

Democratic Party Control Reduces Gender Inequality

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Abstract

Women earn less than men who work in the same job with the same level of experience. We know much about this gender wage gap but relatively little about its political or partisan sources. In this article, we examine the effects of party control of state government on gender inequality in income, wages, unemployment, and poverty. Employing both a regression discontinuity design and a dynamic difference-in-difference analysis, we find that electing a Democratic majority to the state house leads to substantial improvement in women's incomes, wages, and unemployment relative to men – especially in recent years. We also show that greater female representation in office and more liberal policymaking on policies related to women's rights could be driving that process. We find, however, fewer clear effects on poverty and less robust results for partisan control of the governor's office or the state senate. Parties and politics matter, but not always.

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Women earn substantially less than men. Recent estimates indicate that female full-time workers earn only about 79 percent of what their male counterparts earn (Blau and Kahn 2017). Over the course of a lifetime, that difference has enormous consequences. As the Institute for Women’s Policy Research notes, “A typical woman loses hundreds of thousands of dollars over her lifetime due to the wage gap” (Institute for Women’s Policy Research 2019).

Not surprisingly, economists have looked extensively at the issue. Their efforts have been able to explain much of that gender gap. Gender differences in skills and experience are part of the story (Goldin 1990). Gender differences in occupations, industries, and firms also explain some of the gap (Blau and Kahn 2017). But even after taking these factors into account, a gap remains. “The remainder,” as Claudia Goldin notes, “cannot be explained by observable factors” (Goldin 2018). Gender inequality remains real and troubling.

What role does politics play in shaping this gap? Unfortunately, while we know a lot about gender and politics, the political factors behind the gender gap have been less thoroughly investigated. There is a vast literature that assesses the impact of female representation on policy outcomes (Osborn 2012, Anzia and Berry 2011, Koch and Fulton 2011, Reingold and Smith 2011, Swers 2002). Another looks at the factors that shape female representation itself (Dolan 2014, 2004, Huddy 1994, Lawless and Fox 2005, Teele et al 2018, Petty 2017, Bauer and Carpinella 2017). And yet another examines the link between gender and party choice (Thomsen 2019, Ondercin 2017, Sanbonmatsu and Dolan 2009, McDermott 1997, Chaney et al 1998). But these studies haven’t tried to connect the political process directly to economic well-being by gender.¹

¹ Scholars have, however, assessed the impact of specific policies like access to the pill and laws against gender discrimination on the gender gap (Bailey 2006, Kurtulus 2012).

In this article, we examine a larger political factor that we think is most likely to explain and potentially mitigate gender inequality. Specifically, we assess whether partisan control impacts gender inequality. Given strong evidence that Democratic control is, in fact, associated with a more liberal policy agenda, we might expect that having Democrats in office reduces gaps in well-being between men and women (Caughey, Warshaw, and Xu 2017, Kousser 2002).

But do these shifts in policy appreciably impact the relative well-being of men and women? Does partisan control really matter for core economic outcomes like the gender wage gap? On this question, we have much less in the way of direct evidence. The few studies that have directly focused on outcomes have been much less likely to find partisan effects (Holbein and Dynes 2018, Leigh 2008). But none of the existing studies actually looks at the impact of party control on the gender gap in well-being. Put simply, we don't really know if partisan control impacts female well-being.

In this article, we try to this ongoing question by offering a rigorous analysis of partisan control of state government that employs both a regression discontinuity design and a dynamic difference-in-difference model. Our results suggest that partisan control can matter. Our tests generally show that Democratic control of the lower house in state legislatures leads to declines in gender inequality. At least in the recent period of pronounced partisan polarization, Democratic House control leads to substantial declines in the gender income gap, the gender wage gap, and the gender unemployment gap. By contrast, we find little consistent effects for party control of the Governor's office. A brief and admittedly incomplete examination of the state senate also reveals few clear signs of the impact of partisan control. Overall, our analysis indicates that partisan control can profoundly impact women and reduce gender inequality.

In this article, we also begin to investigate the mechanisms behind these party control effects. First, in light of studies that show that individual Democratic legislators are typically been more supportive of a feminist agenda than Republican legislators, we investigate the link between shifts on gender specific policy and the wage gap (Osborn 2012, Gerrity et al 2007, Swers 2002). Second, given research showing female legislators tend to advocate for a more liberal policy agenda and the fact that female legislators are increasingly disproportionately elected on the Democratic side, we look at the connection between female representation and the wage gap (Clayton and Zetterberg 2018, Holman 2014, Reingold and Smith 2011, Koch and Fulton 2011, Poggione 2004,). We find some preliminary evidence that both female representation and gender specific policy change may be responsible for the declines in the wage gap when Democrats control the state House.

Partisan Control and the Gender Wage Gap

Women who work in the same job with the same level of experience get paid considerably less than men. The gap is both impressive and, for many, alarming. The National Women's Law Center recently estimated that women typically has to work 50 years to make what a man earns in 40 years (National Women's Law Center 2018). Moreover, there is evidence that after declining for many decades, the gap is no longer narrowing (Blau and Kahn 2017).

What is less clear is why the gap remains stubbornly intact. That is not for lack of trying, especially by economists. Through those efforts we can now explain much of the gender wage gap. As one would expect, basic labor forces are important. Skills such as education and workforce experience help to account for both wages and gender gaps in wages (Cha and

Weeden 2014). But these conventional human capital variables explain only a fraction of the gender gap. Sociological explanations – often those that focus on gender roles – help as well (Mincer and Polacheck 1974, Blau and Kahn 2017). Indeed, one of the largest factors driving the gender wage gap is the fact that men and women tend to work in different industries and occupations. Occupational segregation and lower wages in traditionally female dominated sectors of the economy are a critical factor behind the wage gap (Goldin 1990). Other ‘gendered’ aspects of employment also contribute. The fact that women are much more likely than men to be family caregivers means that the gender gap widens after women become mothers (Fuchs 1988). Also because women are relied on more than men for household duties, they tend to work fewer and less irregular hours – a problem given that the highest-paying jobs disproportionately reward those who can work the longest, least flexible hours (Noonan et al 2005).

Yet, these factors do not fully explain the wage gap. Blau and Kahn (2017), in fact, find that 38 percent of the gender wage gap cannot be explained by factors that are easily measured such as occupation, educational attainment, or years of experience.

Could this gender gap have a political source? One obvious place to look is partisan politics and in particular at the question of whether Democrats or Republicans control policy. There are strong reasons to believe that shifts in partisan control could impact policy and in ways that ultimately reduce the gender wage gap.

First and foremost there is strong evidence of significant, if not massive, partisan differences in policy outputs at the state level. Democratic control of the states appears to lead to more left-leaning policy, especially in areas related to redistribution. In particular, scholars have found that Democratic control of either the legislature or the governor’s office leads to higher

overall spending (Alt and Lowry 2000 but see Besley and Case 2003, Gilligan and Matsusaka 1995, Garand 1988), higher taxes (Besley and Case 2003), greater health care spending (Kousser 2002, but see Beland and Oloomi 2017, Joshi 2015), broader health insurance (Cummins 2011), higher education spending (Hill and Jones 2017, Beland and Oloomi 2017), and greater welfare effort (Gilligan and Matsusaka 1995). In perhaps the most comprehensive and rigorous study to date, Caughey, Warshaw, and Xu (2017) demonstrate that, electing Democrats does lead to overall more liberal policies. Lax and Philips (2012) and Erikson et al (1993) find minimal party effects but given that they both control for public opinion and/or mass ideology, it's difficult to interpret their results. Moreover, studies done at the national level – albeit with less empirical variation and thus less methodological sophistication, claim that Democratic control of the Presidency and Congress has wide ranging implications for policy (Erikson et al 2002). In addition, while the literature on the effects of partisan control at the local level is more limited and the findings somewhat mixed, recent studies using large data sets and the same regression discontinuity approach that we utilize in this study find that the election of Democrats to city and county governments does shift policy substantially to the left (Warshaw and de Benedictis-Kessner 2019; de Benedictis-Kessner and Warshaw 2016).² In short, party control moves policy.

Does Partisan Control Matter for Outcomes?

