The Consequences of Economic Inequality for Presidential Elections in the United States

James Galbraith[†]   Jaehee Choi[‡]

University of Texas Inequality Project
Working Paper 75

November 20, 2019

Abstract

We apply an approach to building a dense and consistent data set for income inequality that was developed for international comparisons to the case of the fifty states (and the District of Columbia) within the United States. This permits us to measure the change of economic inequality year-to-year for each state going back to 1969, something that was previously difficult to do for years before 2000, owing to the small sample size of the Current Population Survey and the fact that the Census is conducted only once in ten years. Given that US presidential elections are decided on a state-by-state basis through a winner-take-all allocation of votes in the Electoral College, we ask whether and to what degree levels or changes of economic inequality at the level of individual states affect the partisan alignment of those states and therefore the outcome of US presidential elections. There is a strong association, and one that suggests an economic model of current American presidential politics, as well as making a prediction for its future direction.

Keywords: income inequality; presidential elections; voting; Theil statistics; Gini coefficient

---

[†]LBJ School of Public Affairs, University of Texas at Austin. Email:galbraith@mail.utexas.edu
[‡]University of Texas Inequality Project. Corresponding author. Email:jaeheec@gmail.com

1 Introduction

For the first three decades following the end of the Second World War, economic inequality barely figured as a topic of economic research, and some major preoccupations, notably in growth theory, presupposed stability in functional shares. But this changed as evidence of rising inequality began to emerge for the United States in the late 1970s, and by the early 1990s a robust debate over the sources of rising inequality was underway, which spread to all the advanced countries and beyond, especially as the publication of the Deininger-Squire/World Bank (1996) compilation of past surveys opened a path toward empirical investigation at global scale. Today the opposite problem exists: a cacophony of data sources, to which many researchers have applied sophisticated econometric techniques, arriving at conflicting inferences infested by theoretical preconception.

To develop a dense and consistent inequality data set, the University of Texas Inequality Project adopted a novel approach, which consisted first of measuring inequalities of average pay *across industrial sectors* , using data drawn from a wide-ranging international data set such as the Industrial Statistics of the United Nations Industrial Development Organization, and using the result to estimate, via a simple regression, a corresponding Gini coefficient for gross household income (Galbraith and Kum 2005). Numerous papers have shown that this approach is broadly effective, permitting the construction of a dense, consistent data set of income inequality measures, generally in line with survey-based estimates but covering far more countries and years (Galbraith et al. 2016a, 2016b). The technique demonstrates in turn that inequalities in household income tend to be closely related to the industrial structure of the underlying economy and to the polarization of pay in the industrial/sector structure, as well as across geographic entities, such as states and counties in the case of the US. (Galbraith and Hale 2008).

This paper applies a similar though not identical approach to measuring the relative levels and changes of economic inequality in the fifty states (and District of Columbia) within the United States, using the highly-detailed source data of the Employment and Earnings data set from the Bureau of Economic Analysis, from which is possible to generate a balanced panel of pay inequality measures for all 51 entities for each year from 1969 through 2014 (so far). While annual survey-based measurements of income inequality for all states have been available since 2000 from the Current Population Survey, before that time only decennial measures drawn from the census were available.

One might consider that the economic inequality within a small geographic or population unit such as the American states of Rhode Island or North Dakota to be of limited research value, especially since residents of such small states tend to operate on the economic periphery of larger units, such as the states of Massachusetts and Minnesota in the two examples given. But there is one research area where the reference frame is relevant. States are political entities within the United States, and they vote as such, not only for statewide offices and for state legislatures, but also through the Electoral College for the presidency of the United States. Electoral College votes are apportioned to each State according to the number of seats that state has in the House of Representatives, roughly proportional to population, plus two votes each to account for the State's

representation in the Senate. In all but two states (Nebraska and Maine[1]) the Electoral College decision is a winner-take-all, first-past-the-post affair, so that the candidate receiving a plurality of votes in the state garners all of its electoral votes.

The question to be explored in this paper is whether economic inequalities at the state level bear a relationship to electoral outcomes at the state level in the United States, and in particular through the Electoral College to the outcomes of presidential elections. We will show that this is indeed the case, show that the relationship dates to the political realignment of 1992, and that the data have become increasingly emphatic on the point over time. We will suggest a straightforward mechanism to account for the observed facts.

The paper is organized as follows. Section II provides an overview of inequality measures and the conceptual foundation of the measures we bring to bear on American states. Section III presents our measures of pay inequalities within states over the period of our measures, 1969 to 2014. Section IV discusses theoretical expectations regarding a relationship between inequalities and election outcomes. Section V presents our evidence, and Section VI concludes.

2   An Overview of Inequality Data Sources and Methods

The great majority of data sources on economic inequality focus on measures of income or expenditure at the national level, usually collected from household surveys and reported in a single synthetic measure, the well-known Gini coefficient. A significant exception relates to top-income shares, derived from income tax records.

Income inequalities may typically be classed in three conceptual categories: market incomes, gross incomes, and net or disposable incomes. Market incomes exclude public pensions and other transfer payments, and are usually by far the most unequal measures. Gross incomes include transfers but do not account for direct taxes. Net or disposable income takes account of the direct tax burden, but not of taxes levied on consumption, such as sales taxes or VAT. In addition there are measures of expenditure or consumption inequalities, especially in certain poor countries (India is a major example). The unit of observation is typically the household, with a variety of adjustments to account for economies of scale in household sizes. Some surveys use persons rather than households as the unit of observation.

Inequalities within the United States have been studied very intensively, using in the main two sources of data: the monthly Current Population Survey (CPS) and the decennial Census. However, neither is entirely satisfactory for obtaining measures of inequality at the state level, because a large number of states are too small relative to the sample size of the CPS, and because the census is available only at ten-year intervals. Only since 2000 have annual measures of income inequality by state been available from the CPS, and while these measures are valuable, there is a question

---

[1]In Nebraska and Maine, electoral votes are apportioned by congressional district, with the two votes accounting for the Senate seats allocated to the popular vote winner in the state as a whole. Thus it is possible for the electoral votes in these two states to be split, with the candidate receiving a minority of votes nevertheless winning one congressional district and getting one electoral vote.

of consistency between them and census measures taken in prior decades. In general as well, the analysis of survey-based measures must rely on questions taken in the survey, which tend to cover individual characteristics such as race, gender, age and education, but are relatively weak on structural features of the underlying economy.

An alternative approach underlies the work of the University of Texas Inequality Project, dating to Galbraith (1996) and developed in Galbraith and Berner (2001) and Galbraith (2012, 2016), as well as in numerous working papers and journal articles (UTIP, various dates). This approach relies on two features of income distributions that are broadly, though not universally, observed in real data. The first is that once a population has been partitioned into a reasonable number of discrete groups – and especially if those groups are organized by economic sector, geographic area or a combination of the two (that is, by sectors within regions) – then inequalities between-groups tend to co-evolve with the inequality of the distribution as a whole.[2]

The second feature is somewhat less intuitive, and also somewhat more problematic, but nevertheless useful in a wide range of cases. This feature holds that a group structure that covers only *part* of the larger population will often vary over time in line with the inequalities of the entire distribution, *including* those parts that are *not* observed. Thus although manufacturing employment only covers a minority of the working population in most countries – often just a small minority – levels and changes in the inequalities of average pay across manufacturing industries can be a reliable indicator of the movement of household income inequalities, as measured by surveys. The reasons are two-fold: (a) that the structure of manufacturing tends to be a dominant element in the structure of economic inequalities, and (b) that fluctuations across industries within manufacturing are linked organically to larger fluctuations in economic inequality in the economy at large. The advantage of using data from the manufacturing sector as an instrument for inequality in the larger distribution is a far larger, consistent data set of inequality measures, suitable for comparative and analytical purposes.

