twenty-year spans. When the recession hit the state in the 1990, whites began moving out of California (Johnson 2000).

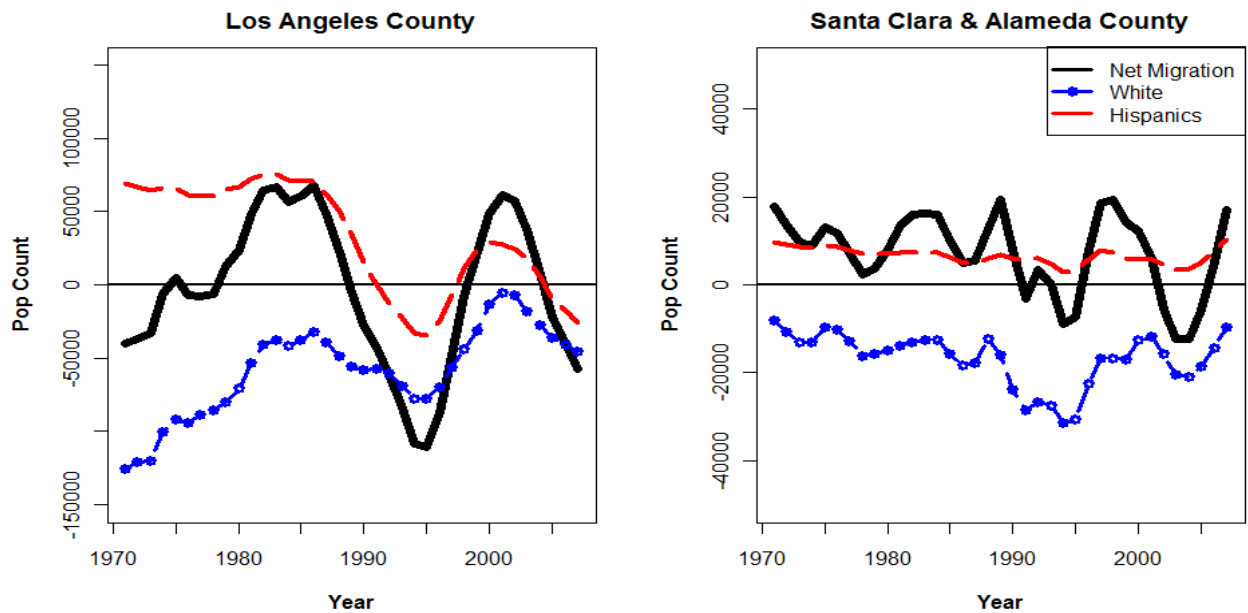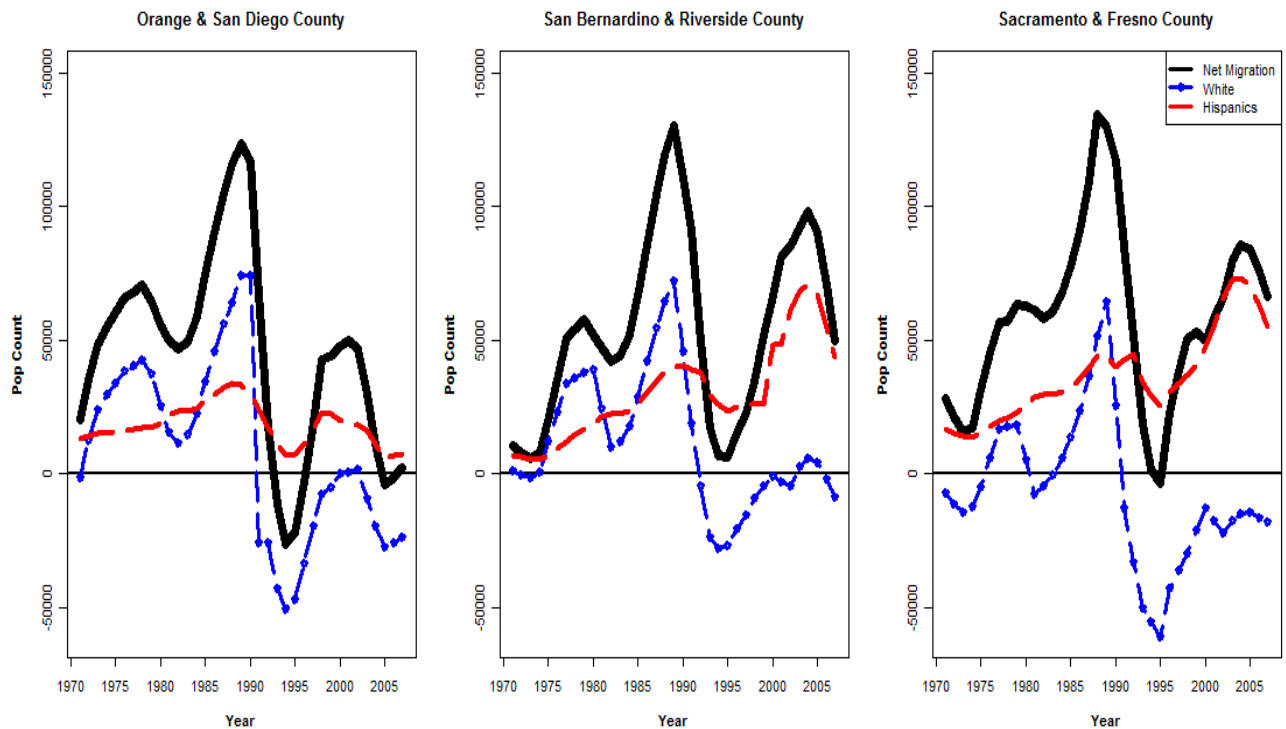Figure 3.13 Migration Pattern by Race for Los Angeles, Santa Clara and Alameda County

Figure 3.14 Migration Pattern by Race for Selected Southern California and Inland Counties

Data: CA DOF

As the effect of these gradual demographic shifts slowly accumulates, the composition of the state population experiences a major overhaul. The loss of white residents is replenished by foreign nationals who are primarily Hispanics and Asians. The following Figures, Figure 3.18 to 3.22, summarize how the spatial distribution of voters has changed.

Figure 3.15 plots the distribution of non-Hispanic whites by county between 1970 and 2000. The data come from the City and County data book published by the Census Bureau. The black, red color solid dots and blue color dots represent the percentages in 1970, 1990 and 2000, respectively. Several contrasts immediately stand out. The red and blue dots lie to the left of the observations in 1970. This indicates that the percentage of the white population has been declining in every county over time. The extent of decline, however, is far from uniform. By comparing the range of values for each decade, one notices that, in 2000, the white population is more spatially spread out --- the range of values goes from a low of 30% to a high of 90%. Some counties (usually less populated ones) maintain a predominantly white electorate, while others become notably more ethnically diverse.

Figure 3.15 Percentage of Non-Hispanic Whites by County, 1970-2000
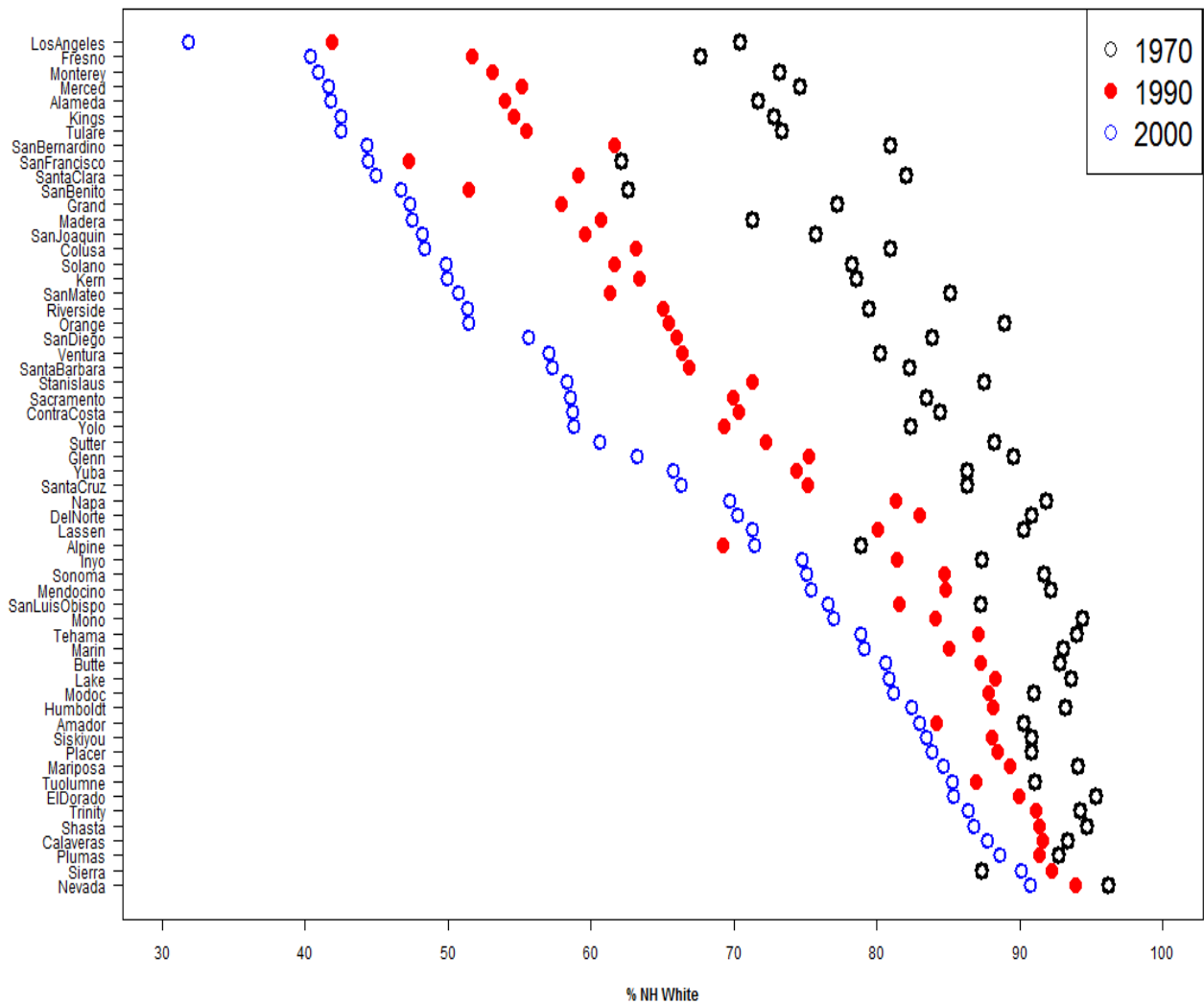
Data: Census City and County Book

Another way to present the statistics in Figure 3.15 is by use of a Quantile-Quantile (QQ) plot. Figure 3.16 contrasts the percentages of non-Hispanic whites by county in 1970 and 2000. If all of the counties had experienced the same proportional change in white population, the observations would fall neatly along the 45 degree line. Any deviations from the diagonal line imply disproportional changes over time. In this case, the fact that all of these observations fall below the 45 degree line reveals two things: first, all counties experienced a drop in white population in 2000; second, the extent of the drop is significantly disproportional. Those counties that had a high proportion of white residents in 1970 experienced a relatively smaller decline in white population in 2000.

Figure 3.16 QQ Plot of Percentage of Non-Hispanic Whites in 1970 and 2000.
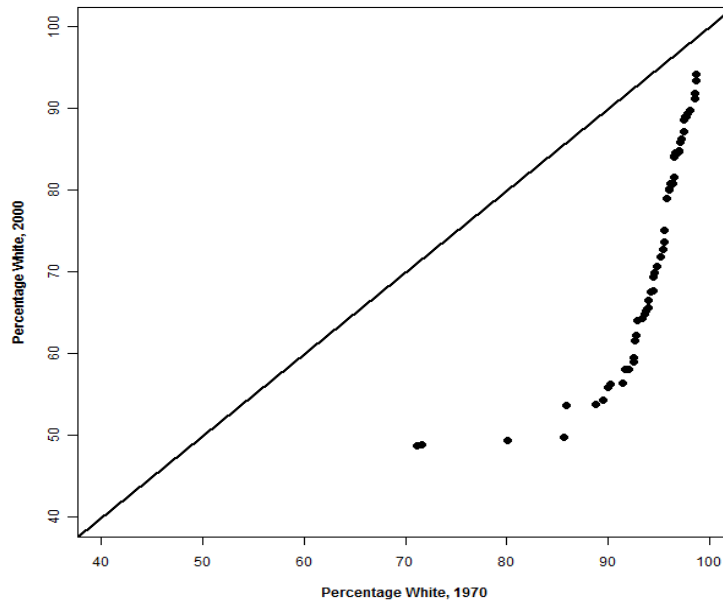
The uneven change in the white population is associated with disproportionate change in terms of educational attainment and income. The left-hand side panel in Figure 3.17 contrasts the percentages of residents who had at least a bachelor's degree between 1970 and 2000. The observations all fall above the 45 degree line which indicates a general increase in educational attainment among Californians. However, some counties received a significantly larger share of these educated workers due to the presence of high-tech industries (Florida 2002; Gimpel & Schuknecht 2004). In turn, the CPI-adjusted average household income for these counties has outgrown other counterparts. The right-hand side panel in Figure 3.17 shows the rising income disparity across counties.

Figure 3.17 QQ Plot of Educational Attainment and Income by County in 1970 and 2000
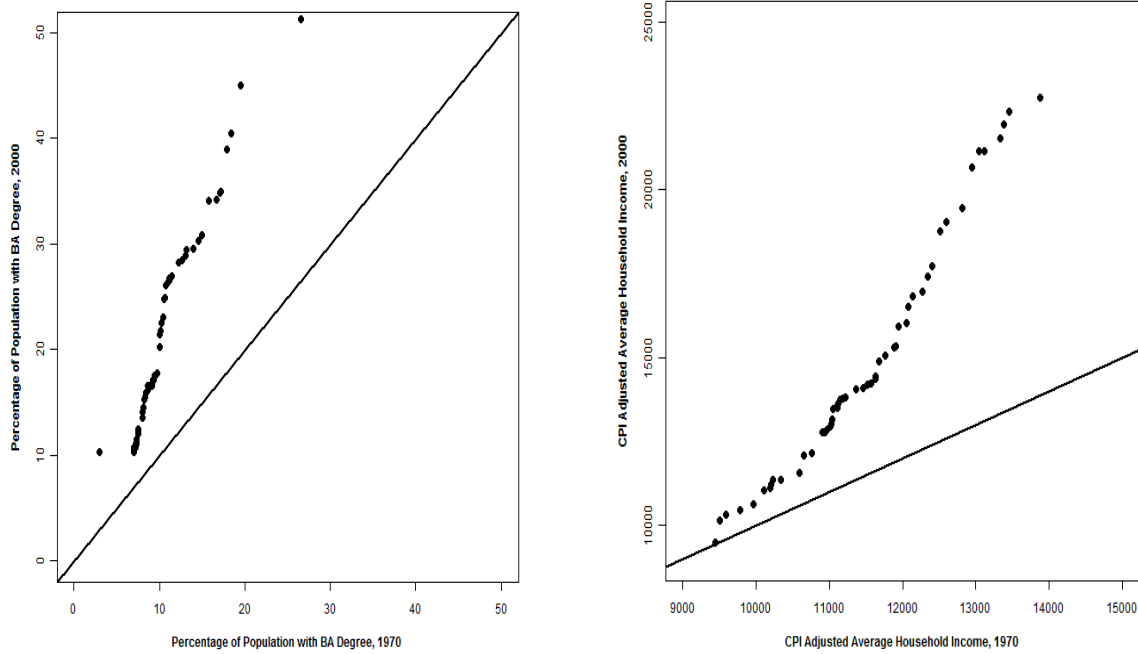

Data: Census City and County Book

Some may speculate that recent geographical polarization is driven in part by the growing concentration of religious voters inland. In fact, inland counties always have had a higher share of religious adherents. However, empirical evidence solidly refutes any claim that the concentration of religious voters has disproportionately grown inland. Figure 3.18 plots the number of Evangelical adherents[40] per 1000 people in 1980 and 2000. (Refer to Appendix I for a discussion on how I computed these statistics.)[41] Contrary to speculation, all observation points fall neatly along the diagonal line indicating that the relative distribution of Evangelical adherents has remained unchanged.

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[40] The religious adherence data are obtained from ARDA (See Appendix A). Congregational adherents include all full members, their children, and others who regularly attend services.
[41] The 1980 survey is used as a comparison because this survey sampled more churches and denominations than the 1970 survey, and the coverage is similar to that of the 2000 survey.

Figure 3.18 QQ Plot of Evangelical Adherents by County in 1980 and 2000
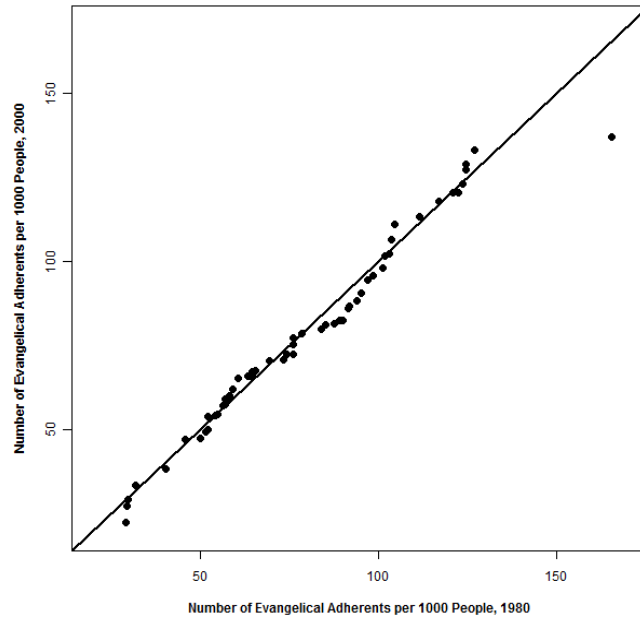
Data: Association of Religion Data Archives

This conclusion is also validated by examining the percentage of respondents, who identified themselves as 'Christian' or 'Protestant' in the Field Poll cumulative file. Figure 3.19 shows that the degree of religiosity has monotonically decreased in the population, and the regional disparity has remained stable. That means, over time, that residents in Southern California and inland counties have not become any more religious than residents in the Bay Area or Los Angeles County. Recall the two hypothetical examples in Chapter 1. Geographic polarization can happen with changing spatial composition, or with changing electoral behavior. When it comes to religious affiliation, there is no empirical evidence for changing spatial distribution of religious voters over time. In the next Chapter, I show that electoral behavioral change primarily accounts for the increasing correlation among geography, religiosity and partisan affiliation.