But does any of this ultimately impact outcomes? Even when Democrats are able to pass liberal policies specifically designed to impact gender inequality, it is unclear if they actually reduce that inequality. Barack Obama, for example, signed an executive order in 2014 that was aimed squarely at closing the compensation gender gap. His order required companies to

² Two earlier tests – both using smaller samples of cities - led to somewhat mixed findings with one revealing small partisan effects (Gerber and Hopkins 2011) and another uncovering no significant partisan effects (Ferreira and Gyourko 2009).

compile data on the gender gap and then to offer justifications for any substantial differences. Democratic presidential candidates — including Hillary Clinton during her 2016 presidential campaign — have pushed for more affordable childcare and for more transparency in pay. But even if these candidates are elected and their policies pass, will it make a difference? Will the gender gap decline?

Here the research is much more limited. Once again, there is some suggestive evidence at the national level. Hibbs' (1987) and Bartels' (2008) seminal studies found that Democratic presidencies were associated with greater economic growth and declining economic inequality — two outcomes that could greatly benefit women. But more recent research has raised questions about whether these relationships are actually causal (Blinder and Watson 2016). Scholars are only beginning to look at outcomes at the state level. The two studies that have looked at the impact of partisan control on broader measures of well-being have both found few effects. Leigh (2008) find no significant partisan effects on overall incomes, wages, or inequality once appropriate controls are in place. Holbein and Dynes offer a broader and an even more discouraging conclusion: “It is clear that the party in power has almost no effects on economic, health/family, educational, crime, civic, and environmental outcomes” (2018:2).

Judging by these results, we might conclude that parties don't ultimately matter for outcomes and well-being. But there are two critical caveats. First, a number of other studies that focus more closely on specific outcomes where we might expect particularly pronounced partisan differences do find signs of real partisan impact. Yates and Fording (2005), for example, find greater racial disparities in imprisonment under Republican legislatures. And Beland and his co-authors employ a regression discontinuity design to find that African

American and immigrant employment increases and pollution declines under Democratic governors (Beland and Boucher 2015, Beland and Unel 2018).

Second, none of the existing studies actually focuses on gender inequality. Summed together all of these studies tell us little about gender related outcomes overall and even less about the gender wage gap in particular. We simply don't know if electing Democrats to office makes a difference for women.

Uncovering a Mechanism:

If we find that partisan control does, in fact, impact gender inequality, the next most obvious question is how. What is the mechanism through which partisan control impacts the wage gap? Fortunately, there are a range of studies linking gender, party, and politics that help to identify potential mechanisms.

One such mechanism is female representation. There is clear evidence of an increasingly strong relationship between gender and party leadership. More and more women are being elected as Democrats, while the number of female Republican legislators is staying relatively stagnant or in some cases even decreasing (Thomsen 2015, 2019). In Congress, for example, as late as the 1980s the number of Democratic and Republican female representatives was roughly even. Today, female Democrats outnumber female Republicans by more than five to one (105 Democrats to 21 Republicans). Similarly, in state legislatures around the country, female Democratic state legislators now outnumber female Republican state legislators by more than two to one (1453 to 662) (NCSL 2019). In other words, women are exerting more and more influence over the leadership of the Democratic Party.

If having women in office translates into substantive shifts in policy, then the greater share of women in office on the Democratic side could help to explain a partisan impact on the

gender wage gap. Critically, there is abundant evidence that having women in office does matter for a range of outcomes (but see Ferreira and Gyourko 2014). First, research shows that female elected officials score higher on average than men on basic measures of effectiveness (Anzia and Berry 2011). Studies also show that female representatives tend to focus more on women's issues (Gerrity et al 2007, Swers 2002, Dolan 1997).³ Female elected officials also tend to do more to try to expand welfare benefits, increase the emphasis on health, and more broadly to institute a more liberal policy agenda (Clayton and Zetterberg 2018, Holman 2014, Reingold and Smith 2011, Koch and Fulton 2011, Poggione 2004). Finally, studies also show that female Democratic legislators are more likely than female Republican legislators to pursue liberal gender policies and that that gap is only increasing over time (Osborn et al 2019, Osborn 2012, Swers 2013). All of this suggests that growing female representation could be behind a decline in gender inequality under Democrats.

Another potential mechanism is gender policy itself. We know that Democratic legislators are typically more supportive of a pro-women's or feminist policy agenda than are Republican legislators (Osborn 2012, Swers 2002). And there is every reason to believe that policies that give more women freedom and rights should impact their bottom line. In particular, policies that give women the ability to control reproduction and allow them to better plan their careers can and do give women the chance to work more and earn more (Bailey 2006). Likewise, there is a clear logical and empirical connection between policies that enshrine equal treatment into the law (eg the ERA) and the ability of women to work and earn fair wages (Kurtulus 2012).

Research Design

³ The extra emphasis on women's issues is apparent not just in the US context but in other countries around the world (Schwidt-Bayer 2006, Funk and Philips 2018).

In this study we look to see if Democratic control of the state legislature and the governor's office leads to declines in gender inequality and in particular to relative gains for women on income, wages, employment, and poverty. We focus on state government for two reasons. The first is substantive. As we have already noted, there is increasingly strong evidence that partisan control of state governments does matter for policy (Caughey, Warshaw, and Xu 2017). State governments also control vast resources that could conceivably impact the well-being of individuals in their states. Thus, there is reason to suspect that partisan control of state governments could matter for outcomes.

The second reason to focus on states is methodological. The greater number of states (versus one national government) and the greater variation in the degree to which Democrats and Republicans control state legislatures over time and across states allows us to employ methods that lead us closer to causal inference.

We focus on a set of four of the most basic metrics of well-being to measure gender inequality: income, wages, poverty, and employment. Specifically, we focus on mean income and mean wages for each gender and calculate the poverty and unemployment rate by gender. We then focus on the ratio of women to men for wages and income. For poverty and employment, we subtract the women's rate from the men's rate to get at gender gap. In each case, we have calculated the measures so that higher values mean more equality.⁴

Our data are compiled from Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) from the Census Bureau. ASEC is a supplement survey for CPS that is focused on income. The survey is massive - almost 6 million individuals -

⁴ Across states and years, wage and income ratios are always less than one and the poverty and employment gaps are almost always negative - a pattern that confirms the ongoing, and pervasive nature of gender inequality.

representative of the population, and is conducted annually in March. ASEC uses a stratified multistage probability sampling design to obtain representative sample at the state level. Thus, we can accurately gauge annual changes in male and female well-being at the state level. We employ individual level weights provided by ASEC to estimate average income, average wage, unemployment rate, and poverty rate by gender for each state and year.

The key independent variables are partisan control of the state house and the governor's office. Those variables as well as the electoral outcomes for each office which will be used for the regression discontinuity analysis were provided by Caughey, Warshaw, and Xu (2017) and cover the period up to 2014. Mirroring Caughey, Warshaw, and Xu (2017), we do not fully estimate the effects of partisan control of the state senate because only a fraction of senate seats are up for re-election in any given year. We do, however, discuss some exploratory difference-in-difference models for the state senate.

To gauge the impact of partisan control on gender inequality, we employ two complementary tests: a) a regression discontinuity design (RDD), and b) a difference-in-difference design (DiD). Both have been used extensively in recent years to estimate the effects of partisan control of state governments (Holbein and Dynes 2018, Beland and Unel 2018, Caughey, Warshaw, and Xu 2017, Leigh 2008).

RDD leverages the fact that observations close to the electoral cutoff that determines which candidate or party controls a given office in state government are as-if randomly distributed. These extremely close elections are essentially a coin flip that thus enable us to isolate the causal effects of party control from other factors. The identifying assumption of the RD design is the continuity of expected potential outcomes around the cutoff. To test this assumption we conducted a McCrary test. That test reveals no discontinuities in the density of

the running variables.⁵ Given modest assumptions, RDD models produce unbiased local average treatment effects. The RDD model is as follows:

$$Y_{st} = \beta_0 + \beta_1 D_{st} + f(V_{st}) + \epsilon_{st}$$

Y_{st} is gender inequality measured in state s and year t . D_{st} indicates whether a Democrat controls the Governor's office (or Democrats control the state house). The function $f(\cdot)$ denotes the local linear regression used in the estimation of the RD model. We choose the optimal RD bandwidth suggested by Calonico, Cattaneo and Titiunik (2014). Standard errors are clustered at the state level.