The most prominent UTIP data set is the Estimated Household Income Inequality data set (EHII) which is constructed from an underlying data set, the UTIP-UNIDO data set which measures inequality in industrial pay across the industries reported in the Industrial Statistics of the United Nations Industrial Development Organization. The inequality metric used in UTIP-UNIDO is the between-groups component of Theil's T-statistic, a simple measure based on ratio of industry payroll-per-employee to the payroll-per-employee of the whole population (in this case, of industrial employees), weighted by the share of each industry in total industrial employment.

The model used to translate UTIP-UNIDO into EHII is a simple regression of survey-based inequality measures on inter-industry wage inequality and the manufacturing employment share in population (Galbraith and Kum 2005, Galbraith et al. 2016a).[3] Both the inter-industry inequality

---

[2]A reasonable number of groups, in our experience, tends to be partitions of twenty or more – a number easily and commonly achieved in real data sets, and very often exceeded by a large margin.

[3]In the initial model, done in the early 2000s and not changed since, the reference measures of inequality were taken from the original DS data set, which permit matching some 430 country-year observations to UTIP-UNIDO. Controls (0/1 dummy variables) were introduced for the six major types of inequality in the DS data: income/expenditure, households/persons, gross/net of tax.

and the manufacturing scale were highly stable and significant correlates of income inequality as reported by surveys, and the coefficients from the regression were then used to translate the direct inequality measures into the familiar metric of the Gini coefficient. Systematic comparison of the EHII estimates with a wide range of survey-based measures (Galbraith et al. 2016b) gives confidence in the general viability of this approach, and the advantage is a dense and consistent data set, covering over 150 countries with over 4000 annual measures going back to 1963. The fact that levels of, and variations in, a between-industries measure of payroll inequality effectively predict comparative levels of household income inequality across countries, and changes in that inequality over time, is strong evidence that the industrial sector of most economies is, indeed, a major determining factor in the evolution of household income inequality.

The question we then faced is, how to apply this approach to the estimation of income inequalities for the various American States? In the case of the United States, the Employment and Earnings data base of the Bureau of Economic Analysis provides a highly-detailed sector breakdown of employment and payroll by sectors within states, with over 4000 sector categories divided among the 50 states and the District of Columbia. This data goes well beyond manufacturing to encompass the full range of formal employments, including the high-income FIRE sector and relatively low-paid services. Galbraith and Hale (2006) give an account of the use of this data for the purposes of developing measures of economic inequality within the United States, and we have more recently extended data-set to cover the years 1969 through 2014 for all states.

In the rich data environment of the United States, it would be a mistake not to take advantage also of the benchmark household inequality measures available for all states from the decennial Census. The Census is the most reliable measure of economic activity in the country; the difficulty is merely that the Census is taken only once per decade, whereas presidential elections occur every four years. Our approach was therefore to use the *annual* changes in the Theil inequality-in-pay measurements to *interpolate* changes in the Gini measures of household income inequality for non-census years. Thus we calibrated changes in the Theil measure, for each inter-census year, so that the end-points for each decade would correspond to the Gini measurements that were available for the census years. This simple procedure gives us two series on a year-to-year basis, one of the Theil measurements themselves, and the other of Gini coefficients. In this way, we constructed annual series for all states and all years back to 1969, with parallel Theil and Gini measures.[4]

For the purpose of assessing levels of inequality, the Gini measures and estimates are preferable since they are calibrated to the full census records for household incomes, and so respect the rankings of inequality across states that are commonly accepted as accurate. For the purposes of estimating changes over time, either statistic will do; the measures are highly correlated. We use both measurements of change from 1969 in Figures 1-4 below. Corresponding figures using the Gini estimate are available from the authors on request. In Figure 5, dealing with the election of

---

[4]To clarify a point raised by a referee, EHII data are purely national and therefore not useful for estimating income inequalities at the state level. We discuss them here only to explain the origin of our approach to combining administrative and survey-based inequality measurements.

2016, we give both sets of data and information on changes both from 1969 and 1989. In appendix, we provide maps that portray changes and levels of inequality. For the complete historical data, visit the University of Texas Inequality website: https://utip.lbj.utexas.edu/data.html

3 Economic Inequalities Across American States: Levels and Changes

The development of a consistent annual data set for economic inequality within states permits an assessment of the relationship between economic inequalities and electoral outcomes at the state level. It is interesting to note that while levels of inequality have increased in every state since 1969 and also since 1989, the range of increase varies greatly, from as many as 19 Gini points (for the District of Columbia, 1969 to 2014) to as few as 3 Gini points (North Dakota, same period).

The rank ordering of inequalities across states has however changed dramatically. In 1969, the 10 most unequal states were entirely in the South – apart from DC, they were Mississippi, Louisiana, Arkansas, Alabama, Florida, Kentucky, Georgia and Tennessee, with Texas, Oklahoma, South Carolina, North Carolina and Virginia all among the top 20. In 2014 the ten most unequal states included California, New York, Connecticut and New Jersey, with Nevada, Illinois, Rhode Island, Massachusetts, Maryland and Pennsylvania all among the top 20. Over the period from 1989 to 2014, the ten states with the biggest gains in inequality were the District of Columbia, Connecticut, New Jersey, California, Rhode Island, New York, Massachusetts, Maryland, Illinois and Nevada.

The curious fact about those ten states, from a political point of view, is that every one of them gave their electoral votes in 2016 to the Democratic nominee, Hillary Clinton. Meanwhile, the sixteen states with the smallest increase in inequality from 1989 to 2014 were Alaska, North Dakota, Oklahoma, Wyoming, Iowa, West Virginia, Montana, Nebraska, New Mexico, Kentucky, South Dakota, Arkansas, Minnesota, Utah, Indiana and Michigan. Of these, all but two gave their electoral votes to Donald Trump, and in one of the two exceptions (Minnesota, the other being New Mexico[5]) Clinton's margin was just 1.2 percent. There is no question that the behavior of the two groups in respect of the growth of economic inequality is markedly different.

4 Theoretical explanations of a relationship between inequality and electoral outcomes

It is not easy to reconcile the striking empirical relationship between changes in economic inequalities in the American states and their political orientation, with the economic platforms and electoral rhetoric of either political party or candidate in the 2016 election campaign. That is in part because the platforms and the rhetoric *within* each campaign were at sharp variance. While the platforms spoke in more-or-less specific terms to the interests of particular organized

---

[5]New Mexico is demographically unique in the US, in having a 47 percent Hispanic population as of 2012.

constituencies, the rhetoric appealed in often opposite ways to the sentiments of highly polarized parts of the electorate.

Donald Trump's economic platform – and the economic policy of his presidency – centered on a strategy of economic growth fueled by an upper-income tax cut, a classic Republican policy in the Reagan mold. His rhetoric, on the other hand, spoke to the anger and frustrations of working Americans fostered by industrial decay especially in the upper Mid-West, principally the states of Ohio, Michigan and Wisconsin, along with western Pennsylvania and West Virginia, and promised a resurrection of manufacturing behind a wall of trade protections and pro-business deregulation, bolstered by a program (imaginary, in the event) of major infrastructure investments. Hillary Clinton, goaded in part by the challenge from democratic socialist Sen. Bernie Sanders (I-VT), offered a smorgasbord of incremental social welfare and environmental improvements, combined with an elusive economic rhetoric that reflected her obligation as a former member of the outgoing Obama administration to remain supportive of its economic record, and also her longstanding commitment to free trade, from which she retreated only in part, and in ways that were not likely (and perhaps not intended) to prove convincing.