Figure 3.19 Percentage of Respondents Who Identified Themselves as Christian/Protestant by Regions
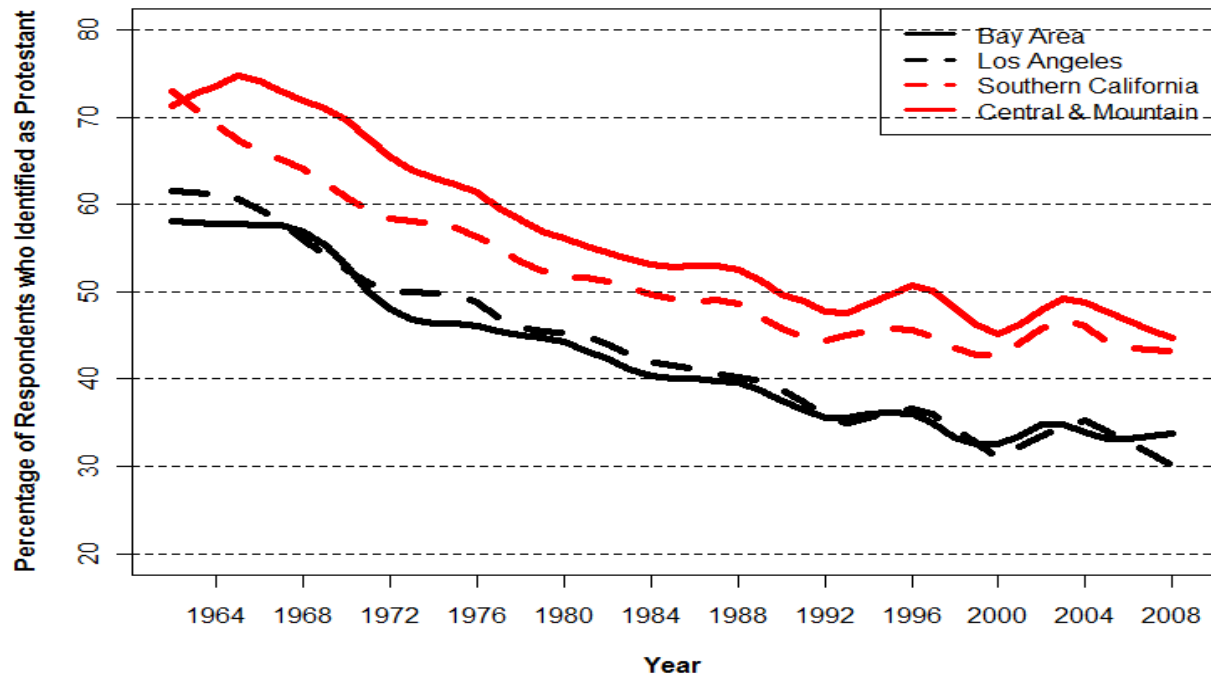
Data: Field Poll Cumulative File

Section 3.7 Politically Incremental Moves

Between 1976 and 1988, the Gautreaux program moved more than 7,000 low-income black families who were living in Chicago public housing or on the waiting list for public housing into communities throughout the Chicago metropolitan area. Keels et al. (2005) track their residential movement 6 to 22 years since their initial placements. They report a high degree of continuity --- for subjects who were placed in high-income, mostly white neighborhoods, they remain living in the most-affluent of neighborhood. Families who were placed in lower-crime and suburban locations were more likely to reside in low-crime neighborhoods years later. This study shows there is a certain degree of residential inertia or continuity --- once an individual gets accustomed to an environment, he/she has less incentive to change.

The origin-destination matrices presented in Figure 3.10, 3.11 and 3.12 show high volumes of moves both within and across geographic regions. One question is whether these moves contribute to the increasing geographic polarization? And in particular, are migrants selective when it comes to the partisan composition of their neighborhood? Or is there 'political inertia'? That is, for a Republican voter who decides to move, is he/she more likely to resettle in a predominantly Republican neighborhood?

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I examine this question in a collaborative project with James Gimpel (University of Maryland) and Wendy Tam Cho (University of Illinois, Urbana-Champaign). In that project, we collected the official voter registration lists for seven states in the country for the general election, 2004, 2006 and 2008. These states include three adjacent states in the west coast (California, Nevada and Oregon), and four adjacent states in the east coast (New Jersey, Maryland, Pennsylvania and Delaware). These seven states released information on the party registration of the registered voters. Using first and last name, birth date and gender, we tracked voters across the years. We identified those who remained in the same residence, as well as those who changed residence during the study period. We geocoded their previous and current addresses. Among those who changed their residence, by comparing their address in 2004 and 2008, we classified the types of move into the following categories: a) moved within county; b) moved across counties but within state; c) moved across adjacent counties included in our study[42].

We examined voters who changed residence between 2004 and 2008. In our paper, we show that a Republican voter is more likely to pick a zip code that has a higher concentration of Republicans than a Democratic or independent (decline-to-state) voter. Table 3.13 and Table 3.14 reprint the regression findings in the paper. The first table displays the results for migrants who moved within the state, the latter table is for migrants who migrated across adjacent states. The dependent variable is the percentage of registered Republicans of the 'destination' zip code in the mid year of the study period (2006). Since either entrance of new residents or exit of former residents would affect the partisan composition in 2008, we follow the conventional Census practice to measure the outcome of interest in mid year. We regressed that on the individual's party registration and the partisan composition of the zip code he/she resided in 2004 ('origin' zip code). In California, compared to an independent or Democratic registrant, a Republican registrant would resettle in a zip code that has approximately four percentage points more registered Republicans. For cross-state movers, as shown in Table 3.15, the magnitude is close to six percentage point. In other states, we find that the coefficient for being Democrat is negative, which indicates that registered Democrats are significantly more likely to resist zip codes with a higher concentration of registered Republicans. Furthermore, the coefficient for partisan composition at the origin is positive. It suggests that migrants have a slight preference for co-partisans --- for example, someone who used to live in a predominantly Republican zip code, he/she would end up in a similar zip code, or one that has a slightly *higher* concentration of Republicans.

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[42] We could not track voters who either moved out of these seven states after 2004, or voters who previously resided in other states prior to 2004.

Table 3.14 Reprint of Table 3 in Cho, Gimpel & Hui (2010)

Table 3. Partisan Composition of the Destinations of Cross-Zip Code Movers, Within States, 2004-2008, 2004-2006, and 2006-2008

Movers from 2004-2008

	CA	DE	MD	NJ	NV	OR	PA
Intercept	15.14*	21.35*	12.90*	9.61*	21.17*	16.20*	16.36*
	(0.03)	(0.18)	(0.06)	(0.03)	(0.09)	(0.06)	(0.06)
Republican	3.79*	1.50*	2.96*	2.08*	1.09*	2.81*	2.45*
	(0.02)	(0.11)	(0.05)	(0.05)	(0.05)	(0.04)	(0.07)
Democrat	0.30*	-0.93*	-1.29*	-0.53*	-0.64*	-0.12*	-2.03*
	(0.02)	(0.11)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)
% R at Origin	0.55*	0.33*	0.60*	0.49*	0.46*	0.51*	0.59*
	(0.001)	(0.005)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)
R^2_a	.35	.14	.41	.27	.24	.31	.42
N	1,936,648	37,941	387,817	362,029	168,318	290,109	560,483
SEE	11.7	8.0	10.9	9.0	7.6	9.0	13.3

Table 3.15 Reprint of Table 4 in Cho, Gimpel & Hui (2010)

Table 4. Partisan Composition of the Destinations of Cross-State Movers from Adjacent States, 2004-2008, 2004-2006, and 2006-2008

Movers from 2004-2008

|	CA	DE	MD	NJ	NV	OR	PA
Intercept	28.40*	27.50*	28.22*	31.44*	32.09*	25.22*	16.41*
	(0.11)	(0.37)	(0.20)	(0.13)	(0.42)	(0.30)	(0.11)
Republican	5.76*	4.94*	5.10*	4.94*	4.74*	5.27*	2.95*
	(0.09)	(0.22)	(0.17)	(0.17)	(0.21)	(0.23)	(0.10)
Democrat	1.84*	-3.57*	-0.25	-0.37*	-0.26	-0.68*	-0.93*
	(0.09)	(0.22)	(0.17)	(0.16)	(0.21)	(0.22)	(0.09)
% R at Origin	0.17*	0.33*	0.33*	0.23*	0.09*	0.28*	0.19*
	(0.003)	(0.01)	(0.005)	(0.005)	(0.009)	(0.008)	(0.002)
R^2_a	.10	.08	.11	.05	.04	.10	.10
N	105,576	42,626	73,630	73,130	26,488	24,723	139,798
SEE	11.5	17.2	16.3	15.4	12.6	13.8	12.5

Data: Cho, Gimpel & Hui (2010)

We further expand the last observation by comparing the partisan composition of the zip codes in 2004 and 2008. Figure 3.20 presents the 'transition matrix' for Republican voters. Unlike the full origin-destination matrix in Figure 3.9 that attempts to show both directions of flows, Figure 3.20 seeks to explore where the migrants would end up in 2008. The rows display the partisan composition of the zip code at origin in 2004 and the columns show the partisan composition of the zip code at destination in 2008. The cells are row-standardized percentages.

For example, for a Republican voter who lived in a zip code with more than 59% of the population as Republicans in 2004, when he or she moves, what is the chance that the voter will end up in a zip code with more than 59% Republicans in 2008? What is the chance that the voter will end up in a zip code with 53% to 59% Republicans? How about the chance to relocate to a zip code with less than 20% Republicans? The color represents percentages---the darker the color, the higher the partisan concentration. Summing the cell entries across each row adds up to 100%.

Figure 3.20 to 3.22 display the transition matrices for registered Republicans, Democrats and Independents (decline to state). The three matrices are comparable---the colored cells concentrated along the diagonals. In other words, moves tend to be incremental. For someone who used to live in a predominantly Republican neighborhood, he or she would probably resettle in another zip code that has similar partisan composition. The off-diagonal cells are usually empty, that implies it is rather rare for someone to make moves that involve dramatic shifts in partisan composition. Nonetheless, notice the center rows tend to have more colored cells than the top or bottom rows. That suggests that in spite of the slight preference for co-partisans, politically moderate or heterogeneous neighborhoods are more commonly preferred. This finding refutes Bishop's (2008) hypothesis that Americans engage in a big (political) sorting where they deliberately seek out those who share similar ideology. A majority of voters remain in politically heterogeneous neighborhoods.

It is important to stress that our findings do not in any way suggest causality. Voters are usually inattentive to politics and do not possess expert political knowledge (Popkin & Dimock 1999; Carpini & Keeter 1997). We do not believe migrants consciously analyze the partisan composition of each neighborhood before making a relocation decision. Rather, as I have shown in the above sections, individual socio-demographic characteristics correlate with both migration decision and partisanship. Schelling (1969) shows that a small preference for one's neighbors to be of the same race or ethnicity can lead to total racial segregation. All it takes is a tiny group of individuals who prefer to live with their co-ethnics. Their relocation decision can spark a cycle of self-segregation and raise in-group favoritism and out-group hostility. I want to further advance Schelling's argument. When it comes to geographic polarization, it does not even matter whether individuals consciously prefer living with their co-partisans. As long as they *appear* to sort geographically by partisanship, even by a small extent each year, geographic polarization will happen, expand and perpetuate.

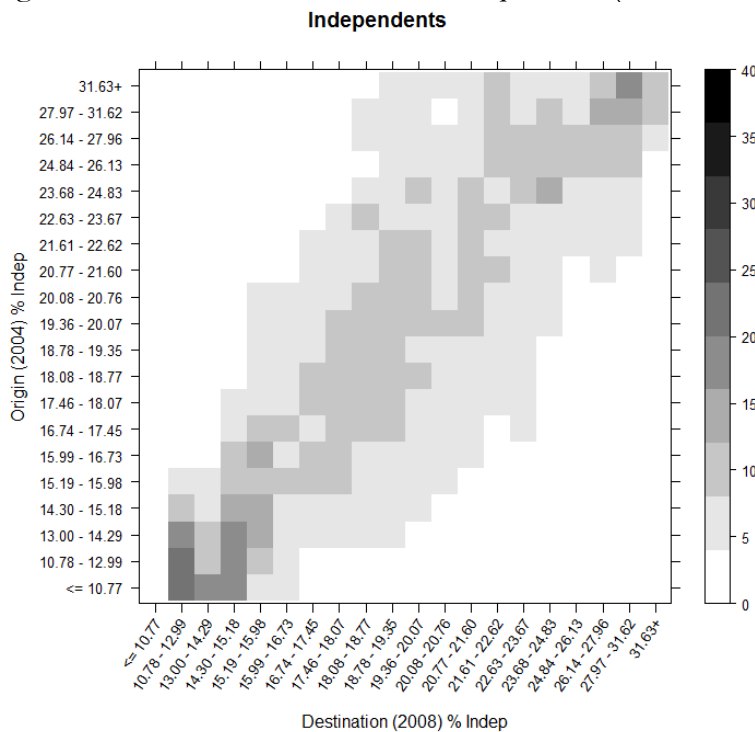Figure 3.20 Transition Matrix for Republican Voters, 2004-2008

Republicans
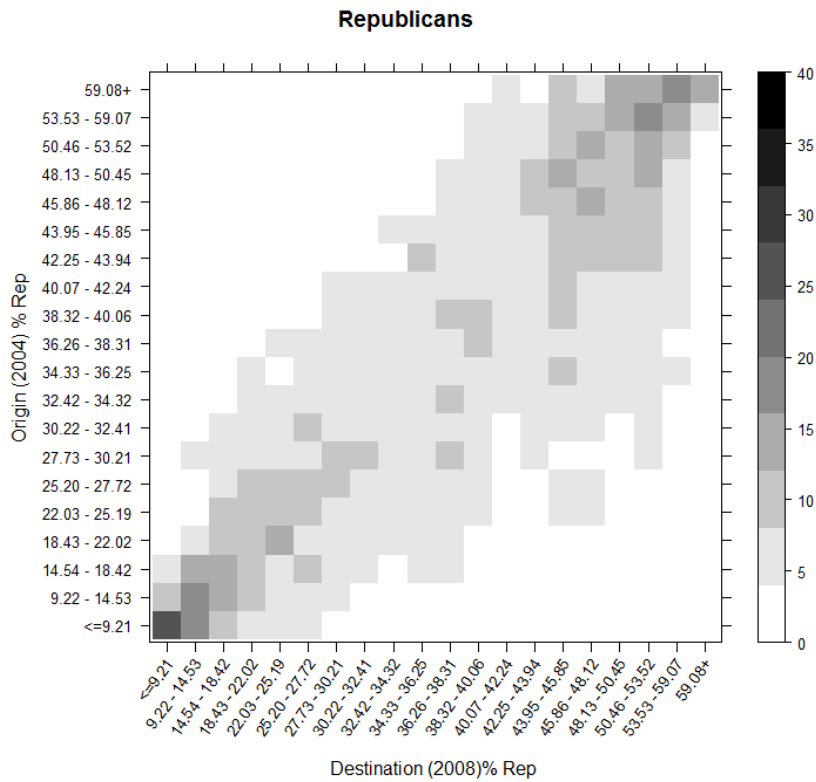
Data: Cho, Gimpel, Hui (2010)

Figure 3.21 Transition Matrix for Democratic Voters, 2004-2008

Democrats
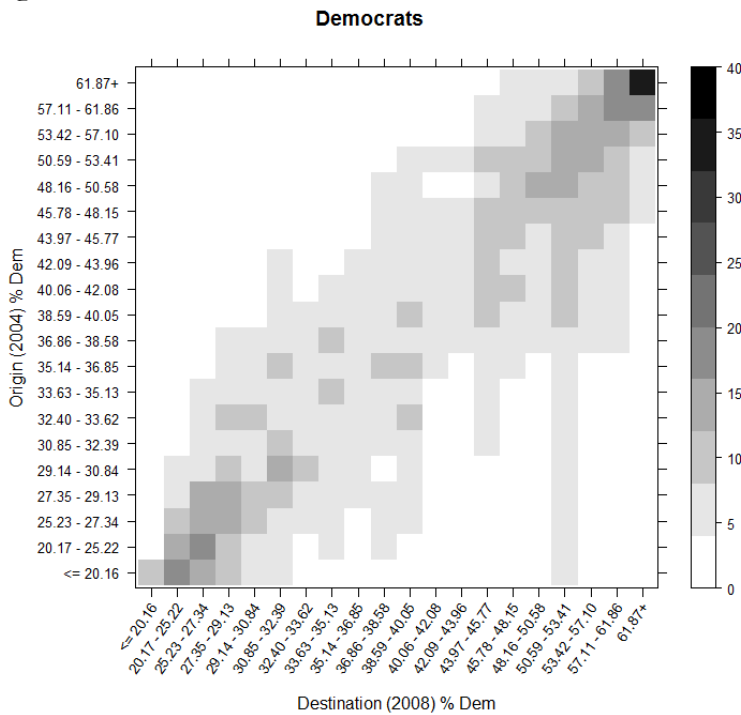
Data: Cho, Gimpel, Hui (2010)

Figure 3.22 Transition Matrix for Independent (Decline to State) Voters, 2004–2008

Data: Cho, Gimpel, Hui (2010)

Section 3.8 Summary

Let me summarize the findings. The analyses of county-level population and net migration data reported by the California DOF reveal that migration is one of the major forces that drove population changes. Although the net migration rates appear to be relatively low, the low rates are simply the result of two heavy, countervailing flows of in- and out-migration. The examination of individual-level CPS data reveals four important findings. First, there is a high level of residential mobility in the electorate. Second, temporally, migration long preceded elite polarization. Third, migration is selective in nature. The decisions to move and where to resettle are tied to one's socio-demographic characteristics. Fourth, although migration rates are sensitive to macroeconomic conditions, the migration patterns have always been historically stable. The entrenched patterns observed are highly likely to continue in the long run.

The examination of county-level data reveals the macroeconomic conditions that facilitate migration. Influxes to Southern California and inland areas are driven by new job opportunities and lower costs of living. The county-to-county migration matrices show enormous inter-regional and intra-regional flows. The two forces combine to reshape the spatial composition of voters across regions. In particular, the spatial distribution of income, educational attainment and ethnic groups, three major predictors of partisan preferences, becomes increasingly skewed

over time. Contrary to expectation, there is no evidence that the spatial distribution of Protestant/Christian voters has changed. Lastly, through tracking voters who moved between 2004 and 2008, I show that moves tend to be politically-incremental. It is unlikely one would move from a predominantly Republican neighborhood to a predominantly Democratic neighborhood. Rather, there is a certain extent of 'political stickiness' in the relocation pattern where the partisan composition of the origin and destination tends to be similar.

