Women Representation in Campaign Finance

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June 6, 2022

Abstract

Does the presence of female candidates increase female participation in campaign contributions? Using a regression discontinuity design with data from US house elections from 1980 to 2018, I find no discernible causal effect of female presence in the general elections on the contributions by female donors. Having a female candidate in the general election does not significantly change the total amount of female contributions, the number of female donors, or the share of female donations in the district. One explanation is that in the general election, donors' choices are constrained by partisanship, so gender preferences become secondary. In partisan primary elections where candidates come from the same party, I find suggestive evidence that female presence increases female campaign contributions. My study illustrates an important difference in donors' behaviors between primary and general elections.

1 Introduction

In recent years, women in the U.S. have made historic advances running for offices. In 2018, a record number of 476 women ran for the U.S. House, which is almost 60% up from the previous high of 299 (in 2012).[1] Nevertheless, women are still underrepresented in politics. For example, women only made up one-quarter of the 116th Congress, and there are significantly more male donors than female donors (Bryner and Weber (2013); Burns, Schlozman, and Verba (2021); Palmer (2016)). Some studies argue that the presence of more female candidates could help close the gender gap in political participation (Karp and Banducci (2008); Beaman et al. (2012)). Especially among empirical studies in developing countries where women representation has been extremely low, scholars have documented large gains in women's political engagement under the presence of more female candidates (Dolan (2006); Atkeson (2003); Campbell and Wolbrecht (2006); Wolbrecht and Campbell (2007); Karp and Banducci (2008); Atkeson and Carrillo (2007); Reingold and Harrell (2010)). However, in the context of a developed country like the United States where female office-holding is common (though still not as common as men), Broockman (2014) shows that there is not much additional gain from having more female candidates in politics.

My paper focuses on one aspect of political participation — campaign donation. Although several studies have analyzed the gender difference in fundraising patterns, there has not been much study on the female representation in campaign finance (Carroll and Sanbonmatsu (2013); Barber, Butler, Preece, et al. (2016); Anastasopoulos (2016); Thomsen and Swers (2017); Grumbach, Sahn, and Staszak (2020)). Specifically, I use election and campaign contribution data on US house elections from 1980 to 2018 to study whether the presence of female candidates increase female participation in campaign finance. I first employ a regression discontinuity design (RD) that exploits the "as-if randomness" of close primary elections to test whether having a female nominee from the primary boosts female donations in the general elections. Then, I use a difference-in-difference design to study the same question in both primary elections and general elections. My findings suggest that there is no causal effect of female presence on female donations in the general elections. However, in the primary elections, the presence of female candidate significantly increases female contributions.

My findings illustrate an important distinction between the general and primary elections

[1] See https://cawp.rutgers.edu/blog/what-you-need-know-about-record-numbers-women-candidates-2020.

that is oftentimes overlooked: donors face limited candidate choices in the general elections, and the priority is to support co-partisan candidate. However, in the primary elections, there are more candidate choices within party, so donors are more likely to donate based on the personal characteristics of the candidates. In addition, I run a donor-level regression, which finds that for donors who gave more to the loser of the primary election in the primary stage, they increase their donations more to the primary winner in the general election. This finding further suggests that although donors might have a preference for same-gender candidates in the primary election, as we enter the general election, donors switch to give as much as they could to the partisan nominees. Therefore, to motivate female participation in campaign contribution, the key is to have more female candidates running in the primary elections.

2 Empirical Study

My main dataset on campaign contribution comes from Bonica's 2018 Database on Ideology, Money in Politics and Elections (DIME).[2] I also supplement this dataset with election outcomes data from Pettigrew, Owen, and Wanless (2014) and Miller and Camberg (2020). To identify the gender of every candidate and donor, I use the gender variable from DIME, and in cases where the gender coding is missing, I infer the candidate's gender from her first name using the *gender* package in R.