Thus it was the Republican candidate who spoke most vehemently to those who might be supposed to harbor the greatest resentments over rising inequality, while nevertheless offering a policy program whose central element catered directly to the upper crust and to the fundraising base of the Republican Party. And while the Democratic program was broadly progressive in conception and incidence, with special emphasis on the middle class, the candidate's record, loyalties, frequent speeches to investment banks and past service as a Senator from New York made her appear to be even more closely associated with Wall Street than her opponent. It was therefore a campaign full of cross-currents and contradictions, in which either side could claim to be the more concerned about the problem of economic inequality in principle, and in some respects both sides did, tailoring the nature of their claim to the (real or imagined) response functions of the voters they most wanted to reach.

But even if it were possible to trace out the reactions of the electorate to the rise of inequality at the national level, it is hard to see how such a reaction could be interpreted as having affected voting behavior at the level of individual states. The greatest polarization in incomes over the near half-century from 1969 occurred, as noted previously, in such states as New York and California – meaning that in these states we now observe the greatest degree of cheek-by-jowl coexistence of the very rich and the relatively poor. Yet in these states the anger and frustrations which catapulted Trump to the presidency were precisely *not* observed among those left behind, many of whom remained loyal to the Democratic Party.

Conversely, where the putative reaction to rising inequalities was most strongly observed, the physical manifestations of that rise – pockets of extreme wealth owing to the concentration of elites in finance and high technology – were most remote. In the plains, the Deep South and the upper Mid-West, one finds agriculture and older industry, the typical social structure of New Deal and postwar America, the America of small towns, suburbs, and working-class cities. And within those

so-called "red states", it was also not the poorest elements that voted for the Republican ticket, but rather a plurality formed largely of the upper tier and the middle class. The complexities of these relationships suggest that the attempt to describe voting behavior as a reaction to a phenomenon – rising income inequality – observed in the *national* statistical record may be inherently tainted by *ex post* rationalization. It is perhaps not reasonable to expect that voters treat statistical generalizations in the same way as economists.

A better way may be explore the ways in which a voter's position in the income hierarchy affects voting preferences. A well-known phenomenon in modern American politics is the Gelman Paradox, according to which there is a strong tendency for high-income people to vote Republican, whereas high-income places tend to vote Democratic (Gelman et al. 2007). A resolution of the paradox was offered by Galbraith and Hale (2008), who showed that the slope coefficient of the income/voting line for each state was closely associated with the physical separation – geographic polarization – of rich and poor districts *within* that state. It is much flatter in states where rich and poor tend to live in separate counties, or otherwise separated political jurisdictions. Thus states with communities highly polarized by income level, but nevertheless wealthy on average, are solidly Democratic – a key example being Connecticut, a state with a smorgasbord of wealthy enclaves and working-class towns. Meanwhile, states where rich and poor tend to live in the same political sub-jurisdictions tend to be Republican, because the association between income and party preference is much stronger in those states. This is characteristic of the South, where political boundaries (and other policies) were long designed to minimize the political clout of the low-income African-American population.

This resolution of the paradox in turn points toward an organic relationship between increasing inequalities in the period following 1989/1990 and the evolution of voting patterns across states. For it is a well-established fact that the extreme concentration of income and wealth in the United States in this period has tended to localize wealth in a very small number of major urban jurisdictions. Thus, a measure of the rise of income inequalities across counties from 1993 to 2000, measured from the Local Area Personal Income Statistics based on tax records – is reduced by half if only five counties are removed from the data set[6] – the five being Santa Clara, San Mateo and San Francisco in Northern California – that is, Silicon Valley; King County Washington, home to Microsoft; and New York, New York, home of Wall Street and many corporate headquarters. There are 3150 counties in the United States, but only fifteen accounted for the entire increase in between-counties income inequalities over those years of the information-technology boom (Galbraith and Hale, 2006).

Pre-existing inequalities were not necessarily (or to the same degree) associated with narrow geographic concentration, because the sources of wealth in twentieth-century industrial America

---

[6]To prevent distortion in the inequality calculation that would result from simply dropping observations, Galbraith and Hale replaced the actual income growth in those five (and in the second calculation, fifteen) counties with the national average income growth, and recalculated the between-counties inequality measure. The comparison is thus between actual inequalities and what would have been the case had income growth in the five counties not been above average.

were highly diversified across the various and varied regions of the country. In the 1950s, Detroit, Cleveland, St Louis and Milwaukee were wealthy by national standards, each on the basis of a different source of industrial strength. But this diversification is not true of the sources of increasing or new wealth in the era of financialization and digital automation, which has fostered the growth of a very small number of enclaves that are qualitatively and dramatically wealthier than the broad range of American cities, let alone the surrounding countryside. The old inequality was predominantly urban/rural, black/white and North/South; the new inequalities are predominantly coastal/interior, and finance-technology against almost everything else.

Along with this change in the geographical distribution of wealth, there came a marked change in the political landscape. The Democratic Party had been a coalition between industrial trade unions dominant in the upper Midwest and the white Southern oligarchs of the Jim Crow South. After the 1970s, the party lost its dominance in both regions, thanks to deindustrialization in the North and the civil rights revolution in the South, which enfranchised African-American citizens at the cost of white flight to the Republican Party. Meanwhile, compensatory forces developed along the coasts, rooted in the rise mainly in the East of a liberal urban professional class, including in banking – traditionally a Republican preserve – and in the West of a scientific-technological-engineering elite, centered in the information technologies and in closely related aerospace industries. Both of these sectors, along with the socially-liberal entertainment industry in Southern California, gravitated to the Democratic Party, perhaps as much for cultural as for economic reasons. And throughout the country they were able to count on the loyal support of African-American and Hispanic communities.

The consequence was that in the Clinton era and beyond, the Democratic Party became a party of the *tails* of the income distribution: a party with strong majorities in most major urban centers, thanks to the dominance of liberal professionals, and overwhelming majorities in majority-minority communities where the Republican Party was (and remains) largely non-existent. The Republican Party, in contrast, became the dominant party in the rural regions, in smaller towns and in suburbs dominated by white voters, increasingly uninfluenced by the historic loyalties of the trade union movement. These voters are characteristically neither rich nor poor by national standards; they are far removed from the citadels of major urban wealth, but at the same time also well above the true poverty of the Black Belt South, the Mexican border or the urban slums, let alone Native American reservations. Thus the Republican Party, although led to increasingly by the unabashed wealthy – Bush, Romney, Trump in contrast to such earlier figures as Nixon, Ford or Reagan – became a party whose electorate was predominantly drawn from the middle of the income distribution. Needless to say this "middle element" was (and is) overwhelmingly of white ethnicity, and so racial identification aligns strongly with party affiliation in the case of the Republicans.

Now, suppose one considers an income distribution as having three components – low, middle and high income segments – whose presence or absence, above some threshold may be indicated by zeros and ones in a triplet: (000) to (111). For purposes of illustration, a 25 percent share in each group may be considered. Since (000) is impossible, an actual state may have any of the following

configurations: (001), (010), (100), (011), (110), (101) and (111). The US has no state with a majority of high-income people, so (001) can be struck. A state with predominantly poor people (100) does not come to mind, although Puerto Rico, Guam and American Samoa might qualify if they were states.[7] The remaining five triplets would then constitute the major possibilities.

New Mexico appears as a state with very few wealthy people, a poverty rate of 18.7 percent which places it in 49th place in the country, thus (110). Minnesota is a prosperous state with relatively few poor people, ranking 11th in household median income and 4th from the lowest in terms of poverty rate, thus (011). New Hampshire is an even better example: fourth highest median income and lowest poverty rate.