Establishing the temporal sequence is vital to causal inference. Nearly every scholar who has written on elite polarization has pointed out that changing demographics is one of the contributors to the phenomenon (Polsby 2004; Black & Black 2007; Stonecash et al. 2003; Theriault 2008; McCarty et al. 2006; Brady & Han 2006; Han & Brady 2007). This Chapter provides clear evidence that selective migration long preceded elite polarization. However, as shown in Chapter 2, geographic polarization only happened since the early 1980s. What can explain the time lag? In the next Chapter, using individual-level survey data, I will show that party sorting largely began in 1980. Party sorting amplifies the effect of changing spatial composition of voters across counties and results in geographic polarization.

Chapter 4
Party Sorting, Place Varying Generational Replacement & Electoral Behavioral Changes

In Chapter 1, I laid out two potential scenarios for how geographic polarization can occur. The first one is caused by spatial compositional change, where voters of certain socio-demographic characteristics cluster geographically. In the second scenario, the spatial composition of voters remains the same. The only difference is electoral behavioral change, where the correlation between voters' socio-demographic characteristics strengthened. Chapter 3 examines the extent of residential mobility and documents spatial compositional changes over time. The goal of this Chapter is to examine electoral behavior changes at the individual-level. Using the Field Poll cumulative file, I will explore how various socio-demographic characteristics are related to partisan preferences, and whether the relationship changed over time.

Section 4.1 Evidence of Party Sorting

The Field Poll is a commercial public opinion poll. Unlike the ANES which stresses over time continuity and comparability, the Field Poll focuses on covering a broad range of 'hot' current political issues. In the mid 1970s, the Field Poll began substituting expensive in-person interviews with telephone interview. The transition was completed in 1980. The advantage of the telephone interview is that more polls can be conducted within a year. The trade-off is that the interview time is severely limited. Often key demographic variables, such as marital status or union membership, are left out with preference for questions tapping current events. Between 1973 and 1982, the marital status question sporadically showed up in surveys. The question on union membership was not on any surveys from 1989 to 1997. Furthermore, sometimes question wording and response categories vary significantly across polls. For example, prior to 1970, there are only three race categories---white, black and other. After 1971, Latino, Asian (initially referred to as 'Oriental') and other minority groups are gradually introduced into the survey. In order to select a subset of polls with the fewest missing variables, I limit my analyses to polls conducted from 1971 onwards.

As discussed in Chapter 1, some earlier polls only asked party identification but not party registration. Instead of excluding those polls, I created an outcome variable (Y) by combining both pieces of information. Party registration of a respondent is used whenever it is available. If not, I used the respondent's party identification as a substitute. I only examined two-party registration. The hybrid outcome variable is what I refer to as 'party affiliation' (1 if either registered or identified as a Republican; 0 if registered or identified as a Democrat).

Since I am interested in detecting changes in electoral behaviors over time, instead of pooling years of surveys, I ran the following logit model separately for each year:

$$Y=\alpha_0 + \alpha_1 \text{Male} + \alpha_2 \text{Religion} + \alpha_3 \text{Education} + \alpha_4 \text{Income} + \alpha_5 \text{Race} + \alpha_6 \text{Age} + \alpha_7 \text{Region}$$

Male is in the form of a binary variable (1=male, 0=female). As for religious affiliation, I created dummies for Protestant, Catholic and Jewish. The baseline consists of respondents who say they do not have any religious preference or are affiliated with the 'other group'. For education, the baseline category is those who either did not finish or only graduated from high school. The other two dummies represent the respondents who have some college education, and those who graduated from college or have advanced degree(s). I use income quintile and create three dummies for the 2nd, 3rd and 4th (richest) quintile respectively. Race is represented by four categories, non-Hispanic blacks or others (baseline), non-Hispanic whites, non-Hispanic Asians and Hispanics. Lastly, I divide the respondents into five age groups, with the oldest group as the reference category.

Figures 4.1 to 4.7 plot the multivariate logit coefficients by year. The dots represent the logit coefficients, and the tails indicate the 95% confidence interval. Positive coefficients imply that having the characteristic makes the respondent more likely to affiliate with the Republican Party; negative coefficients suggest the respondent is more likely to affiliate with the Democrat Party. If one end of a tail touches the horizontal line at zero, it indicates the variable is not statistically distinguishable from the baseline category in that particular year.

Although there is little gender disparity in the level of electoral participation (Lien 1998; Bennett & Bennett 1992), men and women express different partisan preferences as shown in Figure 4.1. What contributed to the rise of the gender gap in vote choices? There are several theories. Economic theories argue that the increasing labor force participation by women directly contributed to the gap. Because women are more vulnerable in the labor force, they are also more likely to depend on public services for childcare and other family support (Box-Steffensmeier et al. 2004; Manza & Brooks 1998). The attitudinal theories attest that feminist teaching, as well as their liberal attitudes towards social service spending also orients women towards the Democratic Party (Manza & Brooks 1998). Figure 4.1 shows the logit coefficients for being male. Prior to 1980, the coefficients were around zero, indicating virtually no difference in partisan preferences between males and females. After 1980, it becomes clear that the coefficients are positive and statistically significant at 0.05 level. That is, men have grown more pro-Republican. The trend continues over time. Other studies at the national level also report a persistent gender gap that first emerged around 1980 (Manza & Brooks 1998; Box-Steffensmeier et at. 2004).

Figure 4.1 Logit Regression Coefficients for Male, 1971-2008

**Male vs.(Female)**
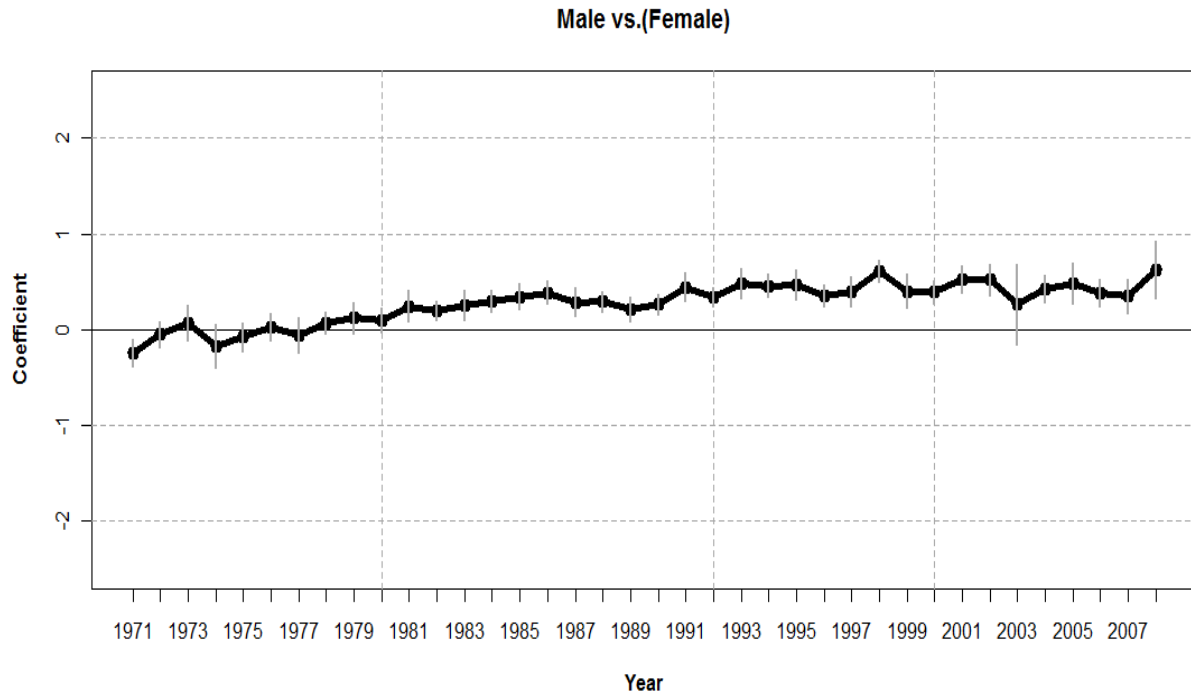
Data: Field Poll Cumulative File

Turning to religious affiliation, the literature has conflicting accounts on when the partisan preferences of various religious groups changed. Wilcox (1988) notes that a sizable bloc of Evangelicals began moving towards the political left endorsing McGovern. Olson & Green (2006), however, report that there was no sustained religion gap in presidential voting prior to 1992. Nixon and Regan received larger support from regular church attendees but the worship attendance gap remained relatively small. They argue that Reagan's presidency might have laid the seeds for the religion gap but the seeds took a decade to mature. George H. W. Bush was the first Republican presidential candidate to enjoy the overwhelming support from regular church attendees. By 2004, his son enjoyed an even larger advantage. The difference between the George W. Bush vote among the most and least frequent worship attendees was fully 28 percent points.

In terms of coalition building, Kellstedt et al. (1994) find that Evangelical Protestants solidified their affiliation with the Republican Party and formed a core voting bloc in the Party. Brooks (2002) explains that the shift is driven by family values. Evangelical Protestants who attend church regularly worry the most about declining family values in the society. They attribute divorce, single-parent families and other social problems to the breakdown of family. Mainline Protestants, typically in the middle of the political spectrum, deserted the Republican Party in support of Clinton and Perot. A similar pro-Clinton voting pattern was found among Catholics (Kellstedt et al. 1994). Stanley & Niemi (2006) find that the Republican Party's support came from a combination of Southern whites, a strong religious base of Catholics, regular church attendees and Protestant fundamentalists. For Democrats, the changes to the Party are defined

by the loss of certain groups, including Catholics, union households and regular church attendees. The loss was compensated by the gain among women and Hispanic voters.

Unfortunately the Field Poll does not often have questions on frequency of church attendance or measures on one's strength of religious conviction. But it does have a regular question on religious affiliation. The California findings are comparable to those at the national level. Figure 4.2 shows that Protestant and Catholic have increasingly been drawn to the Republican Party, relative to the baseline group (those who have no religious preference or affiliate with other religion). The green trend shows the coefficients for Jewish people. The confidence intervals tend to be wider than the other two groups due to the small number of respondents who identified as Jewish in each survey. Note that since the line is always below the zero horizontal line, implying that the group always prefers the Democratic Party.

Figure 4.2 Logit Regression Coefficients for Religious Groups, 1971-2008
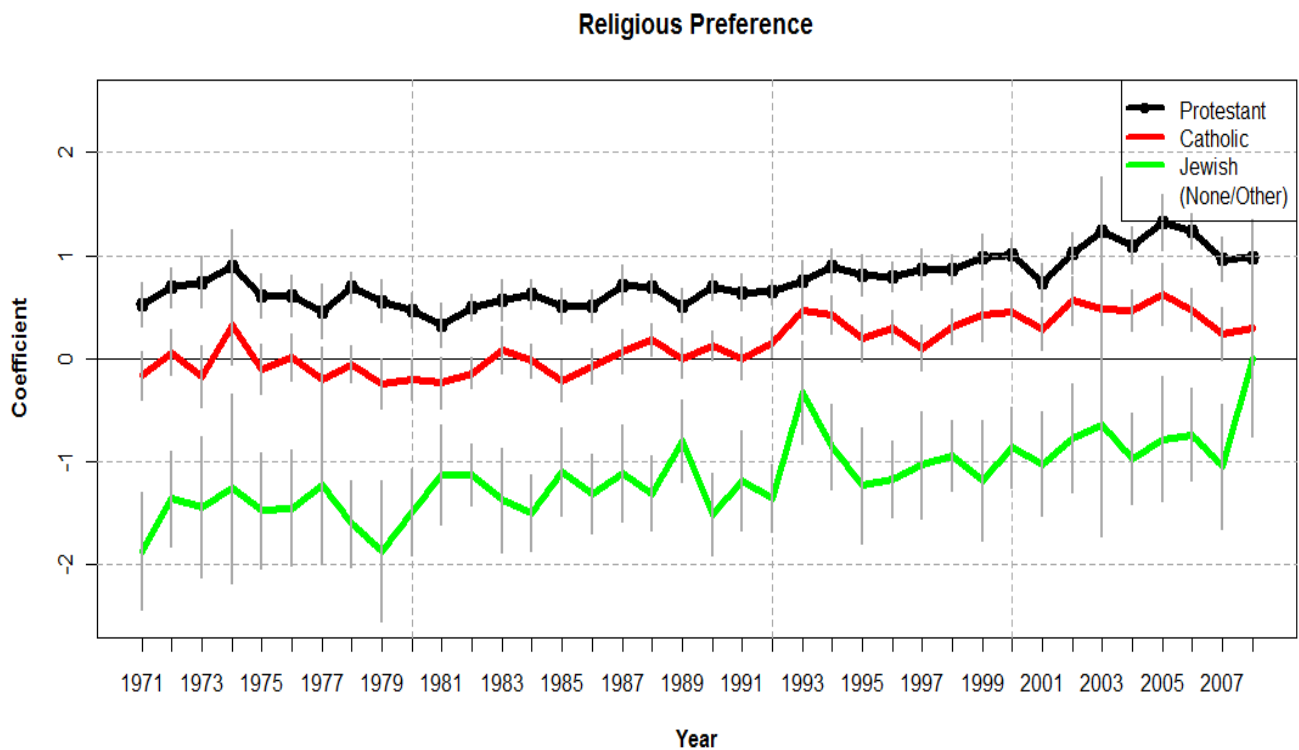
Religious Preference

Figure 4.3 plots the coefficients for the two educational groups, those who have some college education and those with at least a bachelor degree. In the early 1970s, these two groups were significantly more likely to affiliate with the Republican Party than the baseline group (those who had at most high school education). The trend has diminished, if not reversed, after the 1980s. Holding other demographic factors constant, it appears that those who have completed college or hold higher degree(s) are slightly more likely to turn to the Democratic Party.

Figure 4.3 Logit Regression Coefficients for Education, 1971-2008


Education
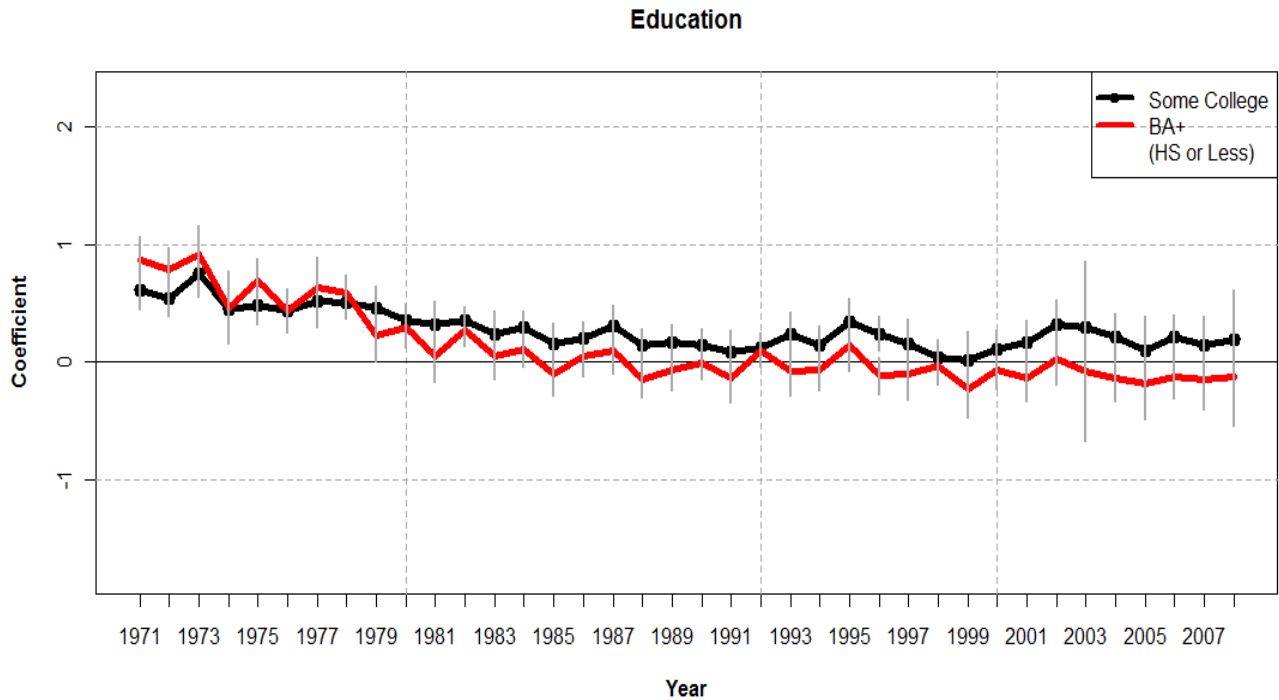
Data: Field Poll Cumulative File

Figure 4.4 shows the coefficients for the three income groups. Consistently with Gelman et al. (2007, 2008), at the individual level, higher income is associated with a higher likelihood of Republican Party affiliation. Some national studies find growing disparity across income groups over time (McCarty et al. 2006; Fiorina 2005). But this finding is not replicated in Figure 4.4. The discrepancy perhaps is driven by the creation of income quintiles in the Field Poll cumulative file. Not only did the number of income categories available fluctuate across polls, the range of dollar value captured by each category is also incompatible. The only way to make income responses consistent over time is to create equal size income quintile groups.[43] The bottom line is that class voting is not dead. Income remains a powerful predictor of partisan preferences.

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[43] Refer to the official Field Poll cumulative file codebook for a thorough discussion on the creation of income quintiles and quarters. The codebook can be obtained from the website of UCDATA at UC Berkeley.