Methodologically, I use regression discontinuity to exploit the "as if random" assignment of primary candidates to general elections in close primary elections. I subset to districts where a partisan primary was close with two candidates of opposite genders. Specifically, my model is the following:

$$Y_{it} = \alpha + \beta FemalePrimaryWin_{it} + f(V_{it}) + \epsilon_{it} \tag{1}$$

$FemalePrimaryWin_{it}$ is an indicator of whether a female candidate won against a second-place male candidate in a major party primary election in district i in year t. Y_{it} is the outcome variable, such as the log amount of campaign contributions from female donors for district i in year t, etc. $f(V_{it})$ is a function of the running variable, female primary vote margin, which is defined as the female voteshare minus the male voteshare in the primary. I

[2]I treated candidates who didn't have any record in DIME as raising zero amount. I also exclude independent expenditures.

primarily use local linear regression for $f()$ with a variety of bandwidths and kernels based on the *rdrobust* package in R created by Calonico, Cattaneo, and Titiunik (2015).

2.1 Balance Check

Identification of the treatment effect in equation 1 requires that all relevant factors besides treatment vary smoothly at the boundary. This assumption is necessary to establish that district-years with a barely won male nominee serve as appropriate counterfactual for district-years with a barely won female nominee. For example, if the districts with barely won female nominees already had significantly more contributions from female donors in the primaries than districts with barely won male nominees, then my key assumption would violated. To test this assumption, I apply regression discontinuity to outcome variables in the primary elections (Table 1). The balance check does not show any significant difference at the boundary during the primary election in terms of campaign contributions.

Table 1: Balance Check — Contributions in Primary Elections

	Total	Female Donors	Male Donors	PACs
FemaleNominee	0.731	0.954	0.564	0.556
	(0.487)	(0.660)	(0.604)	(0.489)
Obs.	271	271	271	271

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$. BWS = 0.1. Uniform Kernel.

2.2 Main Results

In my main RD specification, I choose a bandwidth of 10%. I also run robustness checks using various choices of bandwidths, see Appendix A. Table 2 displays the average amount raised in the general election for districts with a male nominee versus districts with a female nominee from close partisan primaries. The two types of districts raised similar amount both in total and by different categories.

Table 2: General Election Fundraising

	Districts with Male Nominee	District with Female Nominee
Average Amt Raised	$ 831,778	$ 847,420
From Female Donors	115,526	127,274
From Male Donors	276,118	267,209
From PACs	435,691	447,153

Within 0.1 Primary Winning Margin.

I use several measures of the outcome variable: log total amount of female contributions,

log total number of female donors, the percentage of female contribution amount among total individual contributions, and the percentage of female donors in the individual donor pool. As shown in Table 3, although the point estimates are all positive, none of them is statistically significant. Figure 1 also shows that there is no visual discontinuity at the boundary.

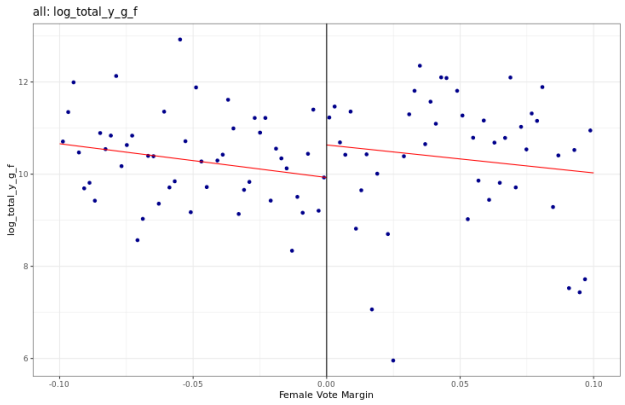
Table 3: RD Finds No Significant Effect of Female Nominee on Female Campaign Contributions

	Log Amount	Log Number	Percent Amount	Percent Number
FemaleNominee	0.706	0.673	0.027	0.035
	(0.610)	(0.408)	(0.023)	(0.024)
Obs.	271	271	268	268

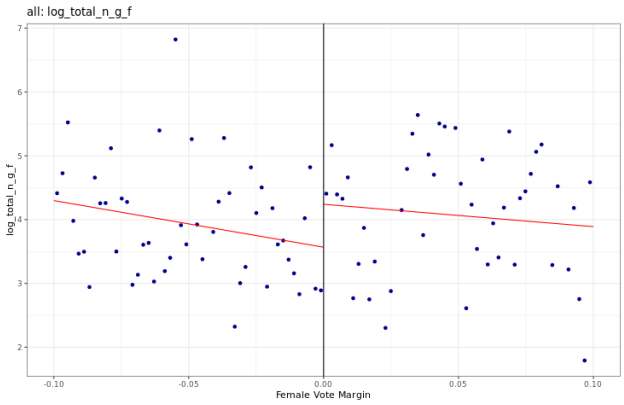
$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$. BWS = 0.1. Uniform Kernel.