In gubernatorial elections, the RDD cutoff is 50 percent of the two-party vote share. For the state house, we cannot use the aggregate two-party vote because the actual outcome – Democratic control of the legislature – is dependent on numerous electoral races in each legislature. We follow the multidimensional RD design approach suggested by Feigenbaum, Fourinaies, and Hall (2017). This approach utilizes two kinds of information: the number of seats required to become the majority party and the electoral results for those related races.

Specifically, the running variable is constructed through a two-step process. First, we determine the number of seats (m) required for the minority party to become the majority party. Second, we use the electoral outcomes from the closest m races to compute the Euclidean distance from majority status. The Euclidean distance is obtained by adding the squares of electoral margin from the m closest electoral losses of the minority party. Then we take the square root of the added measure. Finally, we multiply -1 to this measure when the Democratic

⁵ See the Appendix Figure A7 for details. Additionally, Tables A2 and A3 of the Appendix show the results of balance tests for the RDD design.

Party is the minority. By multiplying -1, we can estimate the effect of Democrats becoming the majority party.⁶ We use the running variables constructed by Caughey, Warshaw, and Xu (2017).

In each of our RD models we estimate the effect of Democratic control on the *change* in gender inequality. For the gubernatorial analysis that we present in the text of the article, we focus on change in gender inequality between the year the governor is elected and the second (and third) years of the governor's term (averaging the two years). However, we also run RD models for other years (years 1 and 4) of the governor's term. Due to space limitations, those results are presented in the Appendix. Likewise, our RD models for the house focus on change from the election year to the 2nd and 3rd year of each term (averaging the two intervals).

The RD design is useful given that it estimates the effect partisan control with modest assumptions. However, the main drawback of the RD design is that any estimated effect only applies to cases within a certain narrow bandwidth (from closely winning to closely losing). As a result, our RDD estimates are, strictly speaking, not generalizable beyond the cutoff. Also, we lose statistical power because RD draws inference from a small number of cases extremely close to the threshold of Democratic vs Republican control.

We can, however, test the for the effects of partisan control across the full sample using a difference-in-differences design (DiD). The DiD design leverages within-state variation in partisan control across the state-years panel. Following Caughey, Warshaw, and Xu (2017), we utilize DiD models that include state and year fixed effects along with lagged dependent variables. The state and year fixed effects absorb all observed or unobserved factors that are constant within a state or constant across states at any point in time. We include lagged

⁶ For example, assume Democrats are the minority and need to win 3 more seats to become the majority. If the three closest races are 1, 2, and 4 percentages loses, then the Democrat's Euclidean distance from majority status is $(-1) \cdot (1^2 + 2^2 + 4^2)^{1/2} = -4.58$.

dependent variables because the trends that predict gender inequality could covary with partisan control and the extent of gender inequality. The identifying assumption of the typical difference-in-differences model is that there are no unobserved time-varying confounders that affect only treated units in some years.⁷ To account for a potential violation of parallel trends assumption, we follow existing studies' practice by including lagged dependent variables along with state and year fixed effects (Caughey, Warshaw, and Xu 2017). . The model is as follows:

$$Y_{st} = \beta Gov_{st} + \gamma House_{st} + \delta Senate_{st} + \sum_{l=1}^2 \rho_l Y_{s,t-l} + \alpha_s + \delta_t + \epsilon_{st}$$

Y_{st} is our gender inequality outcome at state s and year t . Gov_{st} denotes a Democrat governor; $House_{st}$ indicates Democrats are the majority party in house; $Senate_{st}$ indicates Democrats are the majority party in senate. We include state fixed effects, α_s , year fixed effects, δ_t , and two years of lagged dependent variables $Y_{s,t-1}$, $Y_{s,t-2}$. In alternate tests, we try a number of different lagged dependent variables. As the Appendix details, the results are robust to these different lags. In additional alternate tests, we add state-specific time trends instead of lagged dependent variables to the state and year fixed effects. The state specific time trends control for any over time trends that vary within states. The result from these models are presented in the Appendix. The results reveal similar outcomes.

Given that the RD design and the difference-in-difference models each have different limitations, we believe that they are complementary and together bring us closer to assessing causality and providing an accurate picture of the impact of partisan control.

⁷ To check this assumption, we regressed past outcomes on contemporaneous party control. In line with existing studies (Caughey, Warshaw, and Xu 2017, Dynes and Holbein 2020), the results, which are displayed in Table A24 in the Online Appendix do reveal one violation. However, the violation is limited to one out of 12 cases (8.3%) and the median effect size (across all 12 variables) is extremely low (only 4.3% of the standard deviation of the outcome variables).

In all of our analysis we test the effects of partisan control across the entire data set (1980 to 2014) as well as during the recent period between 2000 and 2014. We expect partisan control to matter more in the recent period because the two parties have become increasingly polarized over time on policy at the state level (Caughey, Warshaw, and Xu 2017).

To test our two mechanisms we compile data on the number of female state legislators from the Center for American Women and Politics (2019) and on gender related policy from Caughey and Warshaw (2016). Specifically, we incorporate all policies in the data set that explicitly impact women's rights as well as those related to abortion and family planning. All told, we assess state-by-year outcomes for 9 policies related to women's rights including those on access to contraceptives and abortion, laws against gender discrimination, and no-fault divorce. The list of policies is reported in the Appendix.

Results

We begin by noting that there is substantial variation in gender inequality across the states. Women's incomes and wages were lower than men in every state and every year of our data set, but the gap was much more pronounced in some states and much less severe in others. In 2014 – the last year for which we have partisan control data – the ratio of female to male wages varies from one extreme in Delaware where women earn fully 83 percent of what men earn to the other extreme in Mississippi where women earn only 54 percent of what men earn. There were similarly large differences in total income – from a female to male ratio of .69 in the most egalitarian state to a ratio of .49 in the least egalitarian state. Likewise, on employment and poverty there were, as expected, many states with severe gender gaps but in a few rare states, women were actually slightly better off than men.

It is also worth noting that at least at first glance there appears to be a partisan tint to gender inequality. In 2014 women do better relative to men in the 15 states where all three pillars of government are controlled by Democrats than they do in the 22 states with a Republican governor, house, and senate. Specifically, the average female-male wage ratio was significantly higher in Democratic controlled states (.70) than it was in Republican controlled states (.65). The difference in the female-male income ratio was equally large and significant - .63 in Democratic states vs .57 in Republican states. Women also did significantly better relative to men in employment in Democratic states. This type of simple comparison did not, however, reveal a significant difference on male vs female poverty rates. In the online appendix, we include several figures showing how the gender gap in wages, income, unemployment, and poverty varies by partisan control across all of the years in our data set. These figures show that partisan differences in gender inequality change over time and are especially pronounced in recent years.

All of this suggests that partisan control *could* matter. But there are lots of concerns with this kind of naïve comparison. Chief among them is the possibility that it is the public itself and not partisan control that is driving gendered outcomes. States with more liberal populations are likely both to push for more pro-female policies and to elect more Democrats. There is also the problem of endogeneity and the public responding to outcomes, rather than the parties driving outcomes. More gender equity could lead to more Democratic votes and more Democratic politicians. And there are any number of possibilities for spurious correlations. Maybe gender inequality is declining over the same time period that Republican control just happens to be expanding.