Figure 4.4 Logit Regression Coefficients for Income Groups, 1971-2008
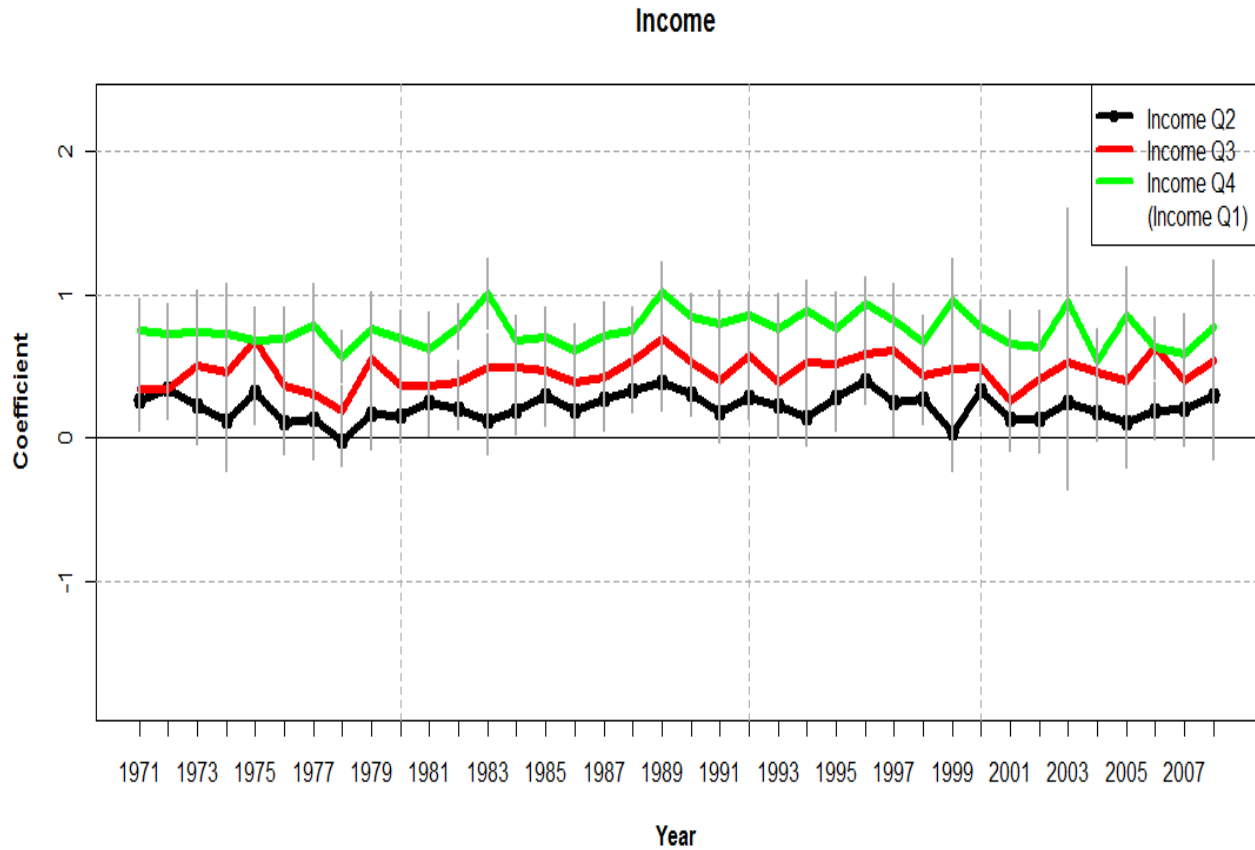
Data: Field Poll Cumulative File

Brooks & Manza (1997) examine various social cleavages in the U.S. presidential elections between 1960 and 1992. They find no evidence of diminishing class cleavages. In fact, they report that the race cleavage has increased considerably since 1960 and the gender cleavage increased modestly in this period. My findings are comparable to their conclusion. The Field Poll began interviews in Spanish in 1992. The switch does not appear to have markedly influenced the results. Non-Hispanic blacks comprise of the baseline group in Figure 4.5. It should be of no surprise that this group is the most pro-Democratic Party while non-Hispanic whites are more likely to affiliate with the Republican Party. Although race remains the strongest predictor of partisan preference at the individual level, the racial disparity actually diminishes over time. By 2000, Hispanics and non-Hispanic blacks are affiliating with the Republican Party at similar rate.

Figure 4.5 Logit Regression Coefficients for Racial/Ethnic Groups, 1971-2008
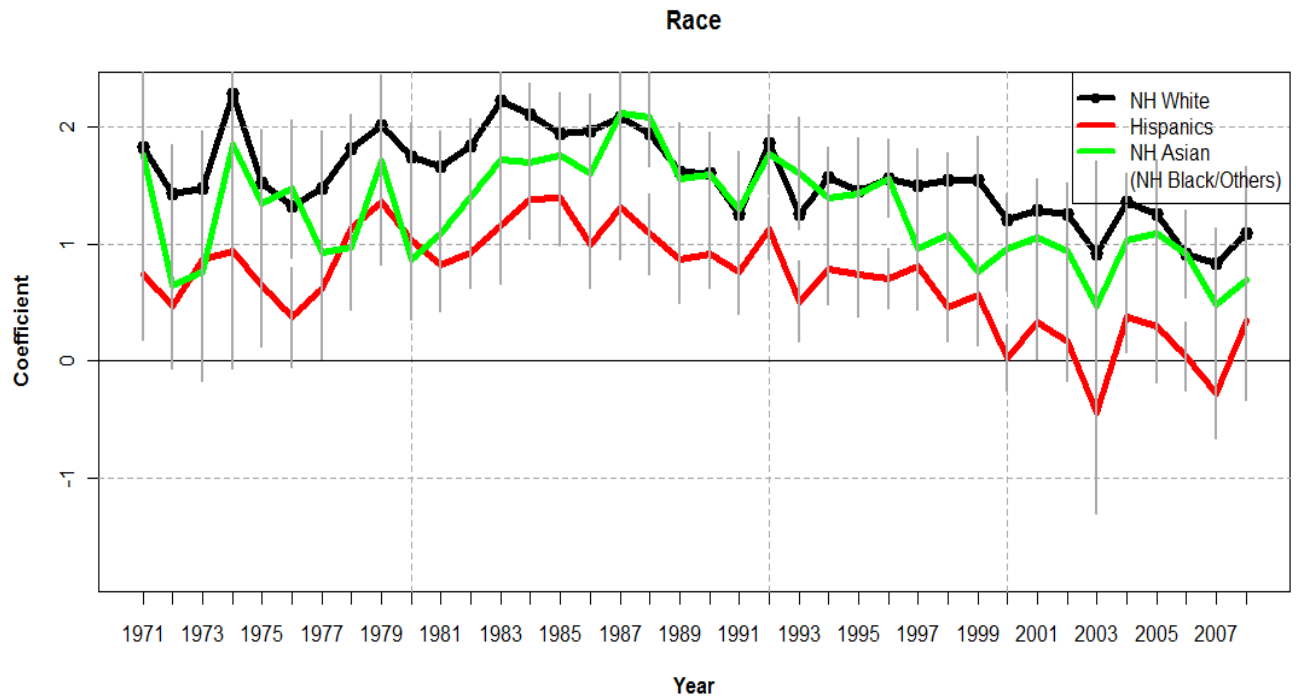
Data: Field Poll Cumulative File

Figure 4.6 reports the coefficients for the geographic regions. Echoing the results found in Chapter 2, holding other socio-demographic characteristics constant, respondents in Southern California (excluding Los Angeles County) and inland counties have grown more pro-Republican than respondents in the Bay Area (baseline category).

Figure 4.6 Logit Regression Coefficients for Regions, 1971-2008

Region
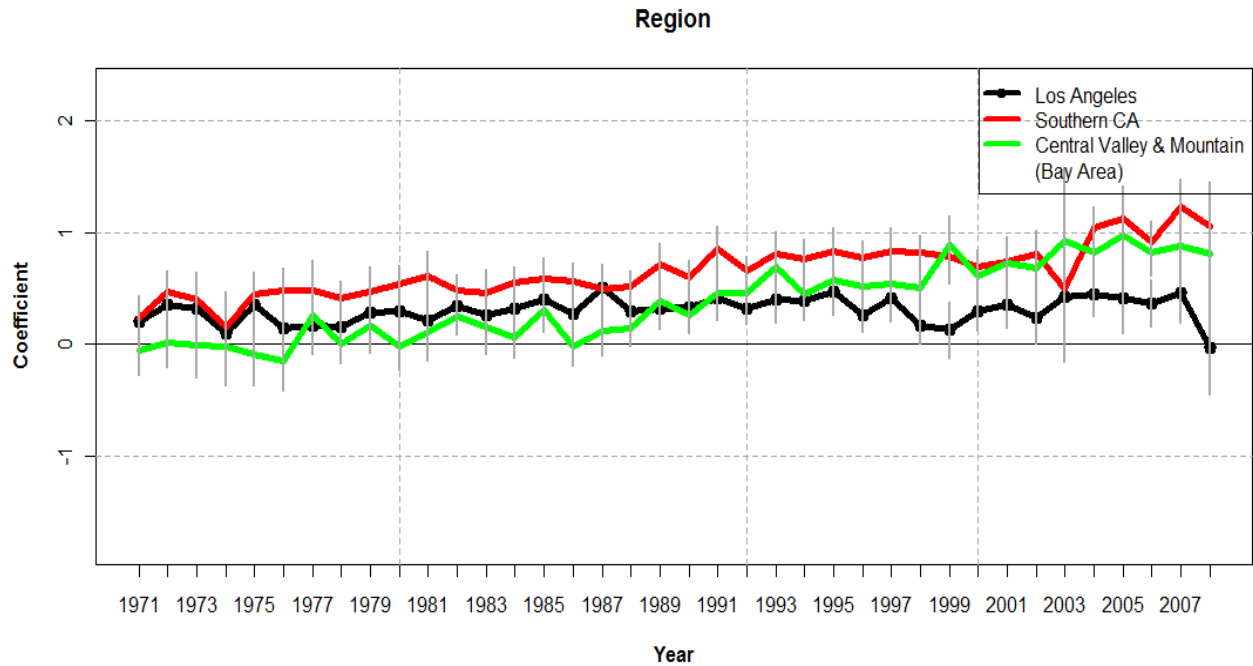
Data: Field Poll Cumulative File

Figure 4.7 plots the coefficients for four age groups. I save this discussion to the last because the findings are the most intriguing. Respondents who are 60-year-old or above form the baseline category. Prior to 1980, age appears to be inversely related to the likelihood of affiliating with the Republican Party. The negative coefficients for the youngest group, age 18–29 (represented by the black solid line); indicate that this group was more drawn to the Democratic Party. However, the relationship is reversed after 1980. Consistent with the generational replacement theory, the youngest group responded favorably to the Reagan administration and became its strongest supporters. Between the mid 1980s and mid 1990s, this youngest group significantly deviated from other age groups in its pro-Republican leaning. The deviation gradually wore off after the mid 1990s. By 2000, the age differentials appear to have diminished.

Figure 4.7 Logit Regression Coefficients for Age Groups, 1971-2008
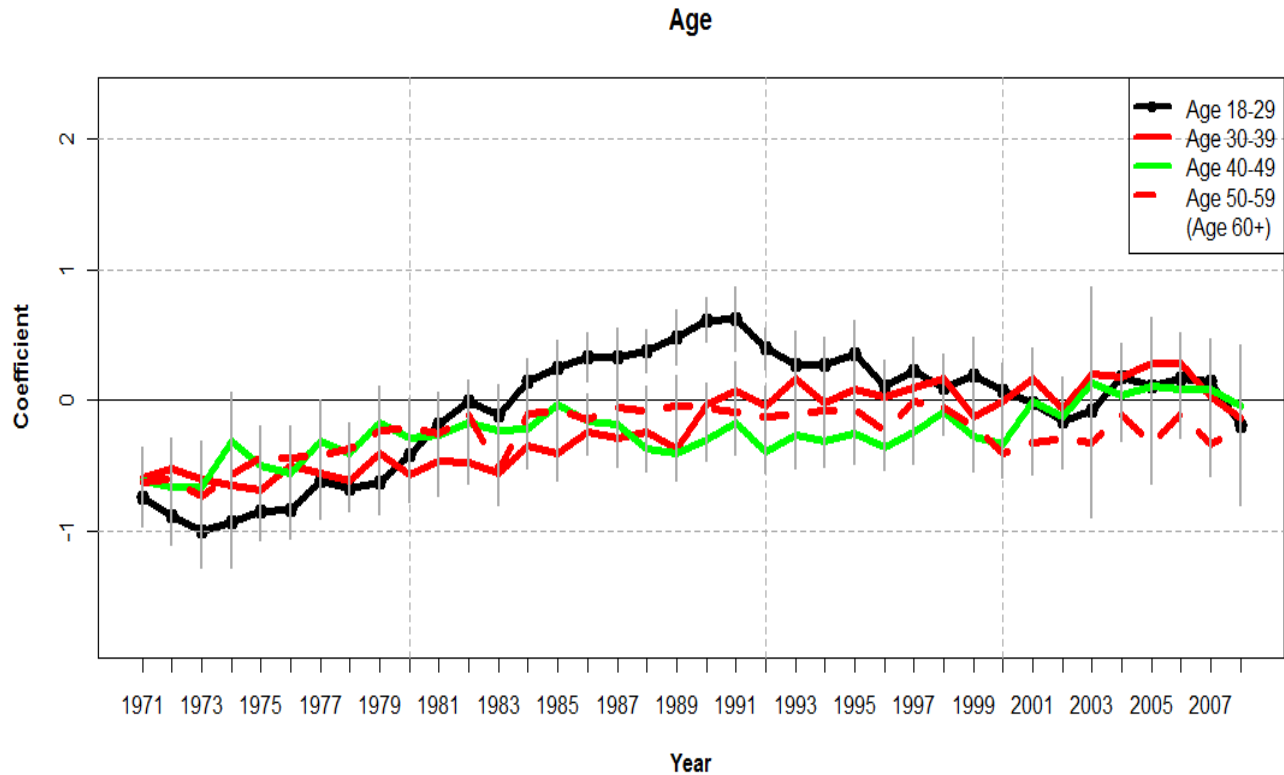
Data: Field Poll Cumulative File

Section 4.2 Spatially Dependent Generational Replacement

What can explain the "bulge" in Figure 4.7? Can it be an artifact of the Field Poll sample? In addition, is the pattern observed identical in every region in the state?

Before I proceed to investigate the age differentials in partisan preferences, I examine voter registration records obtained from the Statewide Database (SWDB). The SWDB datasets span from 1992 to 2008. For each election cycle, I obtained the voter registration file and the Statement of Vote file at the precinct level and aggregated the records at the county level (refer to Appendix I for more discussion of these datasets). Unlike the Field Poll samples, the voter registration files contain summary records for <u>all</u> registered voters. The dependent variable is the percentage of two-party voters who registered with the Republican Party (1=registered with the Republican Party; 0=Democratic Party).

Figure 4.8 show that cross-tabulation between age groups and party registration for four regions. I divided the registered voters into six age groups: age 18-24; age 25-34; age 35-44; age 45-54; age 55-64; age 65 or above. Each cell represents the percentage of registered voters in that age group who registered with the Republican Party. The color scale represents the

variation in Republican registration, a light yellow color indicates that a low percentage of voters registered as Republicans and dark red color indicates the opposite. Comparing the four diagrams, the SWDB data reveal an additional layer of complexity compared with Figure 4.7 --- there is notable spatial variation. Younger cohorts in the Bay Area and Los Angeles County are less likely to register with the Republican Party, as indicated by the light yellow color. In addition to the spatial variation, the data also reveal variation by age and by year. Within the Bay Area and Los Angeles County, when comparing across age groups, it appears that the younger age groups are systematically more pro-Democratic than the older cohorts. This age contrast, though, is less pronounced in the other two regions. Nonetheless, by comparing across years, the election cycle in 2008 is associated with the highest number of Democratic registration across the board. Voters who are 34-year-old or younger were especially more receptive to Obama's get-out-the-vote campaign.
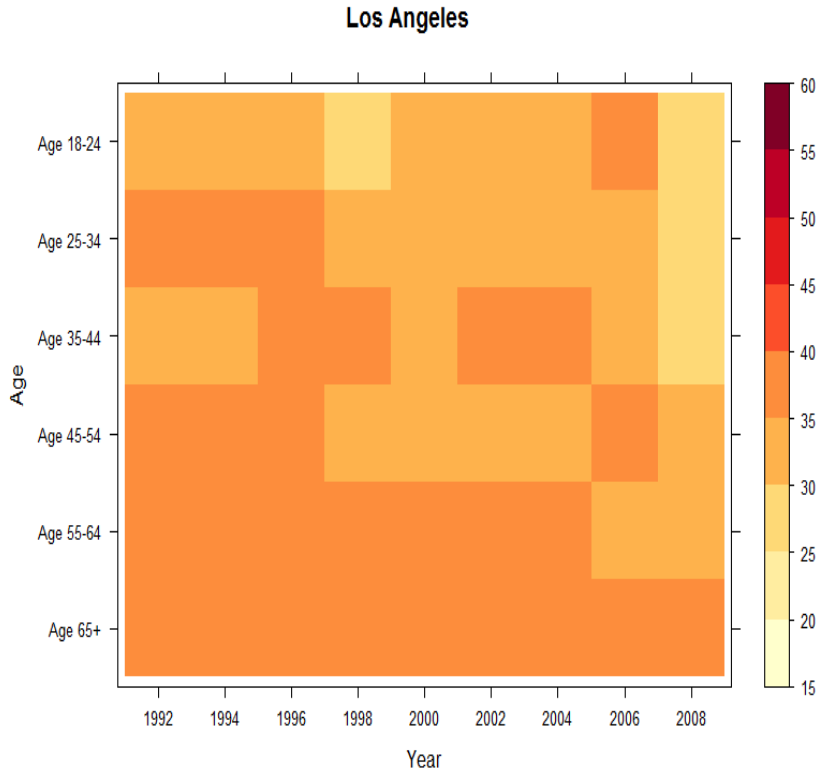
Figure 4.8 Republican Party Registration by Age Groups and Regions, 1992-2008
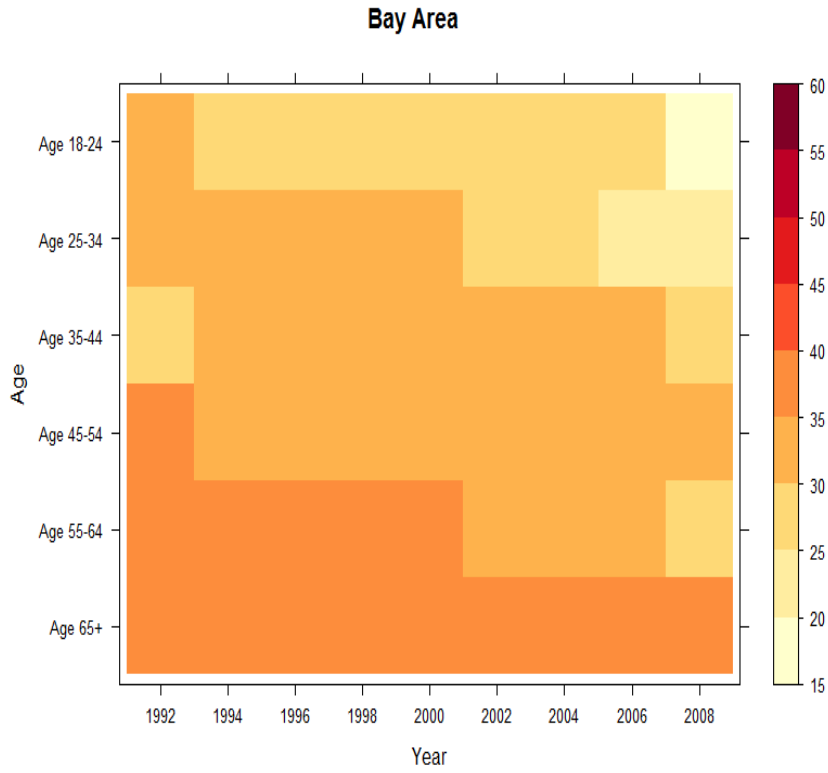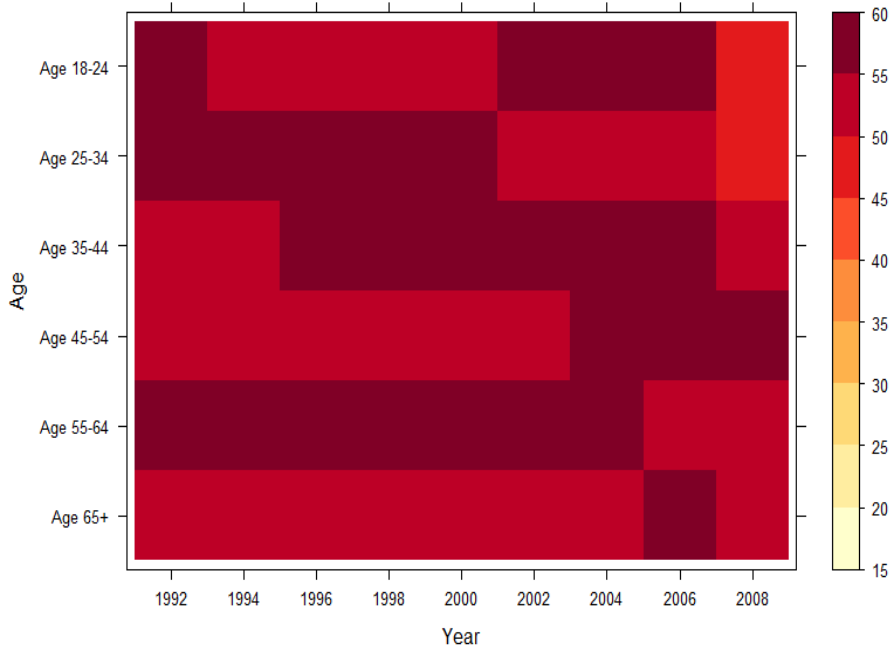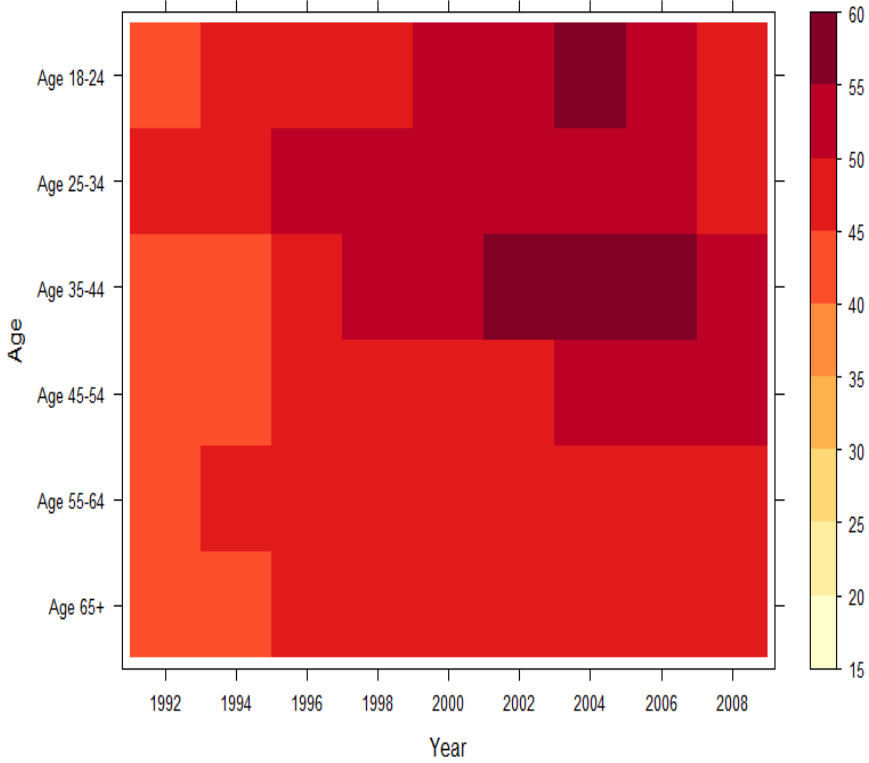