Figure 1: RD Finds No Significant Effect of Female Nominee on Female Campaign Contributions

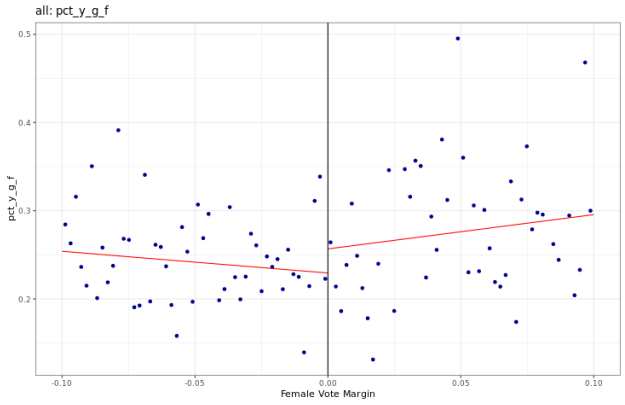
(a) Log Amount



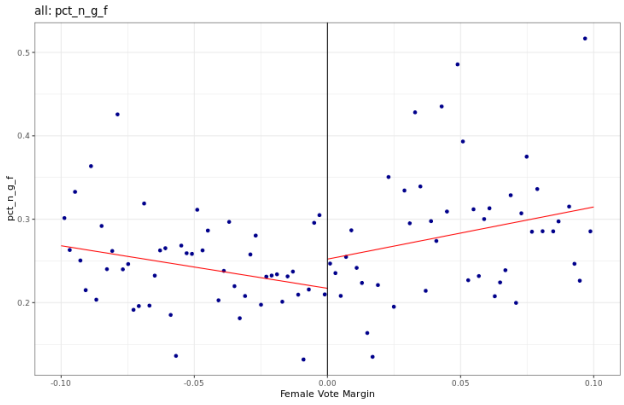
(b) Log Number



(c) Percent Amount



(d) Percent Number



In addition, I break down the analyses by party. If the nomination of a female Democrat and the nomination of a female Republican leads to different contribution behaviors, pooling

the results together might shadow the true effects. In Tables 4 and 5, I show no significant effects by party, although the point estimate for log female contributions is higher among districts with a Democratic female than among districts with a Republican female nominee.

Table 4: RD Finds No Significant Effect of Female Democratic Nominee on Female Campaign Contributions

	Log Amount	Log Number	Percent Amount	Percent Number
FemaleNominee	1.007	0.562	0.029	0.037
	(0.733)	(0.516)	(0.029)	(0.031)
Obs.	148	148	147	147

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$. BWS = 0.1. Uniform Kernel.

Table 5: RD Finds No Significant Effect of Female Republican Nominee on Female Campaign Contributions

	Log Amount	Log Number	Percent Amount	Percent Number
FemaleNominee	0.328	0.749	0.023	0.033
	(1.083)	(0.667)	(0.038)	(0.039)
Obs.	123	123	121	121

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$. BWS = 0.1. Uniform Kernel.

3 Mechanisms

I do not find any effect of the presence of female candidates on female contributions, which is consistent with the null effect on female turnout in Broockman (2014), but stands in contrast to the significant result for racial minority candidates (Grumbach and Sahn (2020)). One explanation is that in the general elections, partisan donors are constrained by their candidate choices. If a Democratic donor only wants to give to a Democratic candidate, then there is only one Democratic nominee in the general election.[3] As a result, the gender of the nominee may not affect the donation decision of a donor. In the primary elections, donors have more choices, so the presence of female candidates might have a stronger effect on female contributions.

3.1 Primary Elections v.s. General Elections

since there is no close election results to use for causal inference, I use a difference-in-difference design to study the female contributions in the primary elections. Similarly, I use data from the U.S. House elections 1980-2018. My specification is the following:

[3]I exclude states with non partisan primary and runoff elections from my analysis (e.g. California post 2010).

$$Y_{ipt} = \beta FemaleCand_{ipt} + \gamma X_{ipt} + \alpha_{ip} + \delta_t + \epsilon_{it} \quad (2)$$

Each unit of observation is a district i party p's primary in year t. $FemaleCand_{ipt}$ is an indicator for whether a district i party p's primary had a female candidate. Y_{ipt} is the outcome for log or percentage of female contributions. X_{it} is a vector of covariates including the total number of candidates, whether the district had an open seat, etc. I also include α_{ip} for district-party level fixed effects and δ_t for election year fixed effects. As a comparison, I run a similar difference-in-difference on the general elections as well (except that the unit of analysis in the general election is district-year).