Partisan Control of the House and Gender Inequality

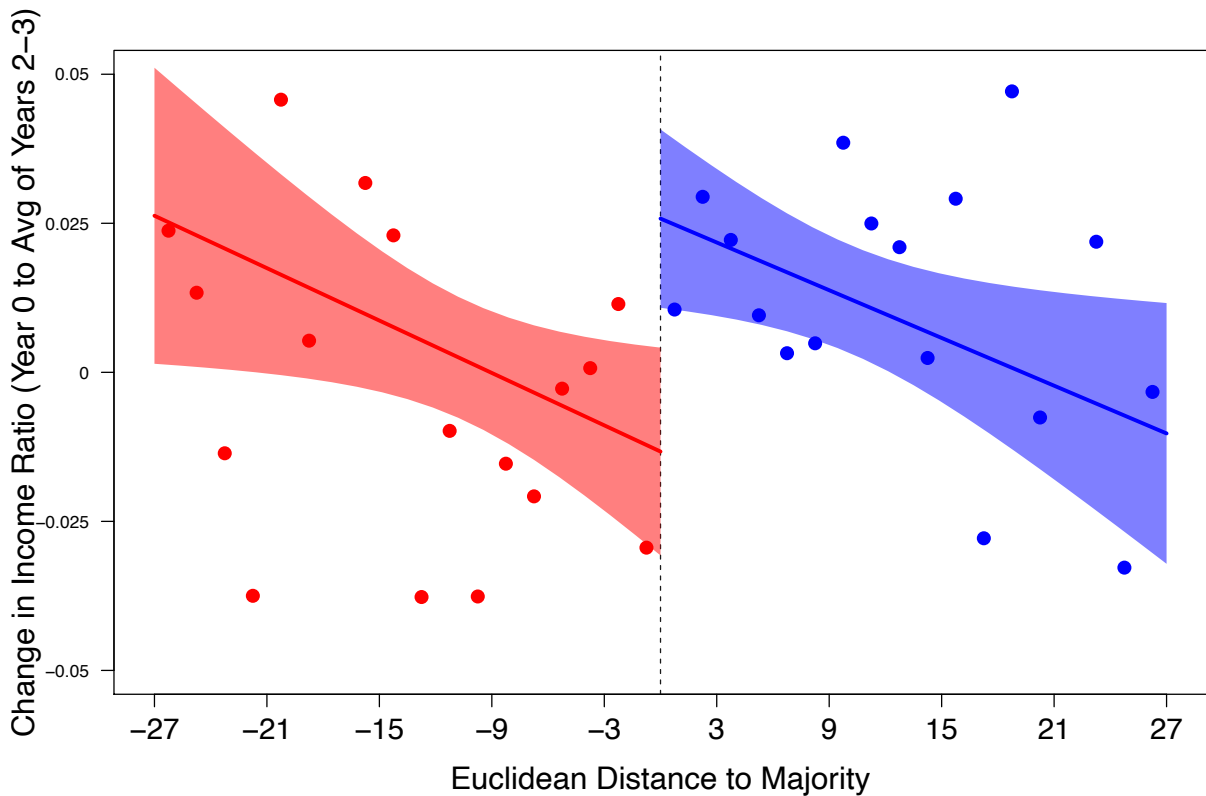
To really evaluate partisan control's impact on gender equality, we need more sophisticated tests. We start with a focus on which party controls state houses during the most recent time period, because this is where we expect the most pronounced partisan effects. During this period, we have clear evidence of increased partisan effects on policy (Caughey, Warshaw, and Xu 2017).

Regression Discontinuity Results

We begin with our Regression Discontinuity analysis, the results of which are displayed in Figure 1. It compares gender equality – in this case change in the ratio of female to male incomes between the election year and the average of the second year and the third year of each term – in states where Democrats barely won a majority in the house to states where Republicans barely won a majority between 2000 and 2014. The full regression table for this regression (Table A10) as well as all subsequent figures is reported in the Online Appendix.

The analysis demonstrates that there is a significant discontinuity as states move from barely Republican on the left to barely Democratic on the right. Electing Democrats into the majority leads to a 2.6 percentage point increase in the female to male income ratio. To put that in context, across the more than four decades of our data set, the female to male income ratio improved by only 20 percentage points. Thus, a 2.6 percentage point partisan effect represents a sizeable shift in gender equity.

Figure 1. The Effect of Electing A House Democratic Majority on Gender Equality in Income (2000-2014)



Note: The underlying regression results for this figure are displayed in Table A10 - third column of the 2000-2014 model for average income ratio. The plot visualizes the RD effect of electing a house democratic majority on average income ratio in the time period of 2000-2014. The outcome variable is the change in the average income ratio between the election year and the average of the second year and the third year of each term. The bandwidth of the plot is determined by Calonico, Cattaneo, and Titiunik (2014).

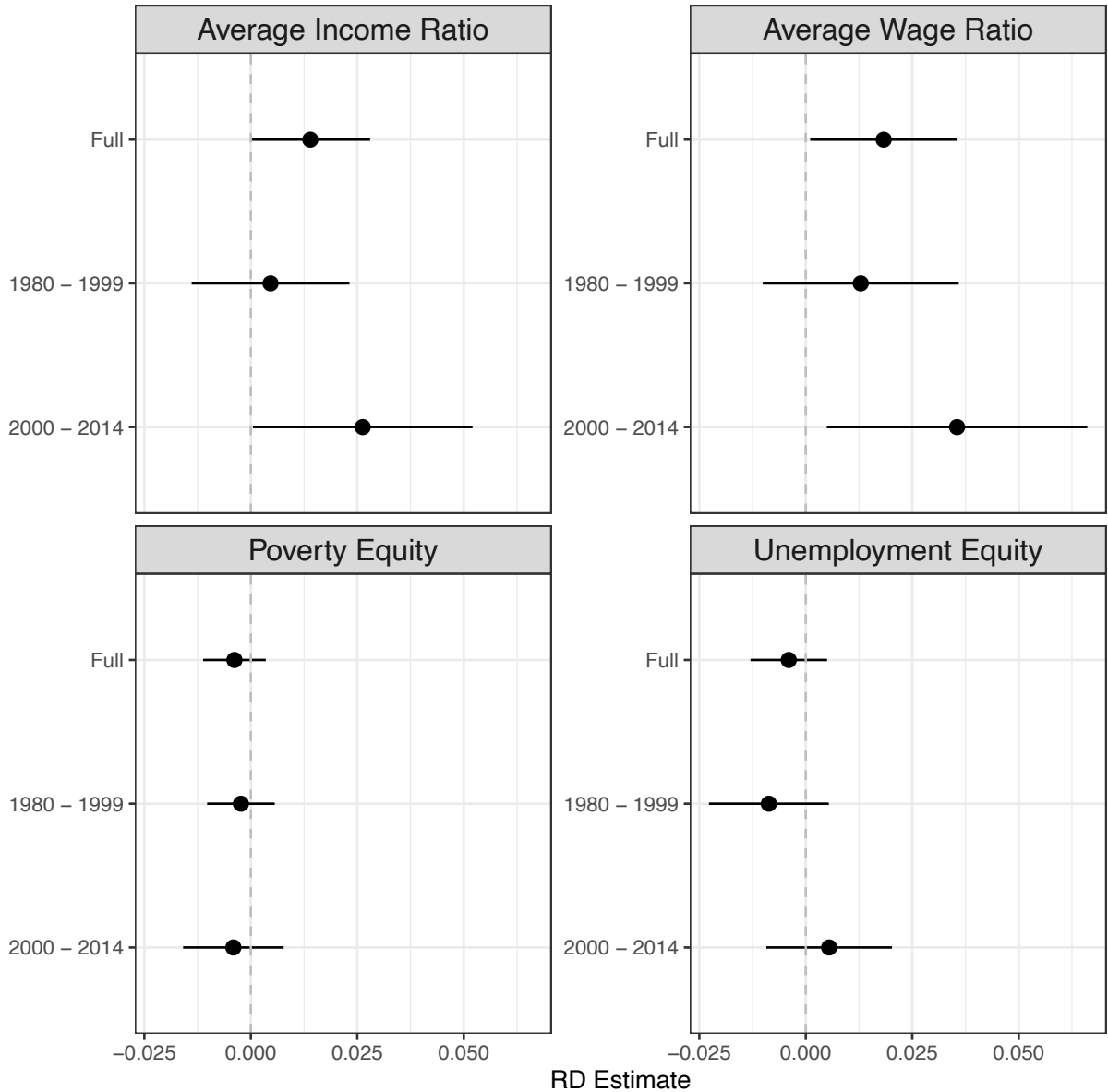
When we use the same RD design to evaluate partisan control of the house on other measures of gender equality and across different time periods, we find some more significant effects and some null effects. In Figure 2 we show the estimated effects of partisan control on the ratio of female to male incomes, wages, poverty, and unemployment and we do so for the entire time period from 1980 to 2014, for an early time period (1980-1999), and for the most recent time period (2000-2014).