Otherwise, most of the states would appear to fall in the categories (010), (101) and (111). The first of these is a middle class state: to keep both extremes below 25 percent each requires that the middle group exceed a fifty percent share. In the remaining two cases, the tails of the distribution dominate, as they necessarily sum to a share greater than fifty percent. California and the District of Columbia are prime examples of the (101) category. California ranks 12th in median income but 33rd in poverty rate; the District, an even more extreme case, ranks 3rd in median income but 44th in poverty rate. New York, Virginia and Illinois are other examples of states that combine relatively high income levels with relatively high poverty rates. By contrast Utah ranks 7th in household median income but has the 3d *lowest* poverty rate – a quintessentially middle-income state. Somewhat similarly, Iowa ranks 17th in household median income and has the 7th lowest poverty rate, another example of the (010) group. Many other examples can be found across the Great Plains.

Now suppose that the voting pattern of the income distribution has the low- and high-income groups voting predominantly for the Democrats, and the middle-income group predominantly for the Republicans. In that case, (101) and (111) states will be Democratic, by and large, while the (010) states will be Republican. (110) and (011) states will be contestable, depending on the precise balance of the two prevailing groups. But of course inequalities in the (101) and (111) states will be much higher than in the predominantly middle-income (010) cases.

For more realism, the thresholds for each category may be adjusted, with allowance also for the fact that none of the groups is a monolithic voting bloc. Thus, communities of low-income people, mostly minorities, might have a threshold of (say) 30 percent, with a Democratic voting propensity of 0.8. (The actual figures are approximately 0.9 for African-Americans and 0.7 for Hispanics, and the population weights of the two groups nationally are about equal). The middle class community, mostly white and suburban/rural, might have a threshold of 50 percent, with a Republican voting propensity of 0.6. The upper-income community – urban professionals – is likely to be smaller but more partisan, say with a threshold of 20 percent and a Democratic propensity of 0.7.

In this hypothetical case we can calculate out the likely voting outcomes, knowing only the population proportions in each state. Table 1 gives representative, hypothetical cases. For example a state that exactly met the thresholds to be classed as (111) would vote 53 percent Democratic,

---

[7]Among the actual states, New Mexico might come closest to this configuration.

while a state that had a mix of (20,65,15) would be classed (010) and vote 54 percent Republican. A state that manifested high inequalities, say (40,35,25) would come in at 60 percent Democratic. Extreme inequality, such as in the District of Columbia before it became rich, might be registered as (70, 10, 20) and would give a Democratic vote of 73 percent. But as the District moved from predominantly poor and black to gentrified, wealthy and white, say to a mix of (50, 10, 40), the voting outcome would remain essentially similar. The actual District of Columbia votes about 90 percent Democratic.

Table 1: Expected Democratic Vote Shares by Economic Mixture in Hypothetical States: Examples from a Hypothetical Model

Code	Threshold	Propensity (D)	Dem Vote by Group
		"111" Balanced	
Low	30	0.8	24
Middle	50	0.3	15
High	20	0.7	14
Expected Democratic Vote Share			**53**
Code		"011" Upper/Middle	
Low	15	0.8	12
Middle	50	0.3	15
High	35	0.7	24.5
Expected Democratic Vote Share			**51.5**
Code		"010" Extreme Middle Class	
Low	20	0.8	16
Middle	70	0.3	21
High	10	0.7	7
Expected Democratic Vote Share			**44**
Code		"101" Polarized	
Low	40	0.8	32
Middle	35	0.3	10.5
High	25	0.7	17.5
Expected Democratic Vote Share			**60**
Code		"110" Poor/Middle	
Low	40	0.8	32
Middle	50	0.3	15
High	10	0.7	7
Expected Democratic Vote Share			**54**
Code		"010" Middle Class	
Low	20	0.8	16
Middle	65	0.3	19.5
High	15	0.7	10.5
Expected Democratic Vote Share			**46**
Code		"101" Extreme Case	
Low	70	0.8	56
Middle	10	0.3	3
High	20	0.7	14
Expected Democratic Vote Share			**73**

Note: Threshold is the share of voting population falling into each economic class – varies by state. Propensity is the Democratic proportion of the vote in each economic class – assumed constant here.

This, in essence, is our theory of the present state of American presidential politics. In close elections, not determined by some overwhelming factor such as a war or financial crisis, we argue, underlying economic and social conditions largely determine the outcome at the state level, and

a measure of income inequalities – specifically of the change in inequalities over a generation or so covering the information-technology boom and finance-driven economic growth – will tend to provide a reasonably reliable guide to the presidential voting pattern of the state.

As a corollary, this theory presents reasons to regard the two-party system in the United States as having a self-stabilizing tendency so far as the influence of economics on politics is concerned. To the extent that party policies and ideologies differ, it is plausible to believe that Democratic administrations generally have worked to produce reductions in inequalities, while Republican policies tend to increase those inequalities. Again to the extent that this is true, Democratic policies therefore foster a middle-income community and support Republican success at the polls; Republican policies work in the opposite direction, and build support for Democrats. However we do not lean too heavily on this analysis, as there are prominent exceptions with respect to party policies that nevertheless reinforce the rule: the rise in inequality in the 1990s, for example, which led to the popular vote victory of Al Gore in 2000, and the stock-market driven recovery under Obama, which led to the popular vote victory of Hillary Clinton in 2016. In neither case were the artifacts of rising inequality sufficiently widespread to produce a corresponding victory in the Electoral College. What they produced instead were disproportionate results in the most affected states, notably in California where Mrs. Clinton racked up a plurality of about four million votes, while nevertheless losing the popular vote outside California, the Electoral College and the election.

## 5   Measures of Economic Inequalities and Electoral College Outcomes: The Evidence

In this section we show the evolution of the relationship between economic inequalities and electoral college outcomes in key elections over the years. By key elections, we restrict ourselves to cases that were relatively close, as there is no point in using this type of economic analysis on blowout elections such as 1972, 1984, 1996, or 2008. A good base year is perhaps the Ford-Carter election of 1976. We use state-level election data from Dave Leip's Atlas of U.S. Presidential Elections (Leip).

Figure 1 depicts the 1976 Democratic vote share in each state against the level of pay inequality in that state, measured with the Theil measure of pay inequality for 1975, with the markers weighted by the electoral college vote in 1976. No particular relationship emerges from the plot. The figure establishes a baseline of no association between inequalities and election outcomes; any such association is the artifact of later developments. This justifies our use of changes in the subsequent figures.

It should be noted that here and in the later figures the vote share measured is the reported election result. There is also an important separate effect of inequalities on turnout. Specifically, more unequal states generally have lower turnout, suggesting an element of vote suppression or low-income voter apathy which would tend to reduce the patterns that will emerge, nevertheless,

in the actual results for later years. Galbraith and Hale (2008) report evidence on this point; we do not pursue it here.
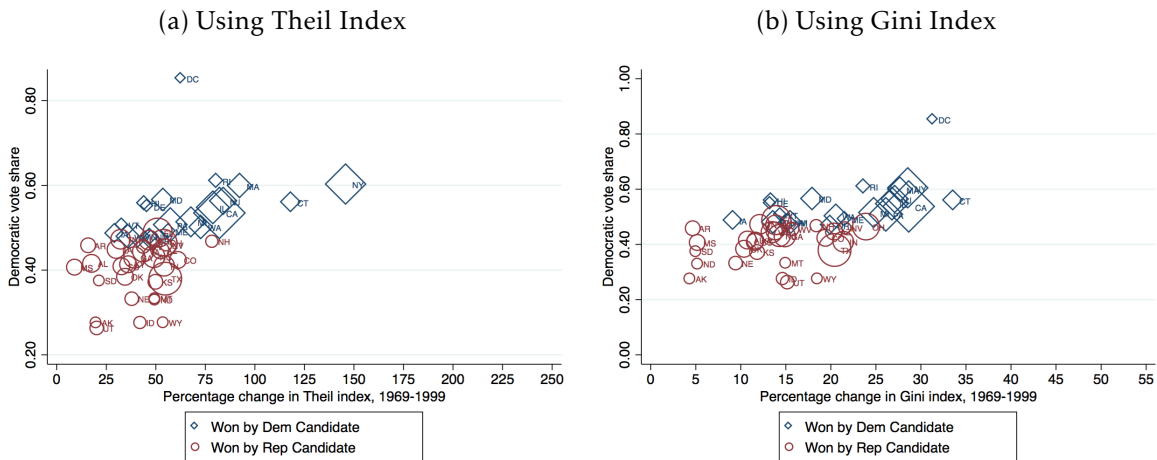
Figure 1: Levels of Inequality and Election Outcomes in 1976