Table 6: Difference-in-Difference Finds Significant Effect of Female Candidate on Female Campaign Contributions in the Primary but not in the General Election

	Primary Election		General Election	
	Log Total	Percentage	Log Total	Percentage
FemaleCand	1.44***	0.04**	0.15	0.02
	(0.27)	(0.01)	(0.24)	(0.01)
nobs	15016	12856	7909	7675

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$. SE clustered at district level.

In Table 6, I show that having female candidates in the primary elections significantly increase women's participation and representation in campaign finance. On the other hand, the presence of female candidates in the general elections does not have any effect, and the magnitude of the estimate is much smaller. In Table 7, I also analyze the effect separately for Democratic and Republican primaries. The estimated effect is larger for Democrats, suggesting that having a Democratic female candidate motivates the female donors more, which is consistent with the fact that there are more Democrats among female voters.

Table 7: Difference-in-Difference Finds Larger Effect of Female Candidate on Female Campaign Contributions in the Democratic Primary but not in the Republican Primary

	Democrat		Republican	
	Log Total	Percentage	Log Total	Percentage
FemaleCand	1.68***	0.04	1.24***	0.03
	(0.39)	(0.03)	(0.35)	(0.03)
nobs	7610	6576	7406	6280

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$. SE clustered at district level.

3.2 The Change in Donor Behavior from Primary to General Elections

Given the stark contrast between the primary and general elections, it is highly likely that donors change their donation behaviors between the two stages. Here, I use a simple regression to test whether the donors who donated to the loser in a partisan primary switched to give to the primary winner in the general elections. My specification is the following:

$$\Delta MoneyToPrimaryWinner_{dit} = \beta FavoredPrimaryLoser_{idt} + \alpha_{it} + \epsilon_{idt} \tag{3}$$

My sample contains all individual donors who have contributed during the partisan primaries where the top two candidates have opposite genders in the U.S. House elections from 1980 to 2018. A unit of observation is a donor d donating in district i during election cycle t. $FavoredPrimaryLoser_{dit}$ is an indicator for whether donor d donated more to the losing candidate than the winning candidate in the primary election. $\Delta MoneyToPrimaryWinner_{dit}$ is the change in the amount donated to the primary winner from the primary to general election by donor d. I also control for district-year fixed effects (α_{it}). In addition, I interact the main independent variable $FavoredPrimaryLoser_{dit}$ with the donor's gender.

Table 8 shows that all estimates are sizable and significant. In column (1), the coefficient estimate of 535.97 means that for an average donor who gave more to the loser (than the winner) of a partisan primary, the change in donation amount to the primary winner from the primary to general election is \$535.97 higher than the change in donation of a donor who already gave more to the primary winner. On average, donors give \$730.11 in total during the primary election, so the estimate change of \$535.97 is quite remarkable, suggesting that donors who bet on the wrong candidate seriously switched to support the partisan nominee in the general election.

Table 8: Donors Who Supported the Primary Losers Give Significantly More Money to the Primary Winners in the General Elections

	(1)	(2)	(3)	(4)
FavoredLoser	535.97***	505.97***	4.60***	4.53***
	(16.55)	(18.02)	(0.08)	(0.09)
MaleDonor		−33.37***		−0.01
		(5.33)		(0.02)
FavoredLoser:MaleDonor		45.62***		0.11**
		(7.43)		(0.04)
logged change	N	N	Y	Y
nobs	431,337	431,337	431,337	431,337

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$

4 Conclusion

Using a regression discontinuity design with data from the U.S. house elections from 1980 to 2018, I find no discernible causal effect of female presence in the general elections on the contributions by female donors. In partisan primary elections where candidates come from the same party, I find suggestive evidence that female presence increases female campaign contributions. One explanation is that in the general election, donors' choices are constrained by partisanship, so gender preferences become secondary. My study illustrates an important difference in donors' behaviors between the primary and general elections, suggesting that the key to motivate female participation in campaign contribution is to have more female candidates running in the primary elections.