Starting first in top left quadrant of the figure, we see that the partisan effect on income that we illustrated in Figure 1 is significant for the most recent time period but is not significant in the

earlier time period from 1980 to 1999. If partisan control is impacting gender equality in income, it is only happening in the last two decades.

Figure 2. The Effect of Shifting to a Democratic Majority in the House on Different Measures of Gender Equality: RD Analysis

RD: The Effect of Electing House Democratic Majority (Year2 – Year3 Average)



Note: The underlying regression results for this figure are displayed in Table A10 . Standard errors are clustered at state level. The outcome variables measure the average change in the gender gap between the election year and the average of the second year and the third year of each term.

The same story emerges on wages – the top right quadrant. Here we find that shifting to a slim Democratic majority from a slim Republican majority leads to a positive and significant shift in gender equality on wages over the entire time period as well as during the recent time period. A slim Democratic majority is linked to a 3.6 percentage point increase in gender equality on wages. That is sizeable. In 2014, across all of the states women’s wages averaged 68 percent of men’s wages. That means that shifting to Democratic control led to 5.7 percent decline in overall gender inequality on wages. When we shift the focus to the earlier time period, when America was less polarized, we find once again no partisan impact.

Figure 2 does, however, show that there is no significant effect of partisan control of the state house on the gender gap on unemployment and the gender gap in poverty. At least to this point, the main effects of house Democratic control appears to be on wages and income more than poverty and employment.

Difference-in-Difference Results

All told, the RD results indicate that the shift to a slim Democratic majority in the house from a slim Republican majority can substantially decrease gender inequality in basic economic outcomes like wages and income. But the regression discontinuity design focuses on a small number of cases at or very near the threshold between Democratic and Republican control. That means both that RD has limited statistical power and that it is not necessarily applicable to the range of cases and states where elections are not so close. To increase our statistical power and to look at a broader range of cases, we now turn to our difference-in-difference analysis. Here we exploit variation in partisan control over time within the same state to offer another, more generalizable look at the effects of partisan control.

Figure 3 illustrates the effects of Democratic control of the house on gender equity in income, wages, unemployment and poverty using the difference-in-difference approach. On every measure Democratic control is associated with an increase in gender equity – especially in the most recent time period. But the significance of that relationship does vary. In the recent period, Democratic control leads to significant improvement in female income (relative to male income), significant declines in female unemployment (relative to male unemployment), and near significant increases in female wages and the poverty gap.

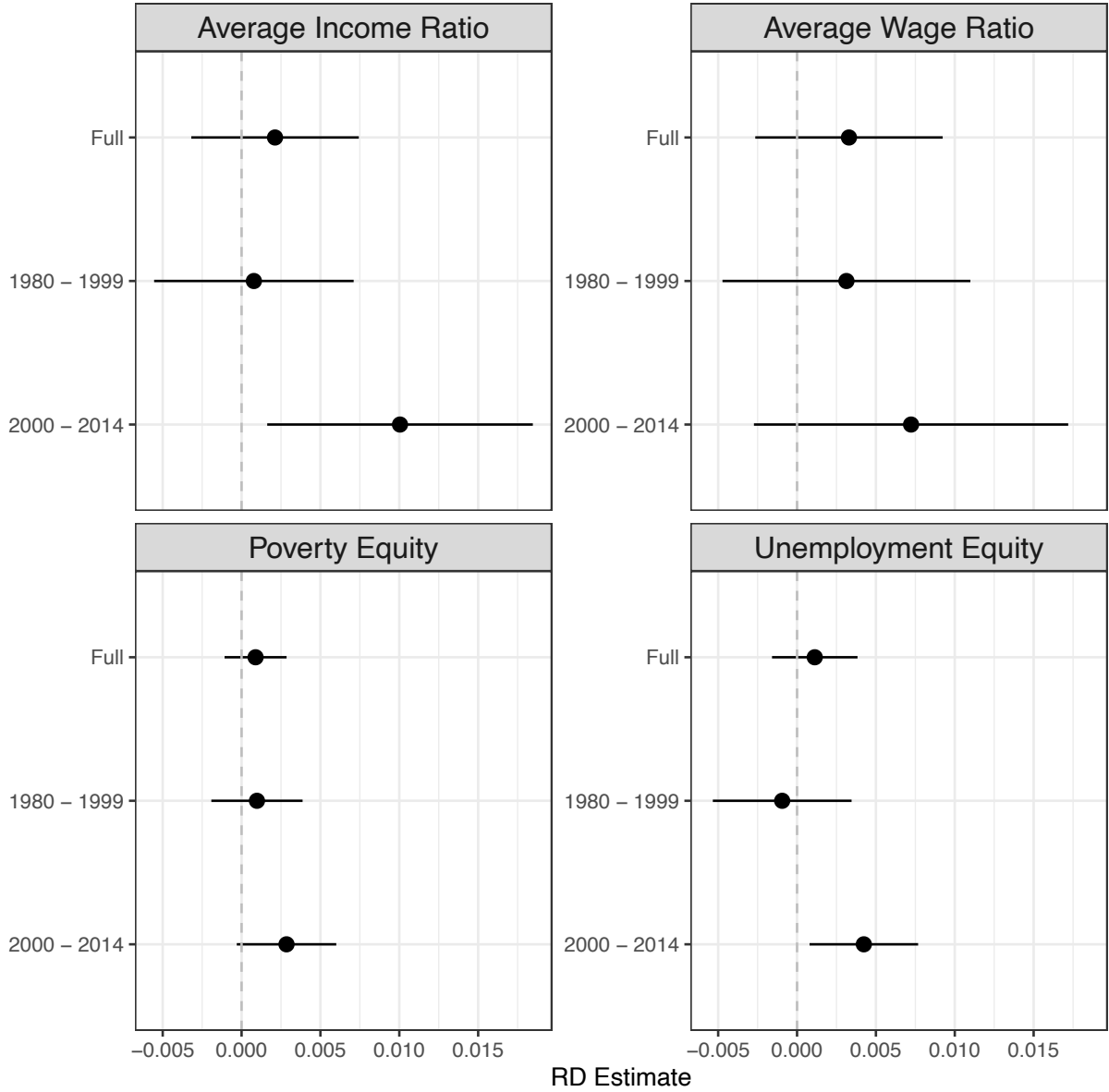
Moreover, the effects are substantial. The model estimates that one year of Democratic control leads to a one percentage point increase in the female-male income ratio. That ratio currently averages 62 percent across the 50 states. Putting the two figures together, suggests that several decades of Democratic control could conceivably eliminate much of the overall gender income gap. The size of the effect for wages is slightly smaller (0.7 percentage points) although not significant ($p = 0.155$). On unemployment the model indicates that one year of a Democratic majority in the house leads to a 0.4 percentage point decrease in the employment gap between men and women. Given that across our entire data set, the employment gap only ranges by 15 percentage points, the effect of partisan control is clearly meaningful.⁸ The comparable estimate for poverty is a 0.29 percentage point increase in gender equity but that estimate is only marginally significant at 90 percent confidence level ($p = 0.077$).

For all four measures of gender equity, we do, however, find no significant impacts of partisan control during the earlier time period. In general, this pattern conforms closely with what we found for the house using the RD design. Both tests suggest that Democratic control of state houses can, in fact, substantially reduce gender inequality in economic outcomes. All of

⁸ Put another way, the standard deviation in the unemployment gender gap is only 2 percentage points.

this also suggests that partisan control matters much more when the two parties are polarized on policy.

Figure 3. The Effect of Electing a Democratic Majority in the House: DiD Analysis
 DID: The Effect of Democratic Majority in House



Note: The results presented here are based on Table A12. Nebraska is not included because the legislature is nonpartisan and unicameral. Standard errors are clustered at the state level and calculated by block bootstraps of 1,000 times.