Bay Area

Los Angeles

Figure 4.8 Republican Party Registration by Age Groups and Regions, 1992-2008

Southern California

Central Valley & Mountain

Data: Statewide Database Voter Registration Data

The SWDB data reveal significant spatial variation. I now return to the Field Poll data. To allow for spatial variation, I re-ran the above logit model <u>separately</u> for each region:

$$Y = \alpha_0 + \alpha_1 Male + \alpha_2 Religion + \alpha_3 Education + \alpha_4 Income + \alpha_5 Race + \alpha_6 Age\ Group$$

Since the patterns in the Southern and inland counties are comparable, I combine these two regions in reporting. Figures 4.9, 4.10 and 4.11 employ the same setup as Figure 4.7. These Figures display the logit coefficients by regions. Recall that those who are 60-years-old or above form the baseline category. The logit coefficients represent that age differential between a selected group and the baseline group. Dissecting the data by regions increases the sample variability. That explains why these three Figures have more 'spikes' and are less smooth than the previous Figures using the full dataset. It is more important to focus on the overall trends, rather than a few irregularities in the diagrams.

Notice that the 'bulge' that appears in Figure 4.7 re-appears in all three diagrams, suggesting that the youngest age group did respond more favorably to the Republican Party in the 1980s and early 1990s than the older age groups. However, the timing, as well as the 'enthusiasm' varies by regions. Among the respondents in the Bay Area counties, the youngest group gradually became more pro-Republican Party. The peak appears in the late 1980s, whereas in the other regions, the peak emerges a few years earlier. In terms of enthusiasm, it is apparent that the coefficients are significantly larger in the other regions than in the Bay Area. In fact, younger voters outside the Bay Area remain more supportive of the Republican Party than the older voters even after the 1990s.

Figure 4.9 Logit Regression Coefficients for Age Groups in Bay Area, 1971-2008
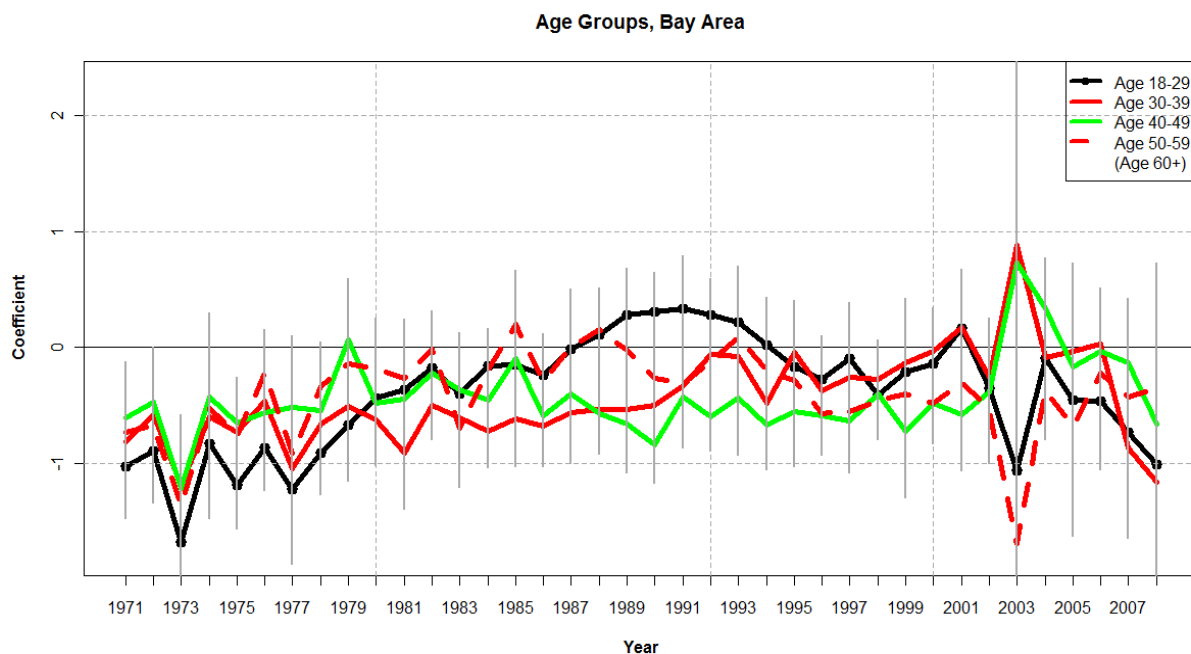
Data: Field Poll Cumulative File

Figure 4.10 Logit Regression Coefficients for Age Groups in Los Angeles County, 1971-2008

Age Groups, Los Angeles
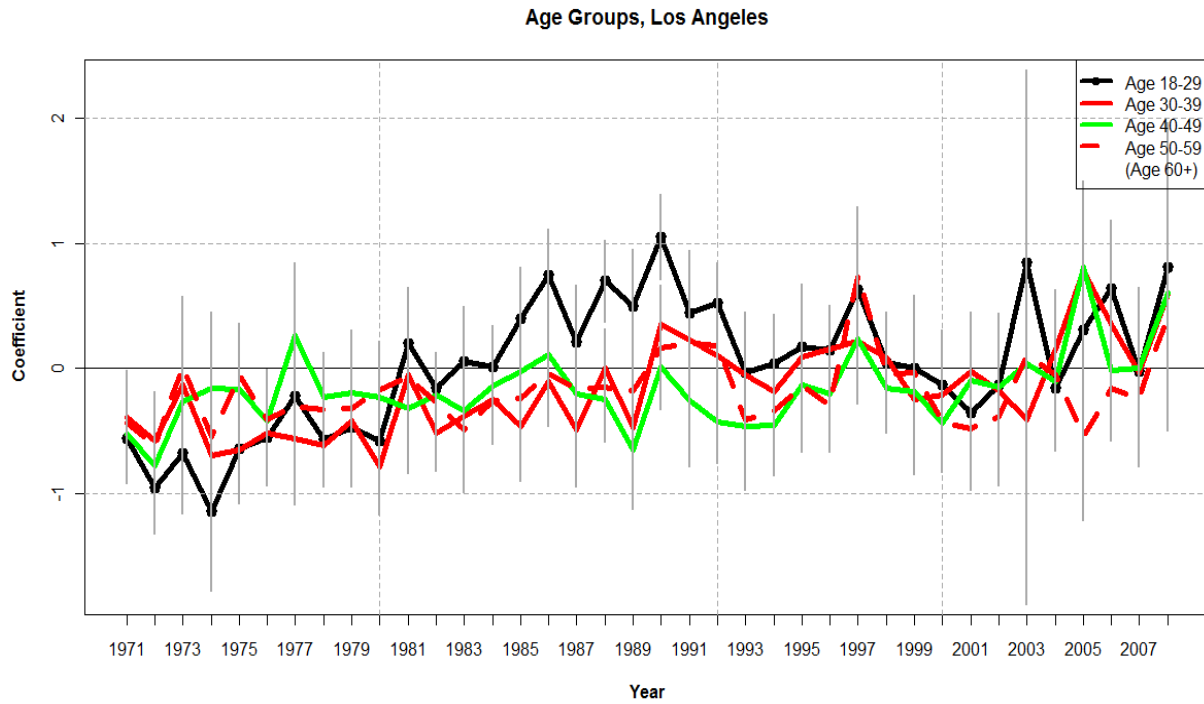
Data: Field Poll Cumulative File

Figure 4.11 Logit Regression Coefficients for Age Groups in Southern and Inland Counties, 1971-2008

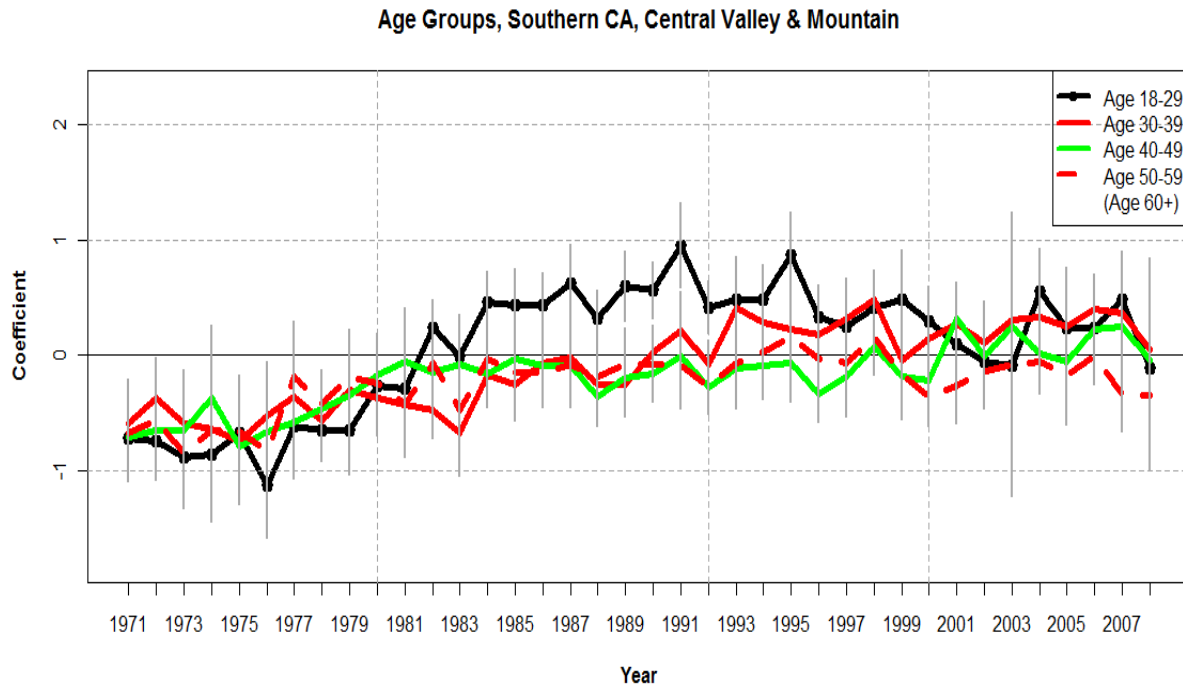**Age Groups, Southern CA, Central Valley & Mountain**

Figure 2.1 in Chapter 2 shows the changes in macro-partisanship over time. The George H.W. Bush administration witnessed the peak of the Republican Party registration. These three Figures provide strong empirical evidence that the growth in Republican Party affiliation was primarily induced by generational replacement --- where young voters coming into the electorate were more supportive of the Republican Party than their older cohorts.

Political socialization is a thoroughly researched topic in political science. Many scholars have written on how events we experience in different life stages can affect how we think, perceive reality, and interact with other members in a society. Scholars have identified several important socializing agents, for example, parents, schools, friends, media, members from the same social groups, or members from reference groups (Jennings & Niemi 1974; Campbell et al. 1960; Greenstein 1960; Jaros et al. 1968; Conway et al. 1981; Atkin & Gantz 1978; Orum 1972). In addition to people, major political events, such as the Watergate scandal, the Vietnam War or the September 11th terrorist attack, can also alter one's belief system (Sears & Valentino 1997; Hershey & Hill 1975; Damico et al. 2000). There are two contentious theories on when socialization occurs and matters. On the one hand, the 'lifelong openness' theory hypothesizes that socialization is a continuous process where individuals never stop learning. Studies have shown that as one continues with his or her life journey, new experiences and life-cycle changes can shake up an existing belief system (White et al. 2008; Glaser & Gilens 1997; Danigelis et al. 2007; Stoker & Jennings 1995). On the contrary, the 'persistence' theory argues that socialization occurs early in life and pre-adult socialization tends to persist into adulthood (Jennings & Niemi 1974, 1978; Campbell et al. 1960; Greenstein 1960). Some researches find evidence in favor of both theories (Miller & Sears 1986; Glaser & Gilens 1997).

Without a long panel data that tracks a set of individuals over time, it is hard to adjudicate whether socialization continues throughout one's life journey or not. But the literature largely agrees that late adolescence and the college years belong to an important 'formative phase' for developing political identity and belief system (Vollebergh et al. 2001; Edelstein 1962; Orum 1972; Newcomb 1943). The political period in which one 'comes of age' is more informative than one's age alone. Apart from that, age can be hard to interpret in a long time-series. An 18-year-old who responded to the Reagan conservative movement in 1980 would be a 28-year-old in 1990 and a 38-year-old in 2000. In order to tease out the age-period-cohort effect, I created a new battery of variables which I refer to as 'coming of age' variables. The first step is to compute the year of birth for each respondent. I subtracted the age of the respondent from the survey year. Then I computed the period in which the respondent would celebrate his or her 18th birthday. Because specific age is only available in surveys since 1976, I have to limit my analyses to respondents interviewed between 1976 and 2008. Table 4.1 provides some simple examples. For example, for someone who was born in 1940, he would turn 18 in 1958 and would be classified into the '1950s cohort'. Similarly, for someone who was born in 1950, he or she would turn 18 in 1968 and would belong to the '1960s cohort'. Someone who turns 18 in 1990 or 1999, for example, would belong to the same '1990s cohort'. My last survey ended in 2008, which implies the youngest respondent would have been born in 1990. Given that there are very few respondents in the '2000s cohort', I combined them with the '1990s' cohort. Altogether, there are six 'coming of age cohorts':

1) on or before 1940s (i.e. coming of age before 1949);
2) 1950s (i.e. coming of age between 1950 and 1959);
3) 1960s (i.e. coming of age between 1960 and 1969);
4) 1970s (i.e. coming of age between 1970 and 1979);
5) 1980s (i.e. coming of age between 1980 and 1989);
6) 1990s (i.e. coming of age between 1990 and 2008).

Table 4.1 Examples of Birth Year, Coming of Age Year and Coming of Age Cohort

Birth Year	Year At 18-year-old	Coming of Age Cohort
1940	1958	1950s
1945	1963	1960s
1950	1968	1960s
1962	1980	1980s
1970	1988	1980s
1980	1998	1990s
1985	2003	2000s
1990	2008	2000s

Figure 4.12 shows the distribution of these cohorts by year for the three regions. As discussed in Chapter three, Hispanics tend to have higher fertility rates than non-Hispanic whites. The difference in fertility partly accounts for the bigger presence of younger cohorts in Los Angeles County. In addition, international immigrants arriving in that region also tend to be younger. The graph illustrates the extent of gradual generational replacement. In 1976, and as this subset of Field Poll data begins, the 1940s cohort accounts for sixty percent of the samples. The size of the cohort shrinks to ten percent or less by 2000.