(a) Using Theil Index

(b) Using Gini Index
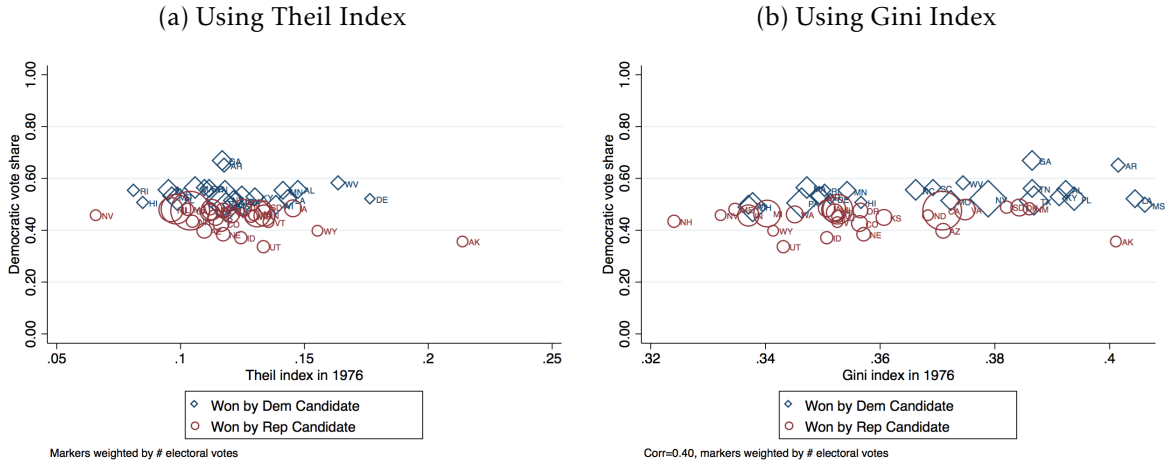
Note: Correlation coefficient = -0.19 in Subfigure (a), 0.36 in Subfigure (b), -0.35 in Subfigure (c) and -0.34 in Subfigure (d); markers weighted by # electoral votes.

Fast forward to three reasonably close elections of recent times – 2000, 2004, 2012 – and using the change of inequalities from 1969 forward. Figures 2, 3 and 4 show the patterns of inequality change and electoral college outcomes for these elections. The patterns are broadly similar in all cases, with the correlation between change of inequality and the Democratic vote share coming in between .52 and .62 in all cases. A noticeable pattern is the steadily increasing polarization of the Democratic-leaning states as time passes.

Figure 2: Changes in Inequality and Election Outcomes in 2000

(a) Using Theil Index

(b) Using Gini Index

Note: Correlation coefficient is 0.52 in Subfigure (a) and 0.62 in Subfigure (b); markers weighted by # electoral votes.

13

Figure 3: Changes in Inequality and Election Outcomes in 2004
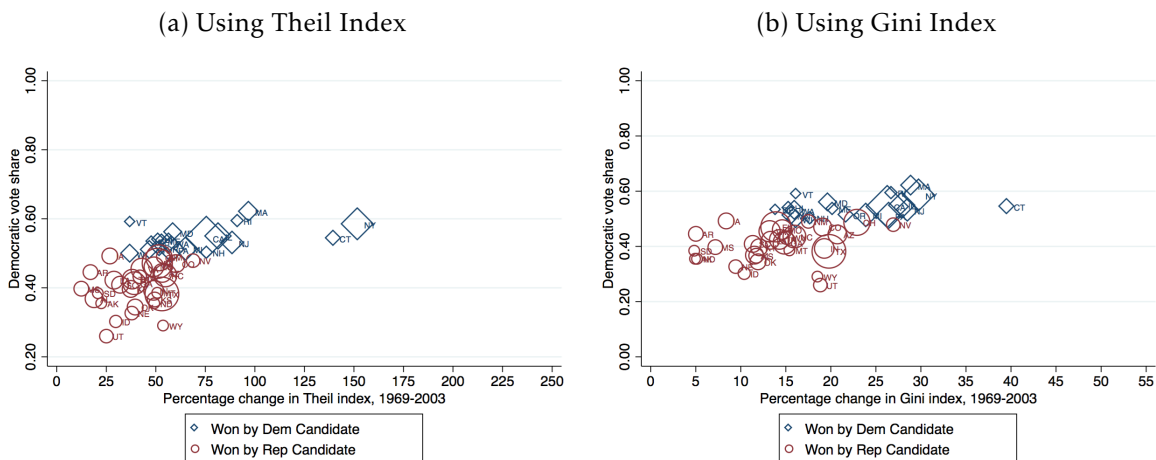
(a) Using Theil Index

(b) Using Gini Index

Note: Correlation coefficient is 0.60 in Subfigure (a) and 0.59 in Subfigure (b); markers weighted by # electoral votes.

Figure 4: Changes in Inequality and Election Outcomes in 2012
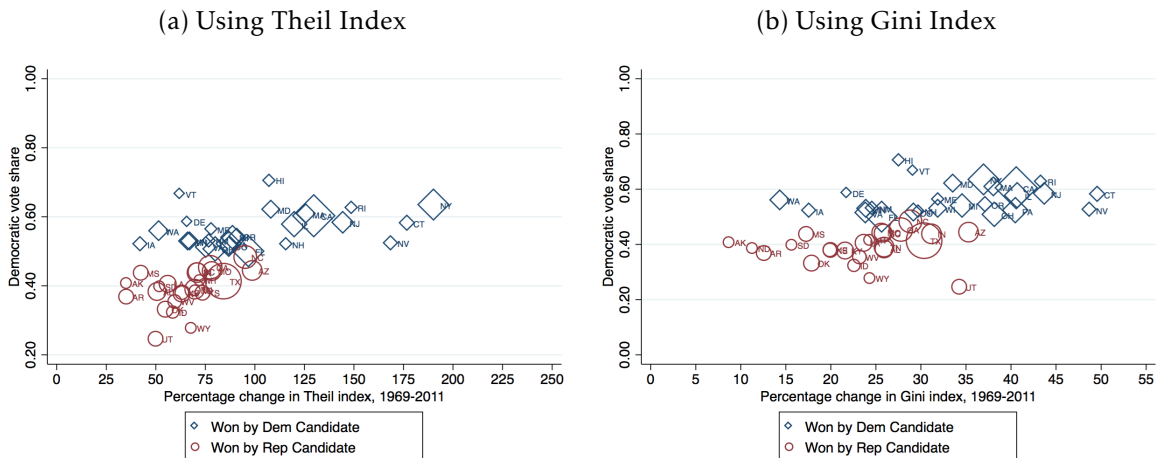
(a) Using Theil Index

(b) Using Gini Index

Note: Correlation coefficient is 0.60 in Subfigure (a) and 0.59 in Subfigure (b); markers weighted by # electoral votes.