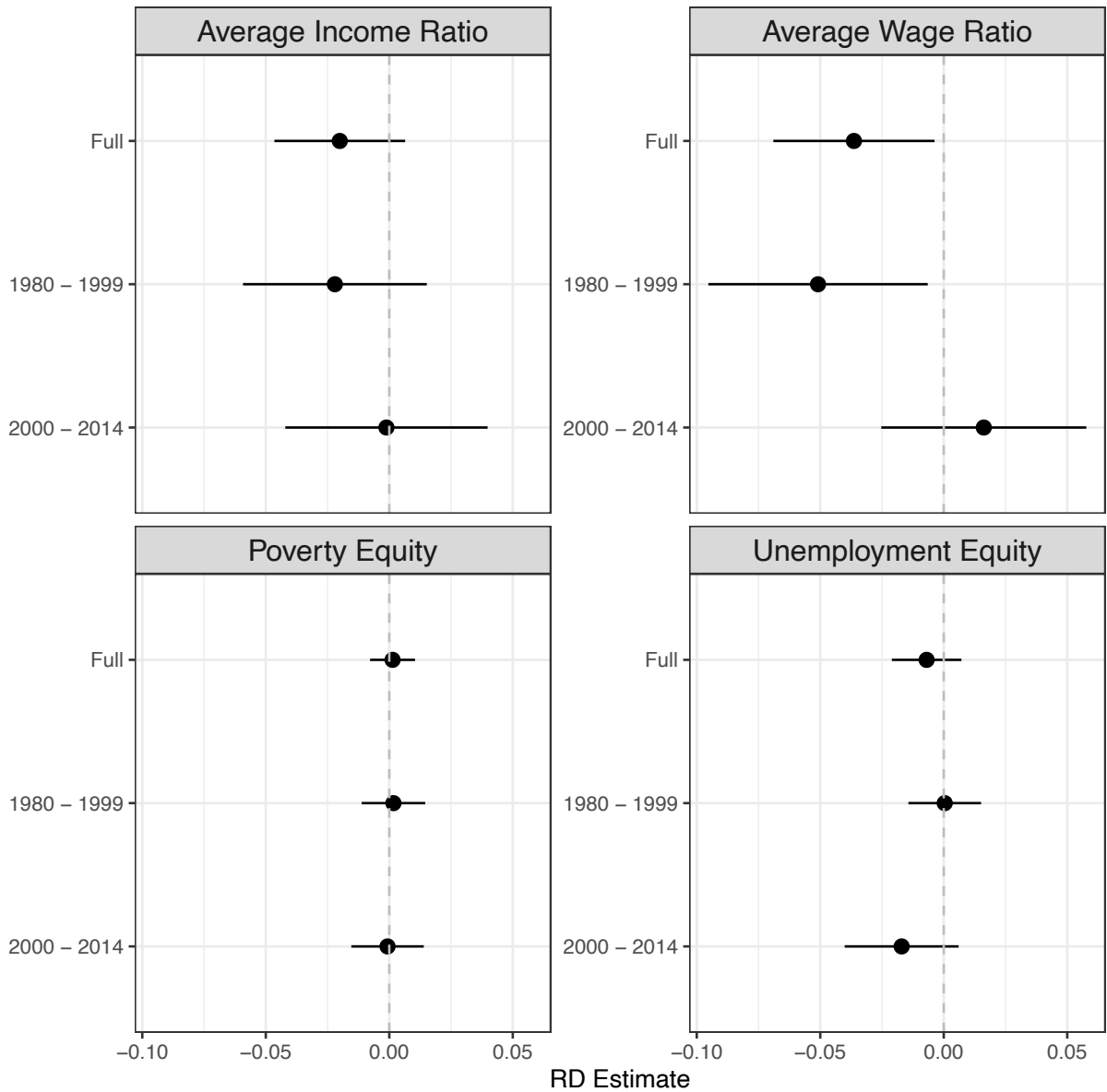
Governor's Party on Gender Inequality

However, when we shift to a focus on the party of the governor, we find no clear or consistent effects. As Figures 4 (Regression Discontinuity Results) and 5 (Difference-in-Difference Results) illustrate, Democratic control of the governor's office appears to be largely inconsequential for core economic measures of gender inequality. Across all four measures of gender equity (income, wages, poverty, and unemployment) and across the different time periods, the DiD model reveals no significant effects of electing a Democratic governor. Likewise, the regression discontinuity regressions shows no significant ties between Democratic control and the gender gap in income, the gender gap in poverty, and the gender gap in unemployment regardless of which time period we focus on. There is some indication from the RD model that electing a Democrat to the governor's office may be leading to declines in gender equality on wages. However, that result may be misleading as the pretreatment outcome, the wage gap in the year of the election of a Democratic governor, shows a statistically significant discontinuity.⁹ Thus, this one finding may simply be a product of regression to the mean. (See the Online Appendix for tests of the underlying assumptions of the RD models).

⁹ The discontinuity disappears when the income gap is converted to a first difference. First differences are our measures of outcome variables.

Figure 4. The Effect of Electing a Democratic Governor on Gender Equality: RD Analysis

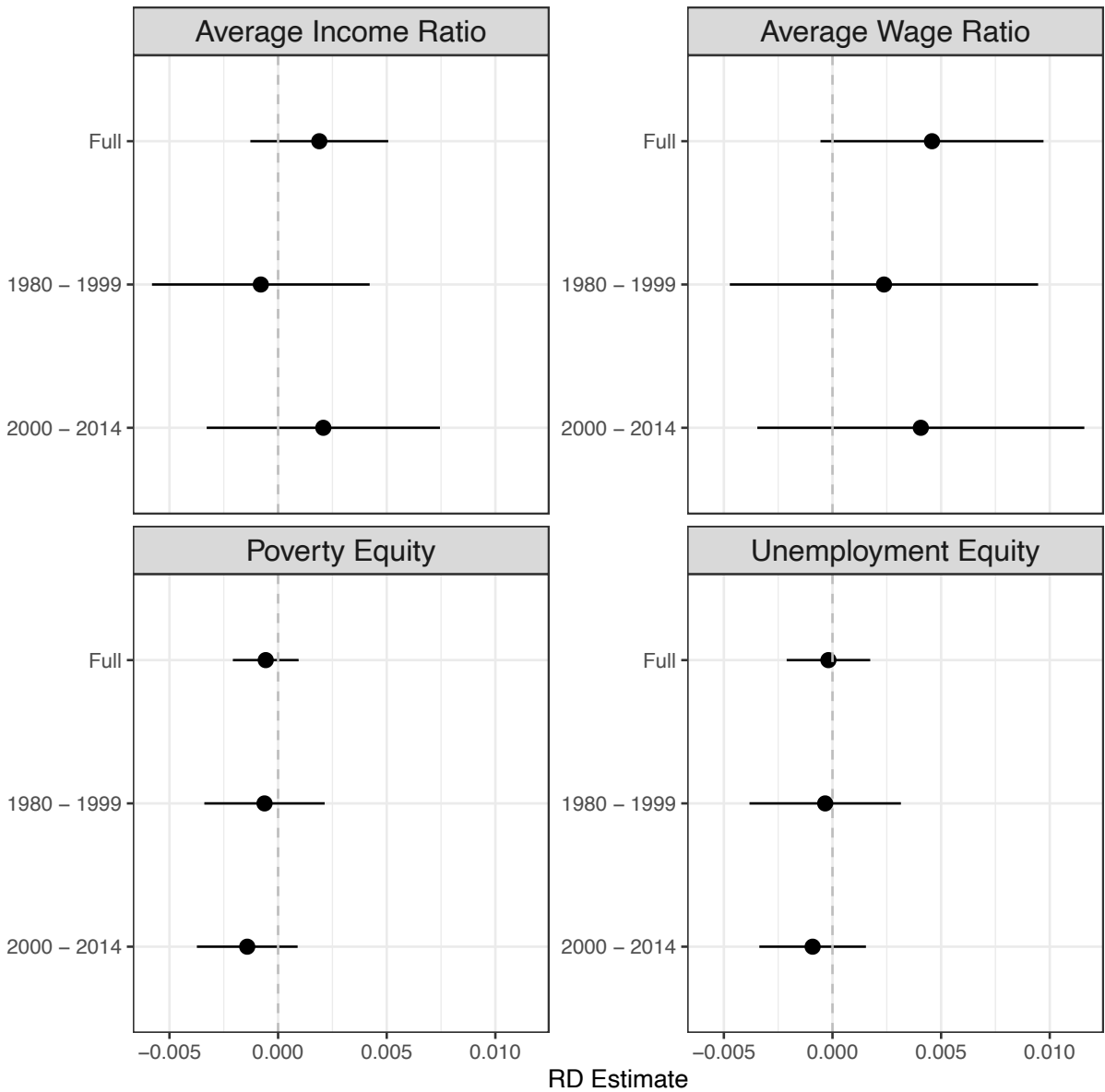
RD: The Effect of Electing a Democratic Governor (Year2 – Year3 Average)



Note: The underlying regression results for this figure are displayed in Table A11. Standard errors are clustered at state level. The outcome variables measure the average change in the gender gap between the election year and the average of the second year and the third year of each term.