The same Figure also provides preliminary evidence of how generational replacement can reshape the spatial composition of voters across geographic regions. Imagine a case where there is no age differential in partisan preferences, in other words, the period in which someone comes of age is uncorrelated with his partisan preference. In that case, the political impact of generational replacement would be minimal. Now imagine that the younger cohorts are diametrically different from the older cohorts, then generational replacement would have a sweeping impact on the aggregate macro-partisan balance. Therefore, the political impact of generational replacement depends on the magnitude of cohort differentials in partisan preferences. To measure this, I resort to the previous multivariate logit model, except this time I substituted age groups with my new 'coming of age cohorts'. I ran the following model:

$Y = \alpha_0 + \alpha_1 Male + \alpha_2 Religion + \alpha_3 Education + \alpha_4 Income + \alpha_5 Race + \alpha_6 Coming\ of\ Age\ Cohort$

Figures 4.13, 4.14 and 4.15 display the coefficients. Figure 4.13a, 4.14a and 4.15a are limited to the years between 1971 and 1989, while Figures 4.13b, 4.14b and 4.15b cover the entire study period between 1971 and 2008. The reason I have two sets of graphs is because the baseline category is different. For the first set of graphs, the baseline group consists of respondents who came of age before year 1950. The purple line represents the respondents who first came of age in the 1980s, that is why the line only starts in year 1980. Despite the regional variation, there is one consistent pattern -- the purple line lies above the other trends. The growth in

Republican strength was primarily driven by these young voters coming into the electorate who are different from ther older voters. The enthusiam for the Reagan administration quickly wore off in the Bay Area, while it persisted in the other counties.

By year 1990, those who came of age in the 1940s would be at least a 59-year-old. As this group gradually shrinks in size, I have little choice but to substitute the baseline category. In the second set of graphs, I expanded the baseline category to include all respondents who came of age before year 1960. The yellow lines in Figures 4.13b, 4.14b and 4.15b represent the 1990s cohort (i.e. those who came of age between year 1990 and 2008). One common feature across the three Figures is that these yellow lines all exhibit a downward trend, suggesting that the younger cohort coming of age in the 1990s, during the Clinton era, is becoming less pro-Republican Party over time. Significant regional variation can also be observed among respondents in the 1990s cohort. Race, income, education and gender, as previously shown, are major predictors of partisan preferences. Even after controlling for these major predictors, there is still a sizable interaction effect between the region of residence and generational replacement effect. That is, other socio-demographic characteristics being held equal, a young voter coming of age in the Bay Area region is far less likely to register as a Republican than someone in the Southern or inland counties.

Figure 4.12 Distribution of Coming of Age Cohorts by Regions, 1976- 2008.
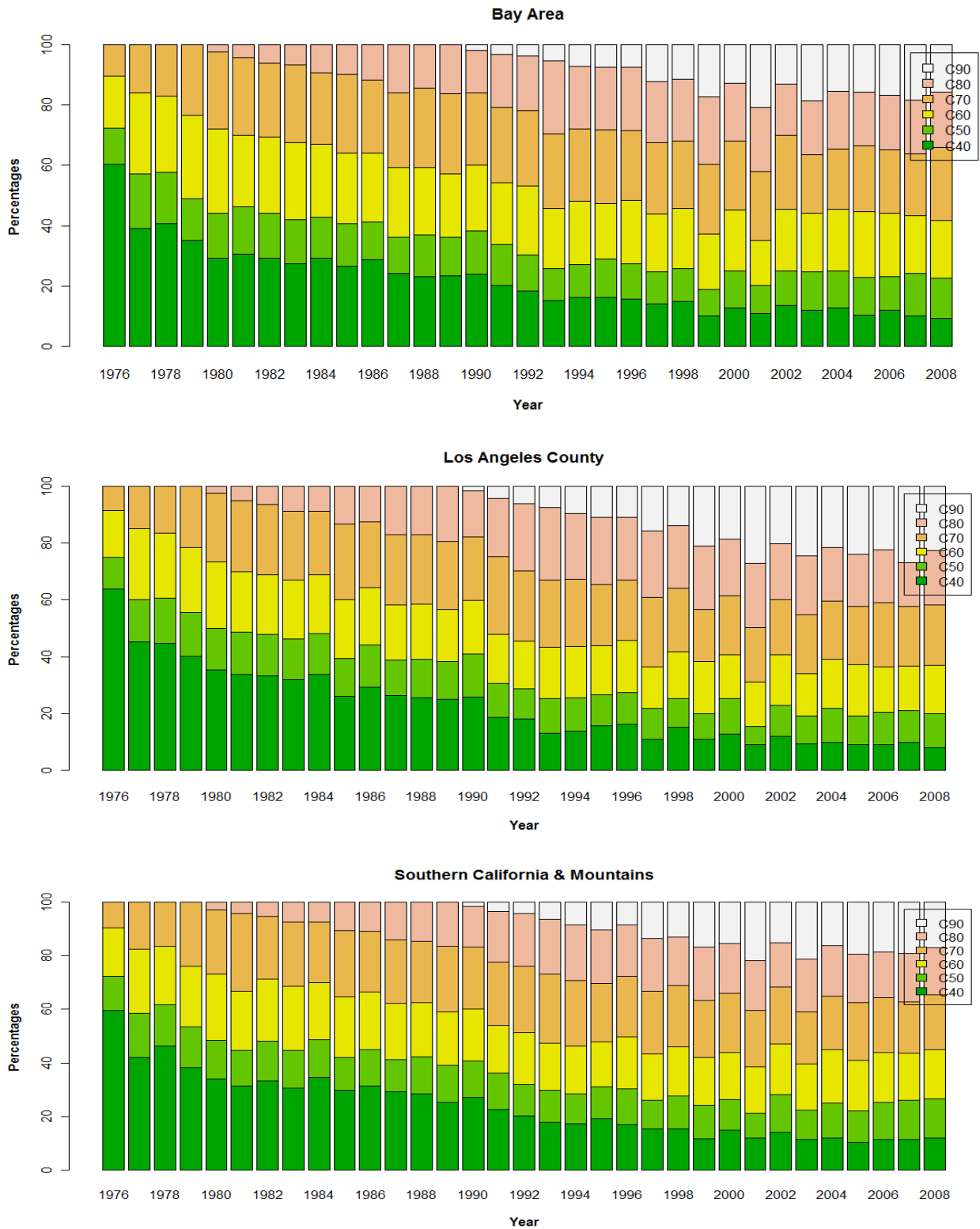
Data: Field Poll Cumulative File

Figure 4.13a Logit Regression Coefficients for Coming of Age Cohorts in Bay Area, 1976-1989
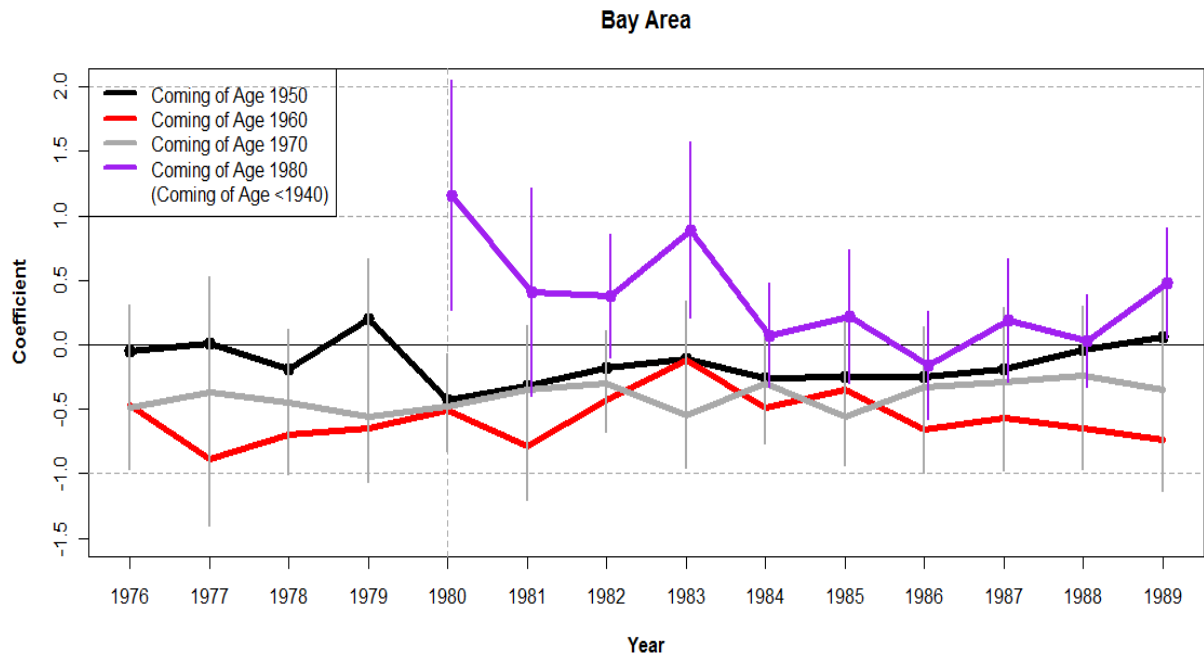
Data: Field Poll Cumulative File

Figure 4.13b Logit Regression Coefficients for Coming of Age Cohorts in Bay Area, 1976-2008
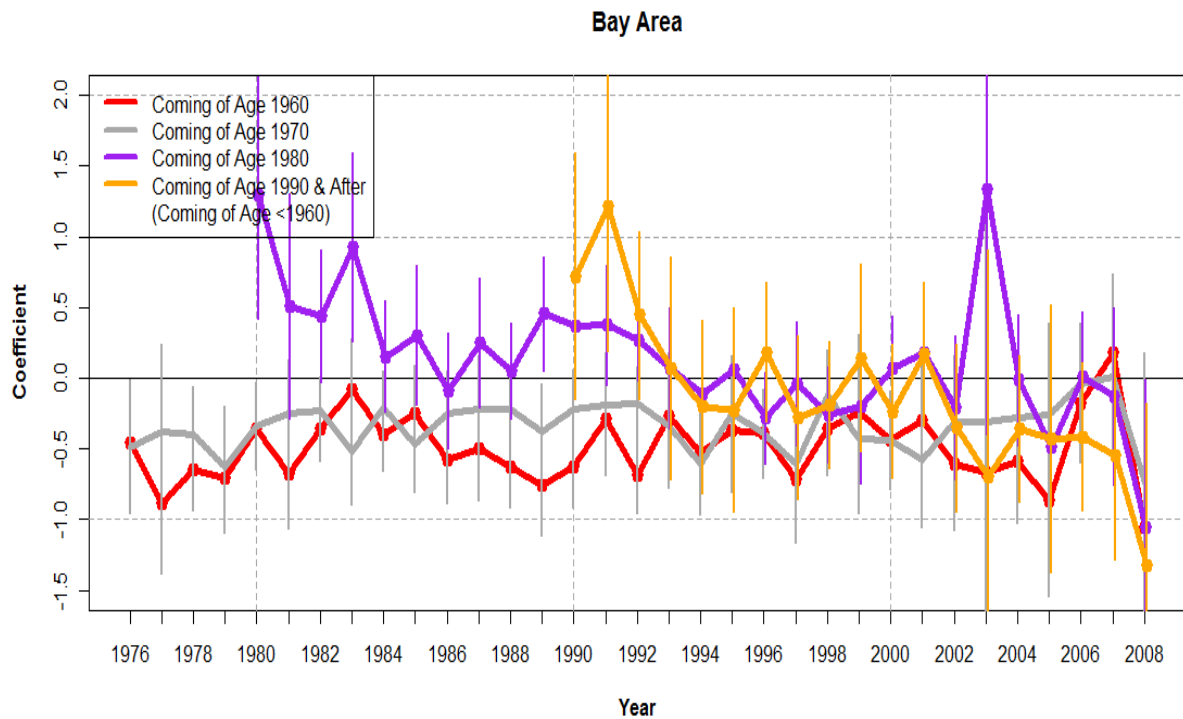
Data: Field Poll Cumulative File

Figure 4.14a Logit Regression Coefficients for Coming of Age Cohorts in Los Angeles County, 1976-1989

Figure 4.14b Logit Regression Coefficients for Coming of Age Cohorts in Los Angeles County, 1976-2008

Data: Field Poll Cumulative File

Figure 4.15a Logit Regression Coefficients for Coming of Age Cohorts in the Remaining Counties, 1976-1989
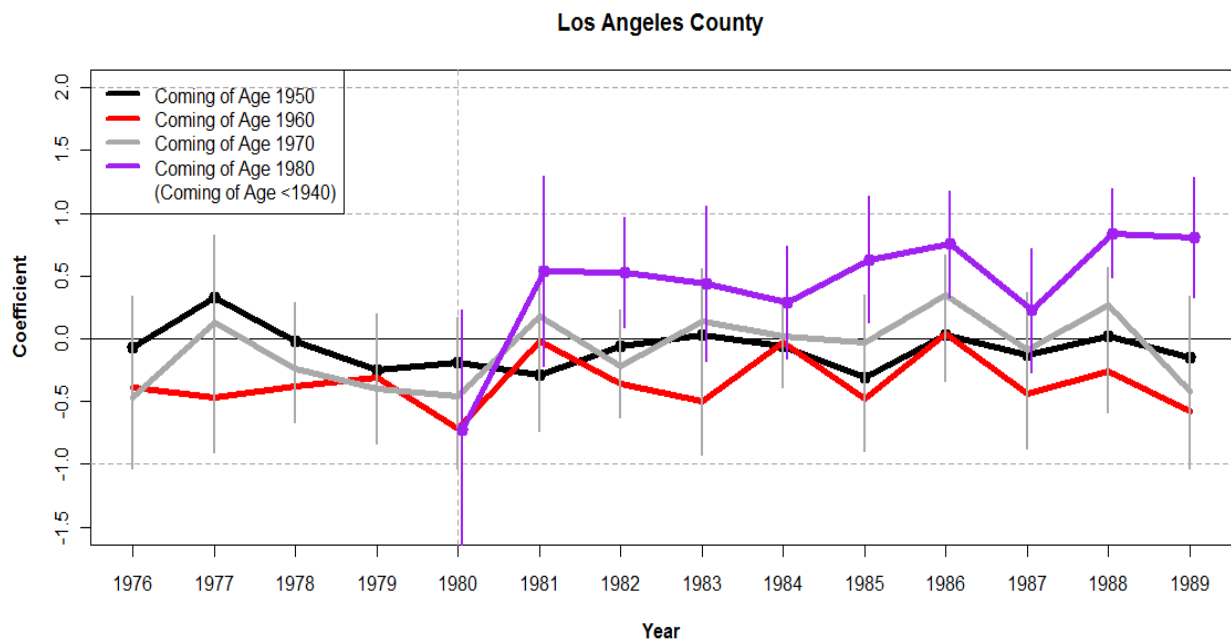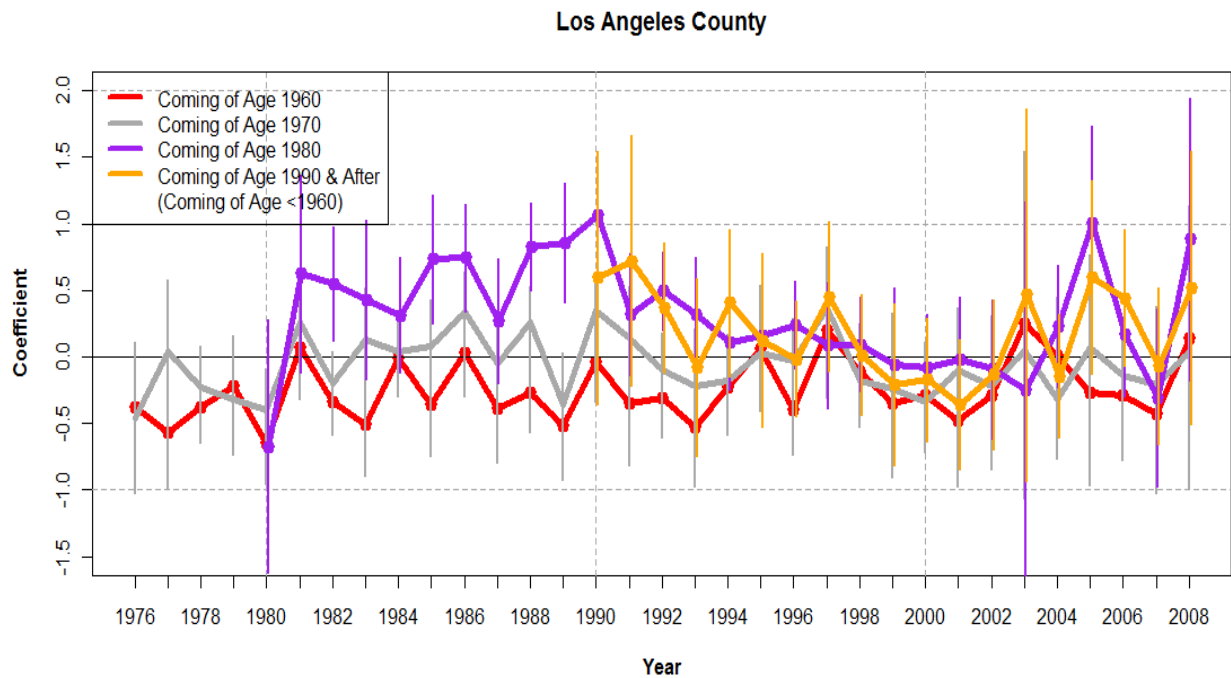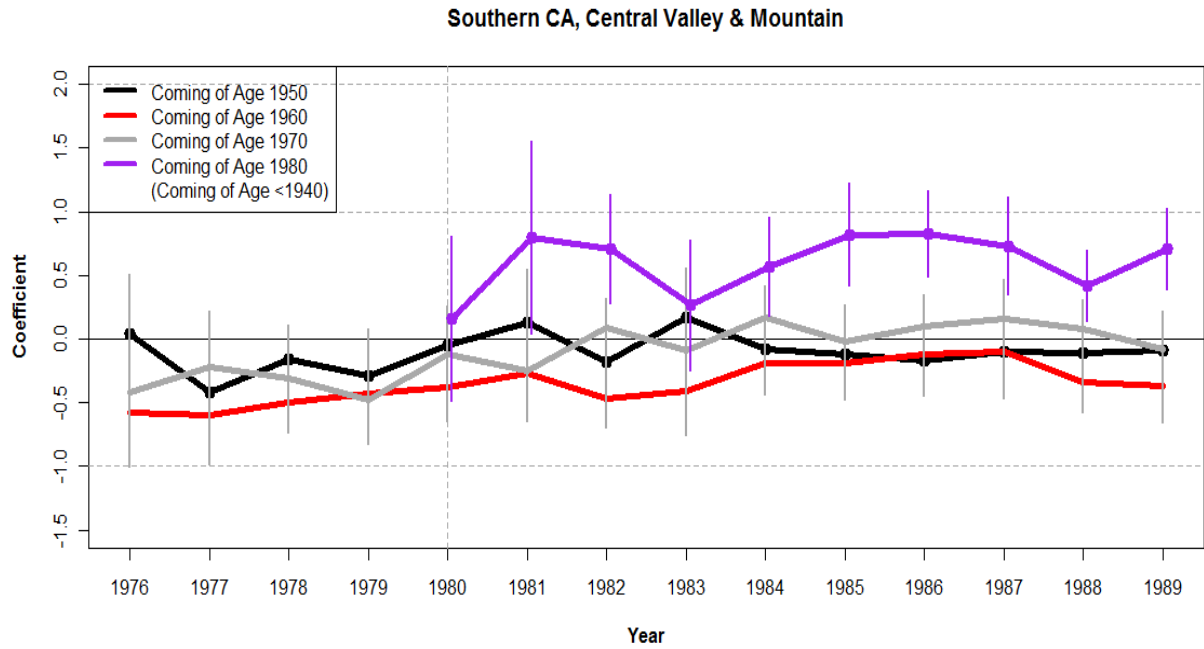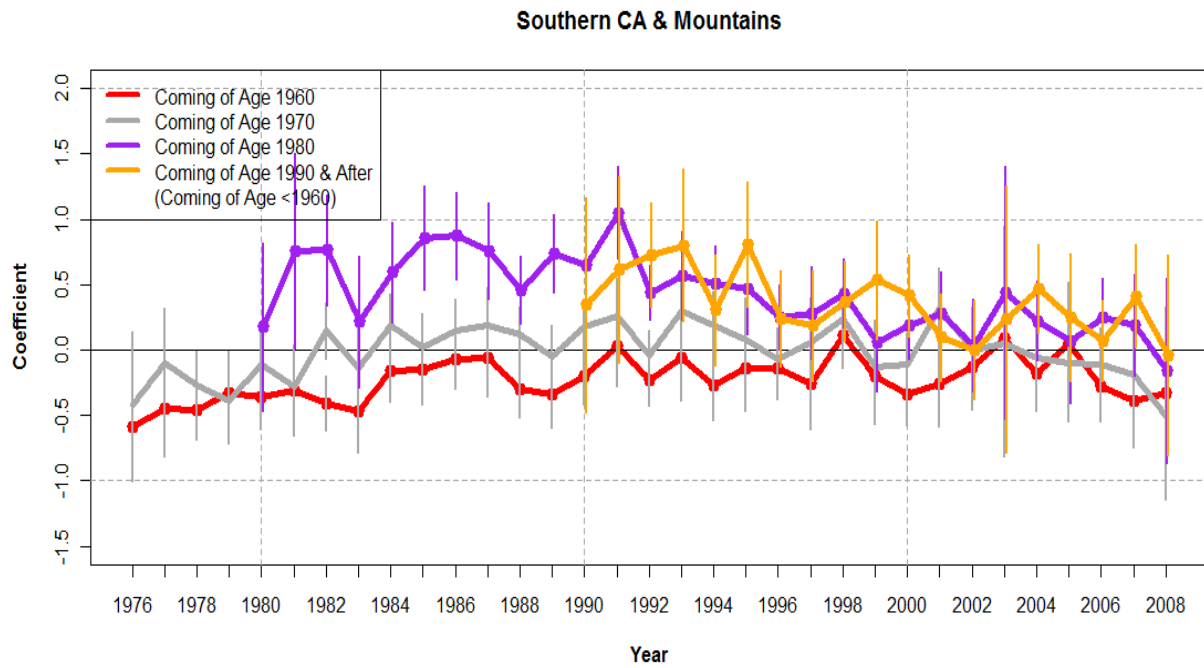
Southern CA, Central Valley & Mountain