Finally we arrive at the critical election of 2016. This election followed the economic crisis of 2008-9 and the eight years of recovery under President Obama, a recovery strongly driven by easy monetary policy and the appreciation of capital asset prices, reinforcing inequalities in line with existing patterns of capital ownership and the geographic concentration of economic wealth and power.

As Figure 5 shows, by 2016 the pattern which had been developing over previous elections had matured. We include here four panels, two each for the Theil and Gini measures, and two each for changes from 1969 and from 1989, on the ground that the information-technology boom and associated concentration of high-income enclaves in specific bi-coastal formation is an artifact of the period following the recovery from the 1989/1990 recession. In the 2016 election, the 14 states

with the largest increases in pay inequalities (the Theil measure) after 1989 all, without exception, voted for Mrs. Clinton. Of the sixteen states with the smallest increases, 14 voted for Mr. Trump. Similar patterns emerge in the other panels.

Figure 5: Changes in Inequality and Election Outcomes in 2016

(a) Based from 1969, Theil Index

(b) Based from 1969, Gini Index

(c) Based from 1989, Theil Index

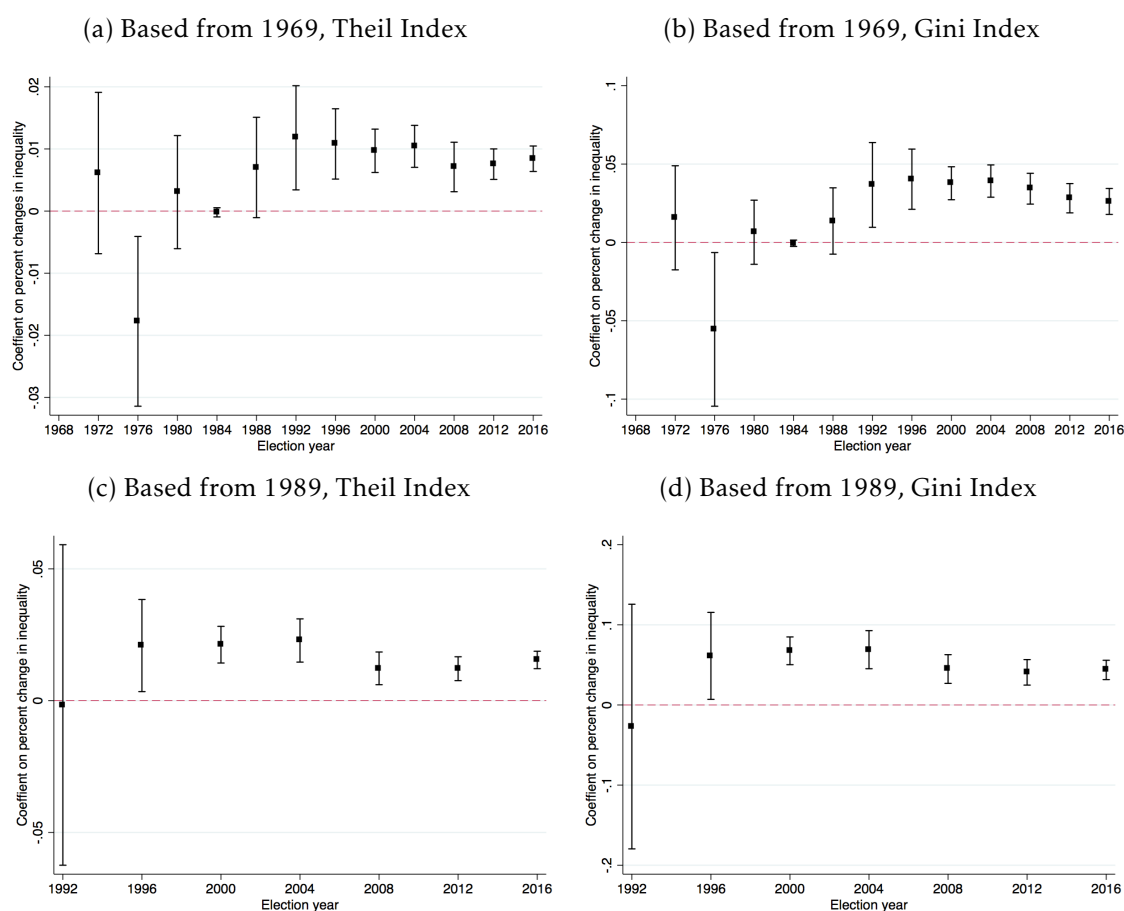(d) Based from 1989, Gini Index

Note: Correlation coefficient is 0.63 in Subfigure (a), 0.65 in Subfigure (b), 0.68 in Subfigure (c), and 0.69 (d); markers weighted by # electoral votes.

Figure 6 shows the point in time when inequalities within states began to drive the Democratic/Republican vote split. It occurred with the election of Bill Clinton in 1992, which marked the shift in the base of the Democratic Party away from the industrial mid-West and toward the West – the rise of the "Atari Democrats" along with the information-technology sector which was by that time beginning to transform the economic geography of the United States. The model, a simple regression of the Democratic vote share in each state on the change in inequality in that state, is estimated separately for each election and the confidence intervals for the coefficient on changes in economic inequality are plotted. As the Figure shows, before 1992 there is essentially no clear relationship between changing inequalities (based from 1969) and the Democratic share of the

vote in each state. For 1992 and every election thereafter, the coefficient is positive and significant[8]. Interestingly, we find that the raw level of inequality is not related to election outcomes (see Figure A3 in appendix). This suggests that the nature of the inequalities that arose after 1969, and especially in the development of the "new economy" in the 1990s, was fundamentally different in its political effects than those that existed before 1969.

Figure 6: Trends in the Relationship between Changes in Inequality and Election Outcomes

(a) Based from 1969, Theil Index   (b) Based from 1969, Gini Index

(c) Based from 1989, Theil Index   (d) Based from 1989, Gini Index

Notes: Coefficients for %Δ in Theil and Gini values in regressions predicting Democratic electoral victory by state. For example, %Δ in Theil index from 1969 to 2003 was taken for the election year 2004 in Subfigure (a). Similarly in Subfigure (c), %Δ in Theil index from 1989 to 2003 was taken for the 2004 election outcomes. The model fits separately for each election year. Estimates and standard errors are shown.

It is interesting to trace the evolution of certain states over the long run from 1969 to the present in their political orientation. Table 2 gives the examples of California, New York, New Jersey, Connecticut, and Nevada, showing how each voted (D or R) in each election from 1972 forward, alongside their ranking in the inequality tables of that year (0,51). In each case, the state

---

[8]We looked at state's average income using the per capita personal income data available from the Bureau of Economic Analysis. Including the income variable does not change the broad pattern we have seen; the coefficient on change in inequality remains positive and significant for all election years while income loses significance depending on year.

evolved from substantially Republican toward solidly Democratic as its position in the inequality rankings rose.

Table 2: Inequality Ranking and Presidential Outcome, Selected States, 1972-2016

Year	CA		NY		NJ		CT		NV	
	Ranking	Vote	Ranking	Vote	Ranking	Vote	Ranking	Vote	Ranking	Vote
1972	21	R	15	R	35	R	37	R	48	R
1976	20	R	14	D	27	R	34	R	49	R
1980	11	R	17	R	25	R	30	R	44	R
1984	11	R	16	R	25	R	29	R	42	R
1988	11	R	8	D	31	R	29	R	21	R
1992	12	D	3	D	22	D	23	D	20	D
1996	7	D	2	D	20	D	15	D	28	D
2000	3	D	2	D	8	D	6	D	32	R
2004	6	D	2	D	12	D	3	D	16	R
2008	3	D	2	D	10	D	4	D	7	D
2012	2	D	3	D	9	D	4	D	11	D
2016	2	D	3	D	7	D	6	D	12	D

Finally, one may speculate on the directions indicated by the theory for the future of American politics and presidential outcomes. Of the three traditionally Democratic states that proved decisive on behalf of Trump in 2016, Pennsylvania and Wisconsin ranked relatively high (#11, #16) on the list of inequality-increases from 1989 to 2014. Michigan ranked far lower at #36, while Minnesota, which Mrs. Clinton carried narrowly, was even farther down the list at #39.