Figure 5. The Effect of Electing a Democratic Governor: DiD Analysis

DID: The Effect of Democratic Governor



Note: The underlying regression results for this figure are displayed in Table A12.. Nebraska is not included because the legislature is nonpartisan and unicameral. Standard errors are clustered at the state level and calculated by block bootstraps of 1,000 times.

These limited effects makes some sense when we think more deeply about the institutional powers of the governor. As Kousser and Phillips (2012) have demonstrated, gubernatorial power essentially boils down to the informal capacity to leverage legislative institutions. Typically that power is concentrated in the budgetary process (Kousser and Phillips 2012). By contrast, governors typically have much less power to influence policy. Thus, while

we think it is informative to look at the effects of gubernatorial control on gender inequality, we should expect less of an impact here than we do for the legislature.

Senate Party Control

As in Caughey, Warshaw, and Xu (2017), we do not fully estimate the effects of partisan control of the state senate because only a fraction of senate seats are up for re-election in any given year – rendering regression discontinuity analysis more problematic. Our exploratory analysis of difference-in-difference models revealed small and insignificant effects of partisan control of the senate on the relative well-being of men and women. These preliminary results and the fact that state houses typically have the first mover advantage in budgeting and policy suggests that control of the state senate may be less consequential in this area. But more study is needed before any definitive conclusions about the state senate should be put forward.

Testing the Mechanism

The results to this point indicate that Democratic majorities in state legislatures reduce gender inequality on basic measures like income, wages, and employment. But how? In this section, we focus on two likely mechanisms. We first focus on policies related to gender – specifically those that directly impact abortion and women’s rights. It is quite plausible that Democratic control leads to liberal shifts in gender related policies and that those more liberal policies on gender in turn lead to declines in gender inequality in income and wages. We incorporate all policies related to family planning (eg access to contraceptives, Medicaid for abortion) and gender discrimination (eg the ERA, state gender discrimination laws) from Caughey and Warshaw (2016). To measure the liberalism of state gender policies over time, we

follow Caughey and Warshaw's (2016) dynamic latent-variable model. The Bayesian nature of the model allows us to deal with missing data - several of the policy measures in our sample are available in some years but not in others. The model also allows us to deal with the fact that some policies in our sample are dichotomous while others are ordinal or continuous. A figure that displays variation in gender policy liberalism over time is reported in the Appendix. Negative values are more liberal on the scale.

We then shift the focus to female representation. We know that female representation is growing disproportionately on the Democratic side and that female legislators now represent a substantial share of Democratic legislators (Thomsen 2015, 2019). We also know that having women in office does matter for a range of outcomes and that, in particular, female legislators - especially those who are on the Democratic side - tend to focus more on women's issues and to work harder to push those policies to the left (Gerrity et al 2007, Swers 2002, Dolan 1997, Clayton and Zetterberg 2018, Holman 2014, Reingold and Smith 2011, Osborn et al 2019, Osborn 2012, Swers 2013). All of this suggests that growing female representation could be behind a decline in gender inequality under Democrats. We acquired data on female legislators in the House and Senate from the Center for Women and Politics at Rutgers.¹⁰

To assess these two mechanisms we employ a dynamic panel model that includes state and year fixed effects. Each model also includes the lagged dependent variable (lagged both one and two years). In an alternate model which is displayed in the Online Appendix we also add state specific time trends instead of lagged dependent variables. Those alternate results confirm our main findings. The main findings are presented in Table 1. Columns 1 and 3 test the direct effects of Democratic control of the house, the senate, and the governor's office on gender-

¹⁰ <https://cawp.rutgers.edu>

related policies. Columns 2 and 4 add the proportion of female legislators in the House and Senate to see if female representation also drives gender policy. The table also displays results for different time periods. Columns 1 and 3 incorporate data from the entire time period, while columns 2 and 4 are restricted to data in the most recent time period (2000-2014).

Table 1. The Impact of Democratic Control on the Liberalism of Gender Related Policies

	(1) Gender Policy Full years	(2) Gender Policy Full years	(3) Gender Policy 2000-2014	(4) Gender Policy 2000-2014
Democratic Governor	-0.015+ (0.008)	-0.017* (0.008)	-0.012 (0.014)	-0.013 (0.015)
Democratic House Majority	-0.023* (0.010)	-0.020+ (0.011)	-0.025 (0.021)	-0.021 (0.020)
Democratic Senate Majority	-0.001 (0.009)	-0.001 (0.011)	0.003 (0.015)	0.001 (0.015)
Proportion of Women Legislators in House		-0.187+ (0.107)		-0.409* (0.172)
Proportion of Women Legislators in Senate		-0.047 (0.079)		-0.085 (0.090)
Gender Policy t-1	0.790** (0.035)	0.773** (0.038)	0.633** (0.060)	0.621** (0.057)
Gender Policy t-2	0.109** (0.035)	0.120** (0.038)	0.115** (0.043)	0.118** (0.042)
State Fixed Effects	Y	Y	Y	Y
Year Fixed Effects	Y	Y	Y	Y
Observations	1,558	1,506	707	704
R-squared	0.985	0.985	0.989	0.989
States	49	49	49	49

The first story that emerges from the table is that Democratic control can, in fact, have substantial effects on gender related policies. It also suggests that the effects are most pronounced for Democratic control of the state house – a pattern that matches up well with our earlier findings. Specifically, we find in Column 1 that Democratic control of the House over the

course of the entire period leads to significantly more liberal policies on gender discrimination and access to family planning. Substantively, the effect of Democrats controlling the house for 4 years is roughly equivalent to 10 percent of the standard deviation in gender related policy. When we shift to the more recent time period (Column 3), the effect size is similar, but the effect of Democratic control on gender policy is no longer significant – a pattern that may be due to the reduced sample size and the limited power of the model for the recent time period. The election of a Democratic Governor is also linked to more liberal policy making on gender issues but here the relationship is not quite significant ($p < .10$) and not as robust. Specifically, when we undertake an alternative difference-in-differences model that includes state specific time trends, only the Democratic house majority effect remains significant (see the Online Appendix). Further, when we run the DID models on the more recent (2000-2014) time period, only the effect of Democrats controlling house remains significant at the 90% level. Finally, we find little effect of Democratic control of the Senate on gender policy across all of the different specifications.

The other conclusion that emerges from Table 1 is that female representation can also impact gender policy. When we add the proportion of female legislators in the House and Senate to the model (Columns 2 and 4), we find that greater female representation in the House leads to significantly more liberal gender policymaking. The effect is a sizeable one. A move from the 25th percentile of the distribution of female legislators to the 75th percentile (a 12.5 percent increase in the share of female legislators) is associated with a .051 shift in gender policy in the more recent time period— two times larger than the direct effect of having a House Democratic majority. If that shift in female representation lasted for 5 years, it would result in a 0.29 standard deviation shift to the left in gender policy. In other words, having women in office

matters greatly for gender policy. In Table 1, we use the share of all legislators who are female, but the results are very similar when we instead use the proportion of female Democrats in each chamber (results in the Appendix). Mirroring our earlier results on partisan control, we find that female representation in the Senate has little impact on gender policy.