Figure 4.15b Logit Regression Coefficients for Coming of Age Cohorts in the Remaining Counties, 1976-2008

Southern CA & Mountains

Section 4.3 Contextual Effect or Self Selection?

I examine two different data sources, the individual-level Field Poll cumulative data and the county-level voter registration file. Both sources point to the presence of spatially-varying generational replacement effect. This finding leads one to wonder: What can account for such spatial variation?

There are several hypotheses. The first set of potential explanations involves unobserved heterogeneity. One can argue that the spatial variation represents unmeasured variation in latent characteristics. The Field Poll surveys contain a limited set of individual characteristics. As discussed previously, studies on political socialization show that children can acquire political ideology from their parents and peers. Perhaps those who come of age in the Bay Area are different from those who grow up in the Central Valley because they are socialized in a more ideologically liberal family or school. Chapter 3 illustrates how the regional economy varies. Residents who are employed in different types of industry may also develop different political preferences. Another hypothesis is that the spatial variation is an outcome of self-selection---those who choose to remain in the Central Valley may have inherently different political preferences than those who choose to live in the Bay Area.

Alternatively, one can hypothesize that the spatial variation is driven by the presence of contextual effects. There is a large volume of work that shows political behavior and beliefs are sensitive to one's immediate political and social environment (Oliver 2001, 2010; Leighley 2001; Huckfeldt 1979, 1980,1983, 1986). Perhaps living in an urban and ethnically diverse environment makes residents more culturally tolerant and prone to support the immigration policy platform advocated by the Democratic Party. Similarly, growing up in a conservative environment may increase one's exposure to conservative political messages. Furthermore, one can also argue that living in a conservative area may be more likely to subject a person to political contact and mobilization from the Republican Party, where early exposure and contact with the political party can affect one's political orientation.

All these hypotheses are feasible. Analysts of electoral politics can probably come up with additional theories. However, the cross-sectional data I have cannot allow me to adequately test these alternative theories. In what is best known as the 'reflection problem' or 'identification problem', Manski (1993, 2003) attests that when a researcher observes the distribution of behavior in a population, it is almost impossible to infer whether the average behavior in a certain group influences the behavior of the individuals that comprise the group. It is called a reflection problem because the challenge of making causal inference with observational data is akin to interpreting the almost simultaneous movements of a person and his reflection in a mirror. Does the mirror image cause the person's movements or reflect them? Without having prior knowledge of the composition of reference group or the selection process into the group, it is impossible to separate self-selection effect from contextual influence. In my case, it is hard to discern whether inland voters are voting Republican because they are ideologically conservative to begin with, or because they learn to become ideologically conservative through living inland with other conservative voters.

It is important not to dismiss the findings in this Chapter simply because the data cannot tackle this age-old identification problem in social science. While it is intellectually tempting to fully

explain what drives the regional variation, the bottom line is that the mere *presence* of a spatially varying generational replacement effect is *sufficient* to reshape the spatial composition of voters across electoral districts. The spatial variation exists *regardless* of whether I control for other demographic factors. As illustrated in Figure 4.8, the voter registration files reveal a big contrast in the likelihood of registering with the Republican Party depending on where one comes of age. The regional effect remains after I account for other crucial social cleavages including race, gender, education, income and religious preference using the Field Poll data. The political implication is that as long as the younger cohorts are differentiated by partisan preferences across geographic regions, *regardless* of the reasons behind this effect, geographic polarization will be perpetuated.

Section 4.4 Summary

The findings in this Chapter show that social cleavages have largely been stable. Party sorting, which largely began in 1980, strengthens the connection between individual socio-demographic characteristics and partisan preferences. Income, race, educational attainment, gender and region of residence are important predictors of partisan preferences. On top of that, the political period in which one 'comes of age' has a significant impact on one's partisan orientation.

In addition, the Field Poll data, as well as the voter registration records, reveal another crucial element that has not been discussed elsewhere in the literature--- spatially varying generational replacement. A young voter coming of age in the Bay Area is far more likely to be registered as a Democrat than someone growing up inland. This regional difference remains even after I account for other individual-level socio-demographic characteristics. Chapter 5 will combine the findings in Chapters 3 and 4 and explain how spatial compositional effect, generational replacement and changing electoral behavior account for the growing geographic and elite polarization.

Chapter 5
Perpetuating Electoral Disconnect

Fiorina (2005, 2009) raises an important empirical puzzle: how can elites become more ideologically polarized when the electorate who elect them is not? In Chapter 1, I began with two hypothetical scenarios that can lead to geographic polarization over time. In the first scenario, voters alter their voting behaviors. In the second scenario, voters exhibit the same voting behavior but change their residential location. What is intriguing is that these two unrelated mechanisms can theoretically result in an identical outcome. Chapter 2 documents the temporal and spatial emergence of geographic polarization in California. It happened primarily after 1980 where intra-regional partisan preferences become more homogenous and inter-regional disparity increases. The empirical puzzle is which of the two mechanisms primarily contributed to the growing geographic polarization?

The short answer is *both*. Both electoral behavioral change and spatial composition change are needed to account for the growing geographic polarization over time. In Chapter 3, data from individual surveys (Current Population Study) and aggregate statistics (DOF demographic statistics, IRS county-to-county migration and voter registration files) all show there is high volume of residential mobility in the state. As the pattern of migration correlates with individual socio-demographic characteristics, the spatial disparity in the composition of voters increases. Chapter 4 offers evidence of electoral behavioral changes at the individual level. Using the Field Poll cumulative file, I show that electoral cleavages are largely stable. There is no evidence of massive wholesale conversion or realignment in the electorate. The evidence lends support to the party sorting theory where the connection between some major electoral cleavages, such as gender, educational attainment, religious preference, strengthens after 1980. In addition, I show that changes in the macro-partisanship in the state are brought upon by the entrance of younger cohorts who respond differently to the political parties depending on their region of residence.

The voter registration files available through the Statewide Database can best illustrate the dynamics in which these mechanisms combined have led to the emergence of geographic polarization. For every even numbered year, I obtained the block or precinct level registration files for the November General Election and aggregated them to the county-level (refer to Appendix I for more discussion of the data). Each registration file contains a set of variables that tracks the registration cycle of the voters. Let me use the 1992 voter registration file for example. Voters who <u>first registered</u> during the 1992 congressional election cycle would be classified as 'first cycle registrants'. Technically, this category includes voters who registered some time *after* the closing date of the 1990 November election, but *before* the closing date of the 1992 November election. This group comprises of the following types of voters:

a) Migrants who moved and (re-)registered;
b) Voters who registered to vote for the first time;
c) Voters who did not move but re-registered in order to change their official party affiliation.

For the first type, recent movers can either be previously registered in the same county, or in another county or in another state. For the second type, it can include voters who just become eligible to vote (they can be voters who turn 18-year-old, or voters who just naturalize to become a U.S. citizen). It can also include older citizens who have never registered before. The third type is rare. Altogether, the first cycle registrants, on average, make up 20% of the total number of registered voters. Within each election cycle, roughly 7% to 10% of all registered voters are between ages 18 to 25. (Unfortunately, the dataset does not further distinguish how many of these voters are first time registrants). A conservative estimate is that at least half of these first cycle registrants are recent movers.

On the one hand, the first cycle registrants comprise recent movers and first time voters in the county. On the other hand, the eighth cycle registrants represent those who have lived in the same county (in fact, the same residence) for the past fourteen years. These recent movers are given a chance to reconsider their party registration when they re-register to vote. Some of them may be 'Reagan Democrats,' who have been voting for the Republican Party but remained registered as Democrats. Moving allows these types of voters to clarify their political affiliation.[44] By comparing the partisan preferences of the newer registrants with the older registrants, I will show that newer registered voters are more partisanly sorted across regions.

To continue with my 1992 example, voters who registered *during* the 1990 election cycle would belong to the 'second cycle'. Similarly, voters who registered *during* the 1988 election cycle would fall under the 'third cycle'. Those who registered at least sixteen years ago (i.e. more than eight cycles ago) are grouped under the residual category, namely the 'ninth cycle'. The registrants who registered during the 1992 cycle would show up as 'first cycle registrants' in the 1992 voter registration file. But as time progresses, this cohort would become the 'second cycle registrants' in the 1994 voter registration file, 'third cycle registrants' in 1996 and 'seventh cycle registrants' by November 2004. Table 5.1 provides a simple crosswalk between registration cycle and election year.

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[44] A separate paper with James Gimpel and Wendy Tam Cho will examine changes in party registration. We will study individual voters who switch their party registration when they relocate. We examine how the changes in neighborhood environment would affect one's likelihood to change party registration. For example, for a registered Republican who moves into a neighborhood with a high concentration of registered Democrats, whether he/she is more likely to re-register as a Democrat or as an independent.

Table 5.1. Crosswalk of Registration Cycles by Election Years, 1992-2008

Registration Cycle	Election Year				
	1992	1996	2000	2004	2008
Pre-1978	9	9	9	9	9
1978	8	9	9	9	9
1980	7	9	9	9	9
1982	6	8	9	9	9
1984	5	7	9	9	9
1986	4	6	8	9	9
1988	3	5	7	9	9
1990	2	4	6	8	9
1992	1	3	5	7	9
1994		2	4	6	8
1996		1	3	5	7
1998			2	4	6
2000			1	3	5
2002				2	4
2004				1	3
2006					2
2008					1

The Statewide Database data begins in 1992. I obtained the registration files for all fifty eight counties and nine election cycles between 1992 and 2008. Figure 5.1 displays the three-way cross-tabulations among registration cycle, year and the percentage of voters who registered as Republicans for the four regions. The color in each cell represents the percentage of two-party registrants who registered as Republicans. The scale ranges from light yellow color to dark brown color, with the former color indicating high concentration of registered Democrats and latter color representing high concentration of registered Republicans. One major contrast stands out by eye-balling the four diagrams in Figure 5.1---the diagrams for Bay Area and Los Angeles County are predominantly yellow in color, whereas the diagrams for the other two regions are overwhelmingly orange or red in color. That is, for *any* registration cycle, registered voters in the Bay Area and Los Angeles County are more pro-Democratic Party than their counterparts in the other regions.

Through attrition where registered voters either move away or pass away, each registration cohort would shrink in size over time. As time progresses, the newer registrants will replace those who exited and reshape the composition of the electorate. It is intriguing to compare across registration cycles within each region. Let me begin with the Bay Area. By comparing the rows within each region, one can immediately notice that the first registration cohort is the most pro-Democratic group among all cohorts. Newer registrants, either recent arrivers or new voters entering the electorate in the area are more likely to register as Democrats than the long-time residents. By contrasting the columns within each region, one can observe that among all first cycle registrants, those who registered in 2008 (during the Obama's campaign) are the most likely to register as Democrats. A similar pattern can be observed in Los Angeles County.