This perhaps suggests that one possible strategy for a Democratic nominee in 2020 would be to recover Pennsylvania and Wisconsin – enough, narrowly, to change the outcome if all the other states vote as they did before. But in a closely fought election, the loss of Minnesota would be a major problem, and it would appear that Minnesota is one of the few states Democrats might lose relative to 2016 on grounds of demographic and economic transition.

On the other hand, while it is true that the states with the greatest increases in inequality and shift toward the blue column were all Northern and Western states, just below that level a substantial transformation has also been going on in the American South. Alabama, Mississippi, Georgia, Virginia and Louisiana all rank among the twenty states with the greatest increases in inequality from 1989 to 2014. Of these only Virginia has made the transition to the blue column, narrowly supporting Mrs. Clinton in 2016 after voting for President Obama twice. But Alabama in 2017 elected a Democratic Senator for the first time in decades, while in 2018 Georgia nearly elected a Democratic Governor[9], and in a special election in Mississippi a Democratic candidate made a respectable showing. Louisiana's political ecology was badly disrupted by Hurricane Katrina in 2005, making it a relatively poor test of our theory; the African-American population of New Orleans was displaced especially to Houston and Atlanta, where it may be contributing to a Democratic transition in both Texas and Georgia.

And although Texas has not moved much in the league tables, it's nevertheless the case that with rapidly growing, prosperous cities and large and growing minority population, the state

---

[9]In fact, the Democratic candidate, Stacey Abrams, never conceded and continues to maintain that the 2018 gubernatorial election in Georgia was rigged.

appears to be moving from the (010) toward the (101) camp. This is shown by the fact that Mrs. Clinton improved on Barack Obama's 2012 result by about four percentage points, and by the 49 percent Democratic vote obtained by Beto O'Rourke in his challenge to Senator Ted Cruz in 2018. Harris Country, the fourth largest urban county in the nation, voted solidly Democratic in 2016 and 2018, electing a full slate of Democratic candidates.

Similarly in Arizona, a combination of urban liberals and Hispanic voters elected a Democrat, Kristen Sinema, to the Senate in 2018 – the first Democratic Senator from that state in several decades. That the South and Southwest are drifting back toward the Democratic column seems clear – although it is far from clear that the drift will be decisive as early as the 2020 elections. When it happens, however, the new demographics and economics of the region will change the face of American politics for the next generation.

6 Conclusions

This paper shows that the rise of income inequalities within American states since 1969 and especially since 1989 has become strongly associated with the outcome in closely-contested presidential elections. States with large increases in inequalities have drifted toward the Democratic column, while states where increases are less pronounced have drifted to the Republicans.

Previous research has revolved around addressing the so-called "red-blue paradox" – that rich states tend to vote Democratic, but rich voters tend to vote Republican. While that work was focused on personal incomes as against state-average incomes, this paper approaches the issue from a different angle, namely the inequality of incomes within each state. This paper also innovates in focusing on changes in inequality over time, rather than the levels of inequality within each state, on the ground that the politically-relevant relationship between income inequality and party affiliation is something that has emerged over the past fifty years, and is not necessarily associated with the situation that existed before the Civil Rights revolution and the Voting Rights Act of 1965.

Our findings rely on a technique for estimating year-to-year changes in inequality at the state level, using payroll data in conjunction with Census measures, which is closely related to the work at the global level of the University of Texas Inequality Project. The resulting set of inequality measures, presented here in two alternative formats, is a balanced panel from 1969 to 2014, covering all states and the District of Columbia, and is dense and consistent enough to examine changes in inequality from any chosen base year up to each election year through 2016.

We present a theoretical framework that helps interpret the relationship between the income distribution and expected Democratic and Republican vote shares. The essential point is that in current American politics a two-tailed voting coalition dominates the Democratic Party, with high-income urban professionals on one side and low-income, largely minority communities on the other. The Republican Party, meanwhile, has become the party of the center of the American income distribution, dominant in rural areas, small towns and many suburbs. Thus measures that increase income inequalities tend to favor the emergence of Democratic majorities; measures that

18

decrease them tend to favor Republicans – a self-stabilizing element in American politics, perhaps, over the long run.

In sum, we find that measures of changed income inequality succinctly capture the current polarization of the American electorate by states, and help also to foretell the future evolution of American politics, as inequalities rise across the South, making that region contestable for the Democrats for the first time in a generation.

No single-variable theory of American politics is likely to command universal acceptance. Nevertheless, the search for simple generalizations with broad application and strong empirical support can help frame an understanding of the complex dynamics of the American system. And it appears that in the current configuration of allegiances to the Democratic and Republican parties, measures of economic inequalities within states are a useful indicator of the political orientation of those states. Since the United States is a federal country with an Electoral College that chooses the presidency by state on a winner-take-all basis, it develops that these measures bear quite heavily on both the present and the future of the American presidency.
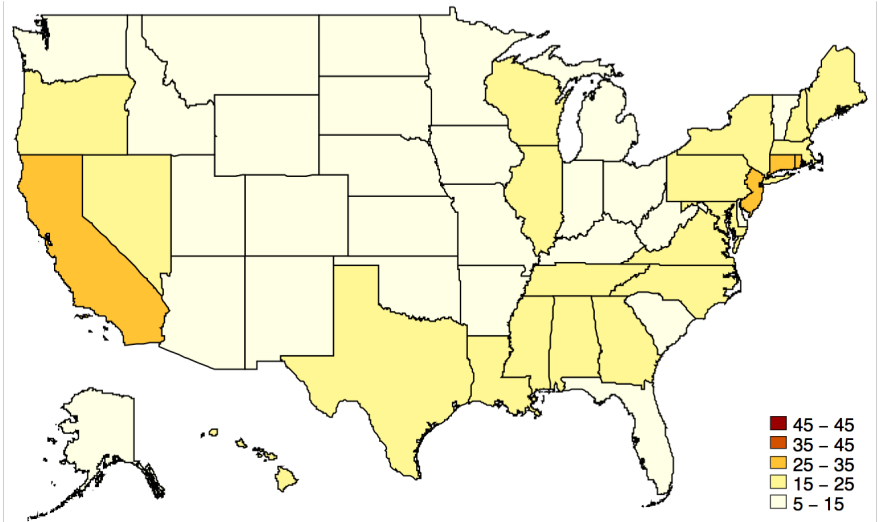
References

Deininger, Klaus and Lyn Squire. 1996. "A New Data Set Measuring Income Inequality." *World Bank Economic Review* 10(3):565-591.

Galbraith, James K., Béatrice Halbach, Aleksandra Malinowska, Amin Shams and Wenjie Zhang. 2016a. "The UTIP Global Inequality Data Sets 1963-2008: Updates, Revisions and Quality Checks," in Kaushik Basu, Vivian Hon and Joseph Stiglitz, eds, *Inequality and Growth*, Basingstoke: Palgrave MacMillan.

— , Jaehee Choi, Béatrice Halbach, Aleksandra Malinowska, and Wenjie Zhang. 2016b. "A comparison of major world inequality data sets: LIS, OECD, EU-SILC, WDI and EHII," in Lorenzo Cappellari, Solomon W. Polachek, and Konstantinos Tatsiramos, editors, "Income Inequality Around the World", *Research in Labor Economics*, Vol. 44, pp l-48.