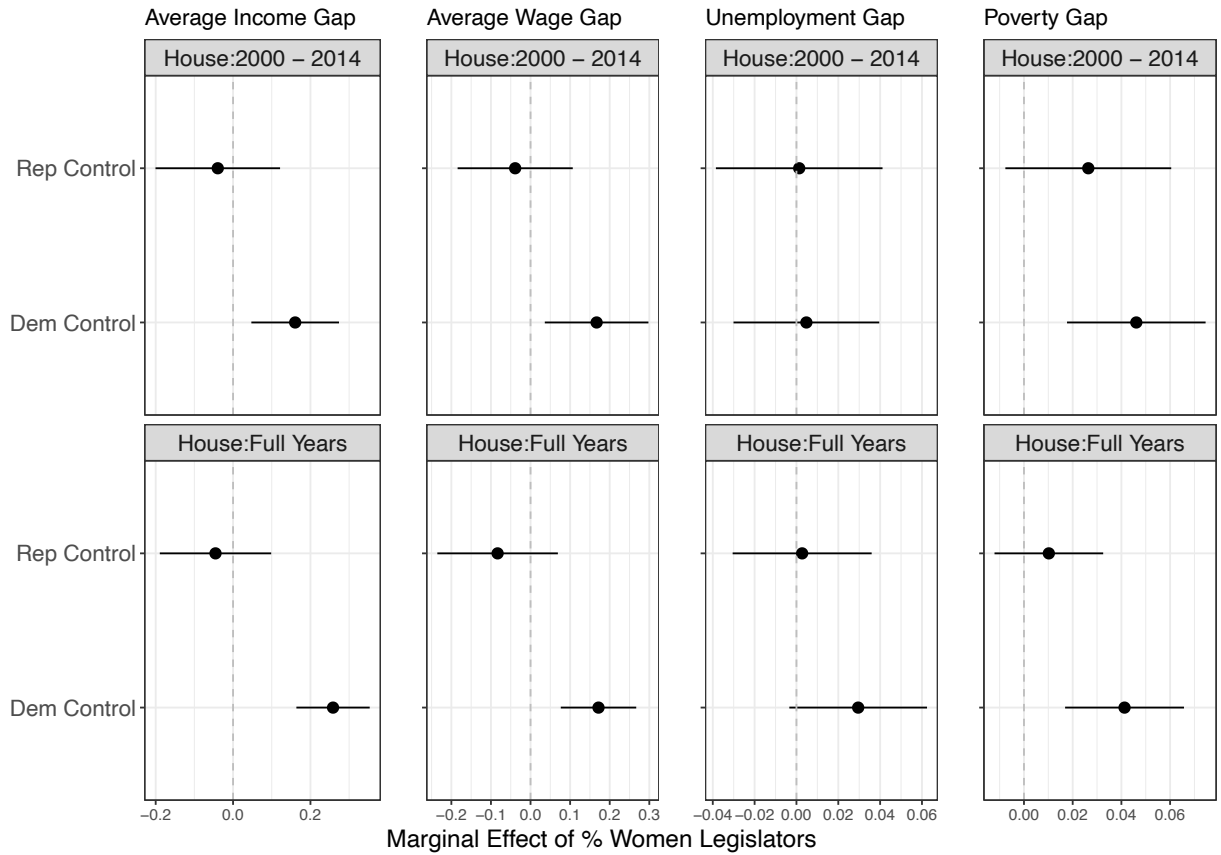
This analysis does not, however, provide a definitive test of the mechanism behind the effects of partisan control. To delve a little deeper into the mechanism, we run a series of models that add interactions between partisan control and female representation to our basic regression. The models and the regression results are detailed in the appendix. These models are less focused on causal identification. They do not include state and year fixed effects or lagged dependent variables. But they do provide some insight into the relationships between Democratic control, female representation, and gender inequality.¹¹

Figure 6 below shows marginal effects of one percentage point increase in female legislators from these new interactions. It reveals that female legislators have a sizeable impact on gender inequality – every measure of inequality except for the unemployment gap improves as the proportion of female lawmakers increases. It also shows that the impact of female legislators is entirely contingent on having Democrats control the house majority.

All told, these results suggests that greater female representation and more liberal gender policies likely contribute to declines in gender inequality on wages, income, employment, and poverty and that these two mechanisms could explain or at least contribute to the reductions in gender inequality that we see under Democratic house majorities.

¹¹ One could envision a similar model that interacts Democratic control with the gender policy but logically there is no reason to expect the effects of the same gender policy outcome to depend on which party controls the legislature. In alternate tests, we do find more liberal gender policies are positively correlated with greater gender equality in income, employment, and poverty rates (see the online appendix).

Figure 6. The Marginal Effects of Female Legislators Conditional on Partisan Control



Note: The underlying regression results for this figure are displayed in Table A20. Nebraska is not included because the legislature is nonpartisan and unicameral. Standard errors are clustered at the state level and calculated by block bootstraps of 1,000 times.

Discussion

The results presented in this article identify one new avenue to reduce gender inequality. When Democrats control the levers of power at the state level, gender inequality in income, wages, and employment appears to decline. More specifically, when Democrats have a majority in the state house and when that majority coincides with an era of partisan polarization like we are having now, women experience significantly greater gains in their economic well-being relative to men than they do when Republicans are in charge of policy. The effects are not only significant, they are pronounced. They suggest that years of Democratic control could

substantially reduce gender inequality. This finding differs from Holbein and Dynes (2018) but it actually underscores a more consistent finding. When we and others look for effects in specific areas where the parties are most divided and where we might expect partisan control to have particularly pronounced effects, we find that parties do matter (Yates and Fording 2005, Beland and Boucher 2015, Beland and Unel 2018).

There are also signs that the mechanisms driving that relationship could be greater female representation and a shift to more liberal gender related policies. We show that electing Democratic majorities and electing more women leads to increasingly liberal policy on domains that directly affect women. We also show that increasing the share of women in office when Democrats are in charge is associated with substantial declines in gender inequality on incomes, wage, and poverty. The two mechanisms not only matter, they appear to be linked.

Given that having women in office is a lynchpin to this process, how do we get more women in office? A significant part of the problem is getting women to run for office (Lawless and Fox 2005). Here the data show that party leaders and term limits could help (Petty 2017, Karpowitz et al 2017). Another potential issue is stereotypes and voter bias (Bracic et al 2019, Dolan 2010, McDermott 1997). How exactly those stereotypes can be altered is another matter altogether. Finally, gender quotas have been extremely effective in some contexts but seem unlikely in the American case (Clayton and Zetterberg 2018).

This study has one obvious implication for our understanding of American political institutions. It demonstrates that political parties do matter. Our results show that parties in American politics are far from empty shells. The two major parties may have fewer resources than they once had, and they may be much more candidate-centered than they once were, but the results indicate that party differences are very real, and that leadership by either major party can

dramatically affect individual and group well-being. Indeed, judging by the magnitude of the partisan effects observed here, party control may be one of the most important influences on gender in the labor market.

All of this is not to say that politics or parties matter across every context or every policy domain. Indeed, we find few effects outside of the state house. Our analysis indicates that partisan control of the governor's office has no clear impact on gender equality in economic outcomes. We didn't do much to directly assess the effect of Democratic control of the state senate on outcomes – largely because it is empirically difficult to assess when half of the offices are not up for reelection in each year – but our exploratory analysis revealed no clear effects. Our results also suggest that partisan control of the state house may have more of an impact on policy, than does partisan control of the state senate or the governor's office. The contrast was not particularly sharp, but the effects of house control on policies related to women's rights and abortion were more robust than the effects of state or gubernatorial control on the same policy domain.

Perhaps not surprising, our analysis indicates that parties matter much more when they are polarized -as they are today – then when they are relatively less polarized – as they were for much of the 20th Century. Finally, there also appears to be clear limits to how much parties or politics can do. We found essentially no real effects on gender inequality in poverty.

Given the potential of parties and politics to radically alter individual and group level well-being that we have highlighted here, more work clearly needs to be done across different levels, different policy domains, and different contexts to determine just when parties matter and governments can improve well-being and when they cannot.

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