Newer registrants especially those who reside in Southern California counties are substantially more likely to register as Republicans than long-term residents in the same region. Through replacement, these newer voters tip the overall partisan balance in favor of the Republican Party. Although the contrast between the newest and oldest cohort is relatively less pronounced in the remaining inland counties, registrants in recent years appear to be slightly more pro-Republican Party than voters who registered in the early 1990s.
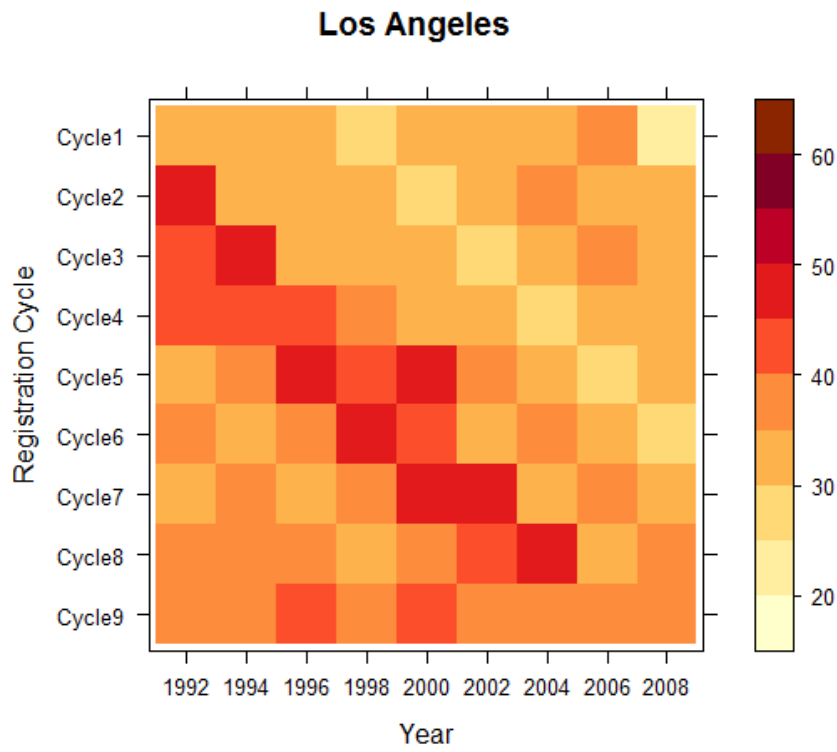
Figure 5.1 Percentage Registered Republicans by Registration Cycles and Regions, 1992-2008
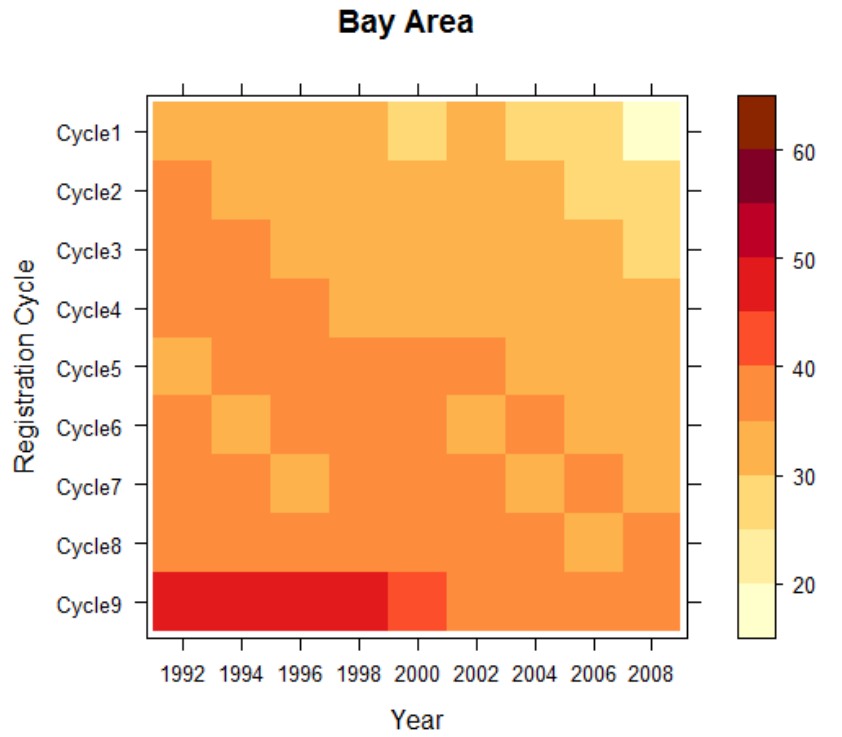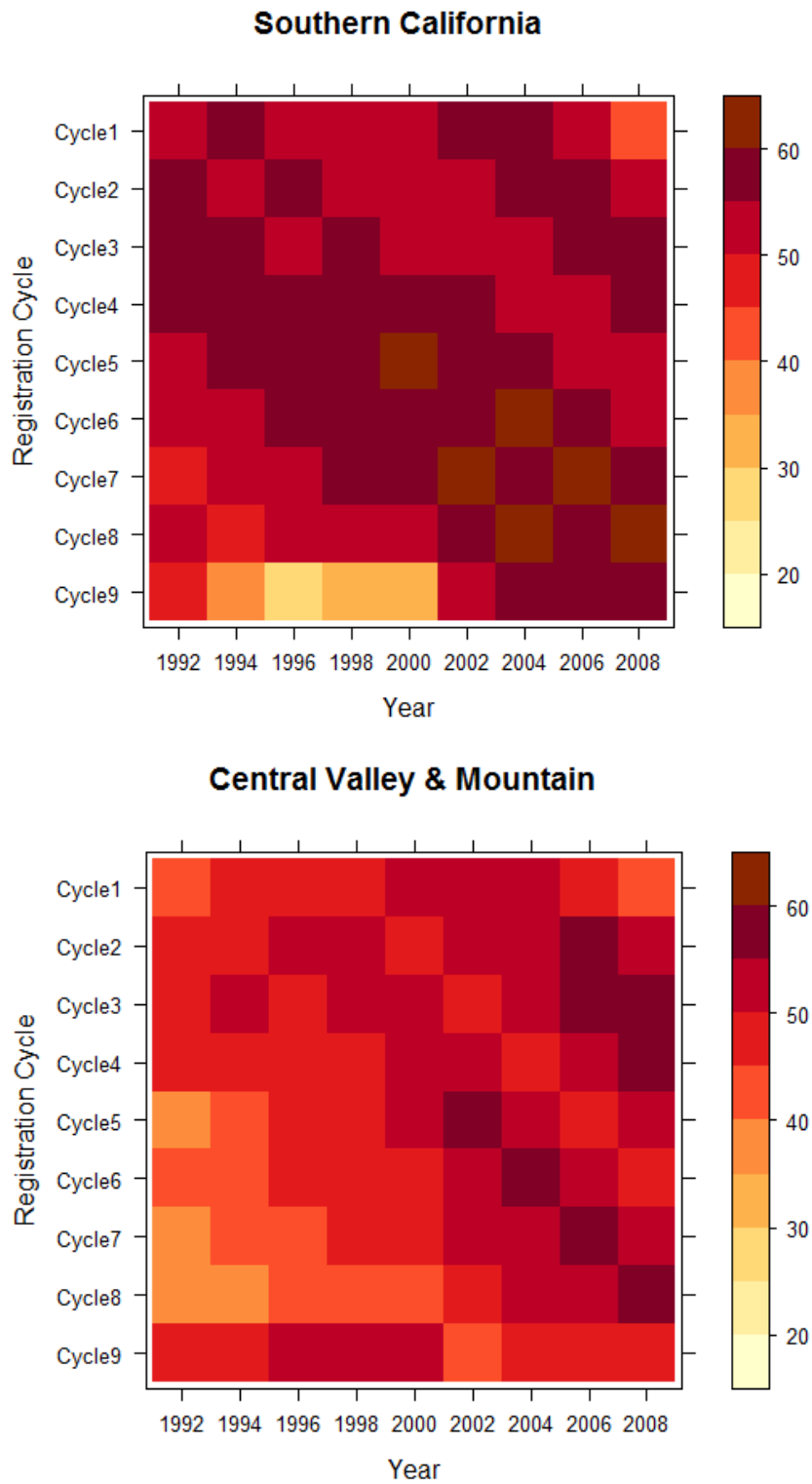
Figure 5.1 Percentage Registered Republicans by Registration Cycles and Regions, 1992-2008
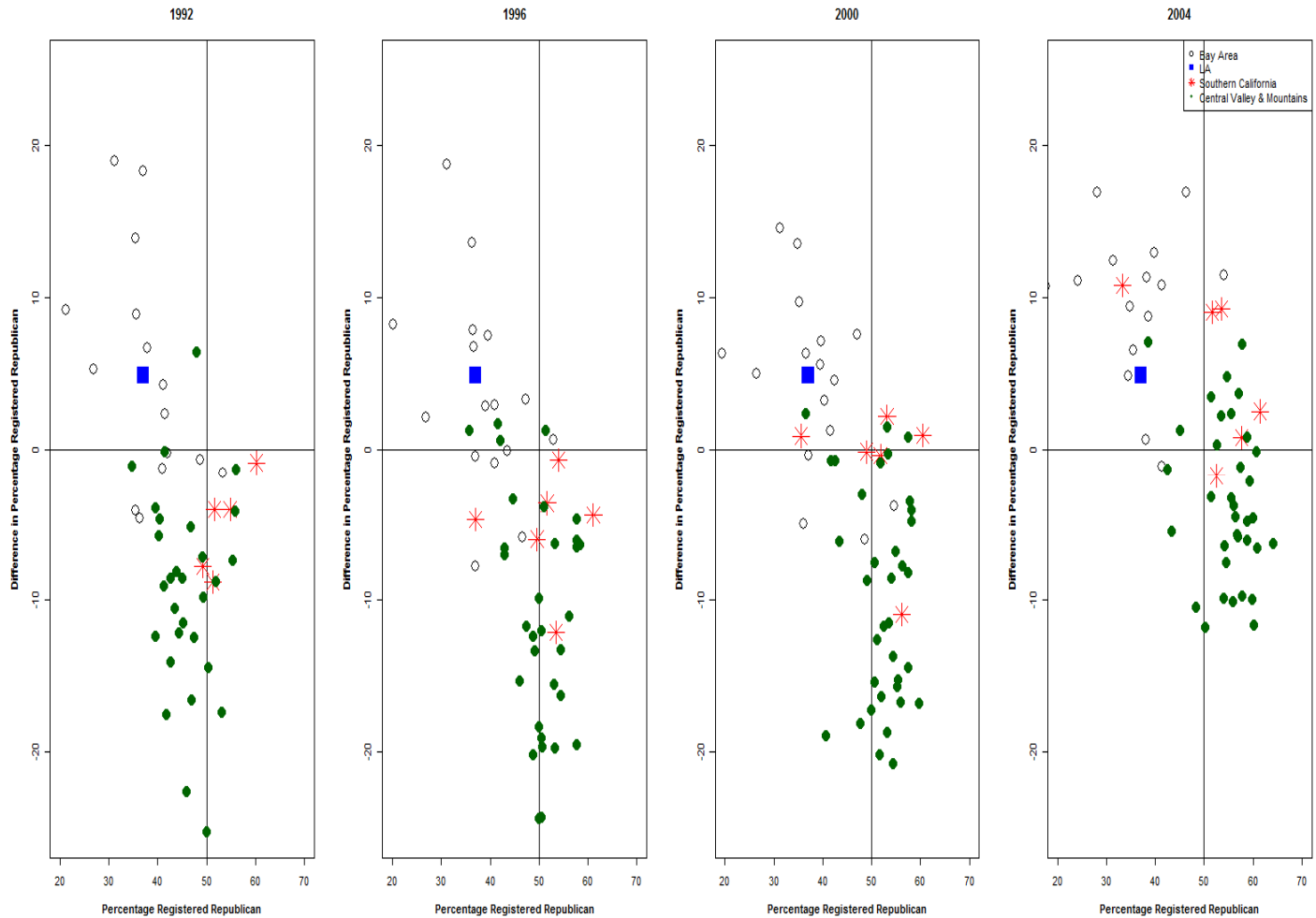

Data: Statewide Database Voter Registration Files

For each election cycle, I computed the difference in the partisan preference between the first cycle registrants and eighth cycle registrants. Specifically, I subtracted the percentage of Republicans among the eighth cycle registrants from that of the first cycle registrants. The differences reflect the extent to which the first cycle registrants differ from the long-time residents in the county. If the differences are <u>positive</u>, it implies that, compared to the older residents, the new entrants into the county's electorate are *less* likely to be Republican. On the contrary, if the differences are <u>negative</u>, it signifies that the new comers are *more* likely to be Republican. Figure 5.2 plots the differences for all the fifty-eight counties (on y-axis) against the overall percentage of registered Republican among all voters (on x-axis). The green-color dots represent counties in the Central Valley and Mountain region; whereas, the red-color stars represent counties in Southern California. The black-color circles and blue-color square are for the Bay Area counties and Los Angeles County, respectively.

Figure 5.2 holds the key insight to the polarization puzzle. Each diagram in the Figure is divided into four quadrants. Note that the Bay Area counties mostly fall in the <u>upper</u> quadrants, indicating that the new registrants are substantially *less* likely to be Republican than the long time residents. This stands as a sharp contrast to the Central Valley counties, which cluster in the <u>lower</u> quadrants. As discussed in Chapter 3, the availability of cheap housing has attracted substantial migration into the Central Valley. These newer arrivers are noticeably more conservative than the long term residents. By comparing the positions of the green dots across the four graphs along the x-axis, one can immediately spot how these points have shifted from the lower left quadrant to the lower right quadrant. Nevertheless, the reader can also notice that the distribution of the overall partisan preferences across counties has become more skewed. In 1992, a majority of counties clustered around the median. By 2004, counties have become further spread out with fewer counties lay in the middle of the spectrum. Bay Area counties have become increasingly pro-Democratic and inland counties have been getting more pro-Republican. By continuously adding new residents, who are substantially *more* pro-Republican than the long time residents, the inland counties appear to be more conservative over time.

Figure 5.2 Differences in Percentage Registered Republican by Registration Cycles and Regions, 1992-2004

Data: Statewide Database Voter Registration Files

Do conservative voters feel politically alienated in the Bay Area? If yes, does that feeling of alienation propel one to migrate to more political conservative area? Do migrants pay attention to the partisan composition of the neighborhood when they relocate? Do they consciously settle in area with higher concentration of co-partisans?

While it seems possible that some movers are attentive to their political environment, it is hard to believe political concerns dominate the majority of the moves. Chapter 2 shows that while counties within each region have become more similar in aggregate partisan preferences, regions have become more differentiated. Yet it is important not to over-exaggerate the extent of homogeneity within a county. As Cain (2009) aptly observes, at the Census block or tract level, one can still observe a diverse mix of partisans. Good school districts, access to amenities and ease of transportation attract Democrats, Republicans and independents alike. Even in a heavily pro-Democratic Bay Area, one can easily identify pockets of neighborhood that lean towards the Republican Party.

Migration occurs temporally prior to elite polarization. However, geographic polarization only begins after 1980. The timing corresponds to the onset of party sorting, where certain social cleavages become more correlated with partisan preferences. One major consequence of party sorting, I argue, is the spatially-varying generational replacement effect. The region of residence seems to have stronger influence on younger cohorts coming of age after 1980 than the older cohorts. The insight from Schelling's (1969) theory is that as long as a tiny fraction of people prefer to live with co-ethnics, their residential movements can lead to total racial segregation. When it comes to residential mobility, it does not even matter whether people consciously choose to live with other co-partisans or not. As long as out-migrants and in-migrants of a region are differentiated in their socio-demographic characteristics, and younger cohorts coming in are more partisanly sorted than older cohorts, these two processes can reshape the spatial composition across geographic regions.

Chapter 3 illustrates how economic expansion, housing affordability and job opportunities motivate migration flows. Residential mobility responds primarily to economic fluctuations. The process does not seem to be influenced by the bigger political environment. It is not sensitive to the partisan balance in Congress, or the ideological polarization among the elected representatives, or the job approval rating of the sitting Presidents. Through analyzing historic migration data with various data sources, I show that the migration patterns are deeply entrenched. Economic downturns may temporarily depress residential mobility, the inter- and intra-regional migration trends observed seem unlikely to be reversed. Party sorting amplifies the connection between demographic composition of voters and their partisan preferences. All these mechanisms combined illustrate how the ideologically moderate and centrist electorate is spatially arranged in increasingly polarized regions. Given that all federal elections are geographically-based, the increasingly skewed spatial distribution of voters implies that electoral districts would become increasingly differentiated in terms of the demographic composition of voters, as well as their political preferences. As a result, we would expect elite polarization to grow, based on an ideologically moderate but spatially polarized electorate.

Although this dissertation focuses primarily on California, the findings nevertheless carry national implications. The out-migrants from California, who are predominantly white, native born citizens can reshape the electorate composition of other states. Moreover, it seems likely that similar within-state geographic sorting has been occurring in other places. The next empirical task is to expand the insights drawn from this project to study the geographic and elite polarization at the national level.

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Appendix I
Datasets

Section 1. Individual Level Data

1) Field Poll Cumulative File 1956-2008[45]
The Field Poll Institute has been conducting public opinion polling in California since the late 1940s. It began depositing raw datasets at the UCData, a data archival center at the Survey Research Center of the University of California, Berkeley in 1956. The Cumulative File is developed with the goal of creating a continuous time series dataset to capture the changes in public opinion and voting preferences among Californians. Between 1956 to 2008, about 270 polls were conducted, with usually at least four polls during off-year and six polls in election years. The file contains over 300,000 observations. Since the individual polls were not conducted with the intention to create a time series, significant changes in question wording, response categories and sampling method have occurred. The cumulative file is a laborious attempt to create consistent recoding for the major demographic characteristics, partisan affiliations, evaluation of political figures/institutions and voting preferences in state and federal elections.

2) IPUM Consolidated Current Population Survey March Supplement (1963-2009)[46]
The Current Populated Survey (CPS) is a monthly survey of about 50,000 households conducted by the Census Bureau. The March Supplement includes a battery of questions used to capture the extent of residential mobility in America.

Section 2. County Level Data

1) County and City Data Book 1970-2000
The file is obtained through ICPSR (study number 02896). The data come primarily from the Bicentennial Census surveys. I extracted the major Census demographic characteristics for all the fifty-eight counties in California between 1970 and 2000.

2) Statewide Database 1992-2008[47]
The Statewide Database is a data deposit center for redistricting related data for California. It is currently housed under the Boalt Hall School of Law at University of California, Berkeley. Since 1992, the Statewide Database collected the official Statement of Vote (SOV) and Registration (REG) data from each County Registrars. The datasets prior to 2000 have been consolidated and are available at the 2000 Census block level. The datasets after 2000 are available at the precinct level (where precinct boundaries vary by elections). For each REG and

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[45] The dataset is available for public use at http://ucdata.berkeley.edu.
[46] The dataset can be found at: http://sda.cps.ipums.org/

[47] The datasets are available at http://swdb.berkeley.edu

SOV file, I have aggregated the counts at the county level and recoded the variables to make the categories consistent over time. I then verified my dataset with the official SOV and REG figures published by the California Secretary of State to ensure accuracy.

3) California Secretary of State Official Statement of Registration, 1960-2008

Since the Statewide Database data only began in 1992, I obtained the registration data at the county-level prior to 1992 directly from the Statement of Registration published by the California Secretary of State. I obtained the printed copies through the Institute of Governmental Studies Library at the University of California, Berkeley. I scanned all the documents. Using an optical character recognition (OCR) software, I converted the printed copies into Excel spreadsheets. I then checked every number to ensure the accuracy of the converted figures. I also compared the official records between 1992 and 2008 with the Statewide Database files.

4) California Department of Finance (DOF) Demographic Research Unit Data[48]
The DOF Demographic Research Unit keeps updated records on migration and demographic projection data. In particular, I have used the following datasets:

1. Race/Ethnic population with age and sex detail. (1970-1989; 1990-1999; 2000-2007).
2. (Table E-2) California county population estimates and components of change by Year 2000-2008.
3. (Table E-3) California county race/ethnic population estimates and components of change by year, 2001-2007.
4. (Table E-4) Historical population estimates for California cities and counties, 1971-1980.
5. (Table E-4) Historical population estimates for California cities and counties, 1981-1990.
6. (Table E-4) Historical population estimates for California cities and counties, 1991-2000.
7. (Table E-4) Population estimates for cities, counties and the state, 2001-2009.
8. (Table E-6) County population estimates and components of change 1970-1990.
9. (Table E-6) County population estimates and components of change 1990-2000.
10. (Table E-6) County population estimates and components of change 2000-2008.
11. Revised race/ethnicity population estimates: components of change for California counties, 1970-1990.
12. Legal immigration to California by county, 1984-2007.

5) Bureau of Economic Analysis (BEA)[49]/CA Consumer Price Index[50], 1969-2007
I obtained the annual county level data for per capita personal income from Table CA1-3 "Personal income, population, per capita personal income." Using the annual consumer price index published by the California Department of Industrial Relations, I created a time series of CPI adjusted real income for each county (base year= 1982-1984).

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[48] The datasets are available at http://www.dof.ca.gov/research/
[49] The dataset is available at http://www.bea.gov/regional/reis/default.cfm?selTable=CA1-3&section=2
[50] The dataset is available at http://www.dir.ca.gov/dlsr/CAPriceIndex.htm

6) Bureau of Labor Statistics Employment by Major Industry Sectors, 1970-2008

The data are available on a yearly basis. I downloaded the data files for all fifty eight counties from RAND[51]. The datasets have detailed employment numbers by major industry sectors.

7) Association of Religion Data (ARDA) Archives 1970-2000[52]

The Churches and Church Membership in the Unites States is a survey conducted by the ARDA at the beginning of each decade. The 1970, 1980, 1990 and 2000 datasets contain statistics by county for over 100 Judeo-Christian church bodies. I then classified these denominations into Evangelicals, Mainline Protestants, Jewish and Catholics based on the denomination list provided by the ARDA.

8) Internal Revenue Service (IRS) County-to-County Migration Files 1978-1992

I obtained the dataset from ICPSR (Study Number 02937). County migration flow data show county-to-county migration patterns. Through tracking addresses on individual income tax return filed by citizens and resident aliens with the IRS, the file records the year-to-year changes in the origin and destination of movers. The dataset only reports aggregated counts at the county-level but not individual characteristics of the tax-payers.

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[51] The dataset are available at http://ca.rand.org/stats/economics/employmentNAICS.html
[52] The datasets are available at http://www.thearda.com/Archive/ChCounty.asp