Galbraith, James K. and Travis Hale, 2006. "American Inequality: From IT Bust to Big Government Boom," *The Economists' Voice*, 2006, vol. 3, issue 8, article 6.

—. 2008. "State Income Inequality and Presidential Election Turnout and Outcomes" *Social Science Quarterly*, Vol 89, Issue 4, 887-901.

Galbraith, James K. and Hyunsub Kum. 2005. "Estimating the Inequality of Household Incomes: Toward a Dense and Consistent Global Data Set," *Review of Income and Wealth*, Series 51, Number 1, March, 115-143.

Galbraith, James K. and Maureen Berner, eds. 2001. *Inequality and Industrial Change: A Global View*, New York: Cambridge University Press.

Galbraith, James K. 2016. *Inequality: What Everyone Needs to Know*, New York: Oxford University Press.

—. 2012. *Inequality and Instability: A Study of the World Economy Just Before the Great Crisis*. New York, Oxford University Press.

—. 1998. *Created Unequal: The Crisis in American Pay*. New York: Free Press.

Gelman, Andrew, Boris Shor, Joseph Bafumi, and David Park. 2007. "Rich State, Poor State, Red state, Blue State: What's the Matter with Connecticut?" *Quarterly Journal of Political Science* 2: 345-367.

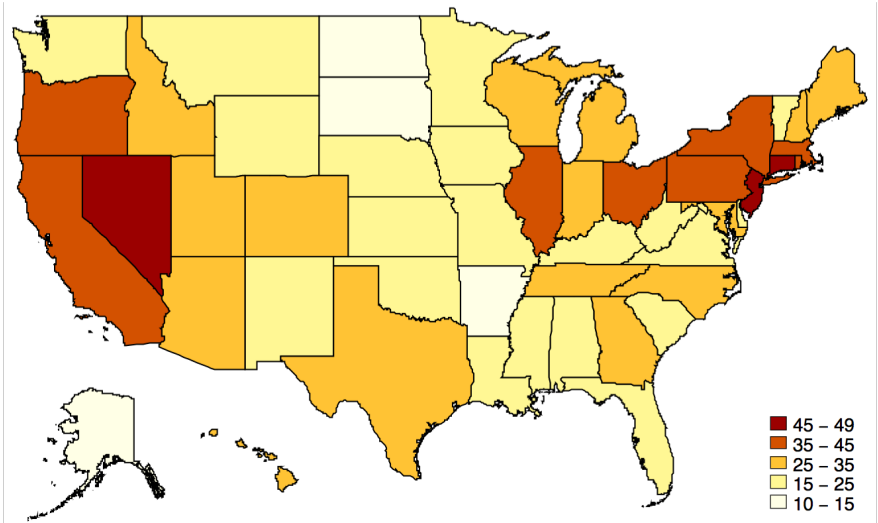Leip, Dave. Dave Leip's Atlas of US Presidential Elections. [Accessed July 31, 2019]; http://uselectionatlas.org/

Appendix

Figure A1: Changes in Inequality

(a) 1989–2014

45 – 45
35 – 45
25 – 35
15 – 25
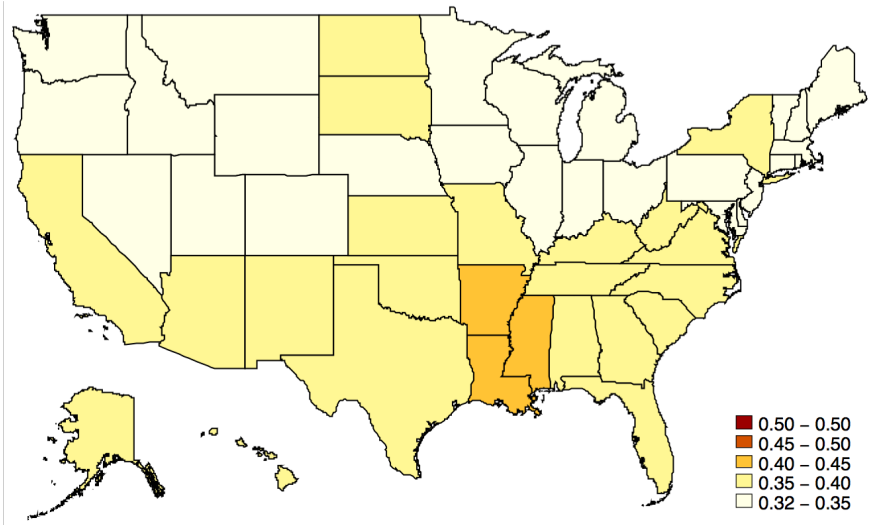5 – 15

(b) 1969–2014
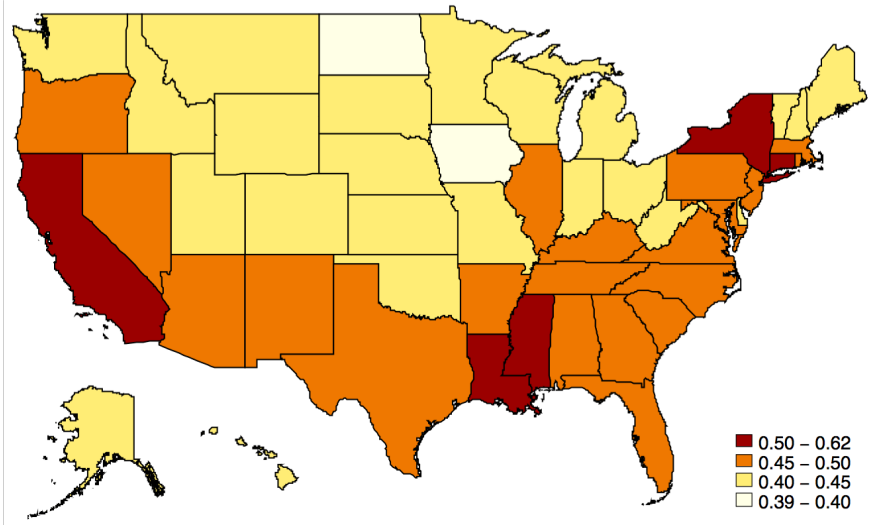

45 – 49
35 – 45
25 – 35
15 – 25
10 – 15

Notes: Changes captured as percent changes in Gini coefficients

Figure A2: Levels of Inequality in 1969 & 2014

(a) 1969
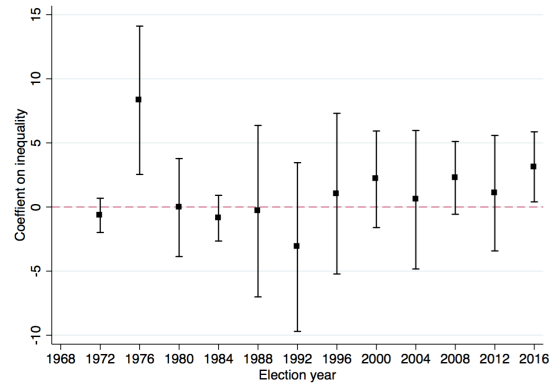

(b) 2014

Notes: Inequality measured by Gini coefficients. For the complete historical data, visit the University of Texas Inequality website: https://utip.lbj.utexas.edu/data.html

Figure A3: Trends in the Relationship between Levels of Inequality and Election Outcomes

Notes: Coefficients for Gini values in regressions predicting Democratic electoral victory by state. Gini index in year $t-1$ was used to predict electoral outcomes in t. The model fits separately for each election year. Estimates and standard errors are shown.