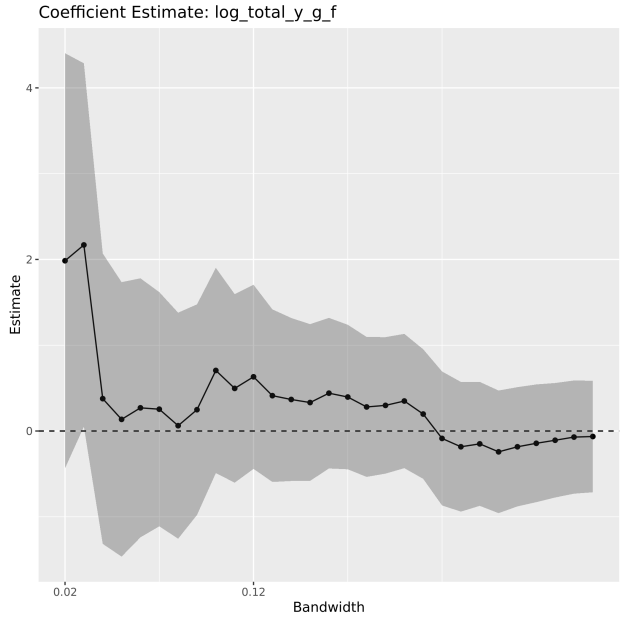
Appendices

A Robustness Checks

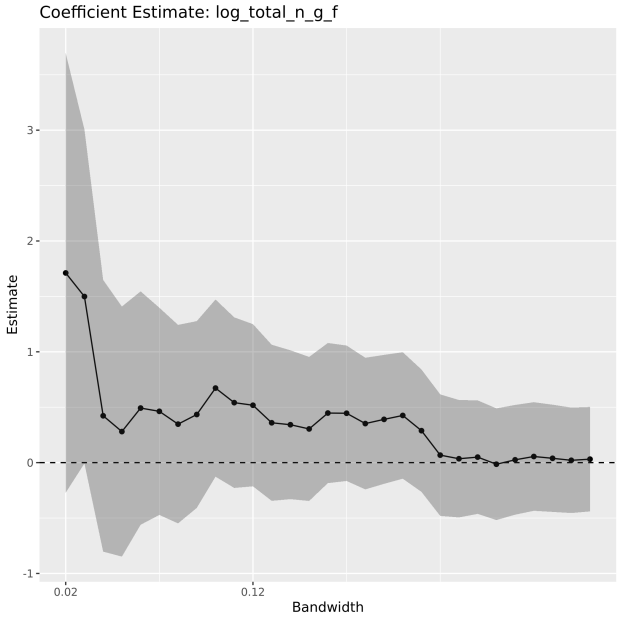
I run the same RD as in 2.2 across different specifications of bandwidths and kernels.

Figure 2: RD Finds No Significant Effect of Female Presence on Female Campaign Contributions Across Different Bandwidths Using Uniform Kernel

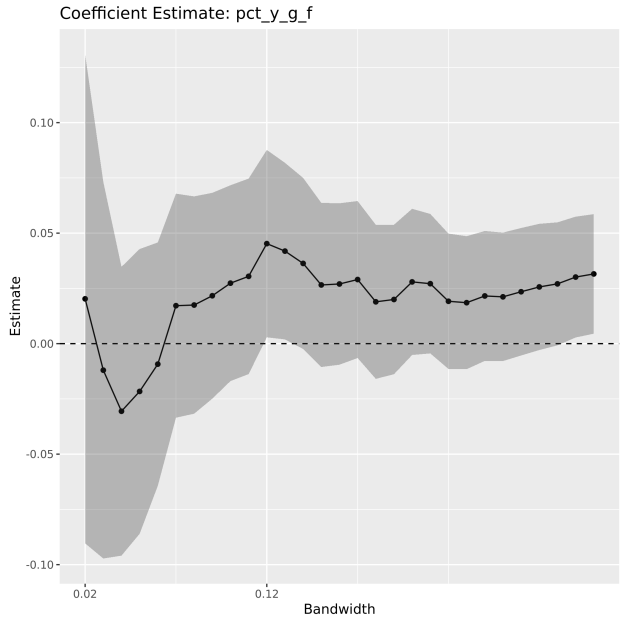
(a) Log Amount



(b) Log Number



(c) Percent Amount



(d) Percent Number

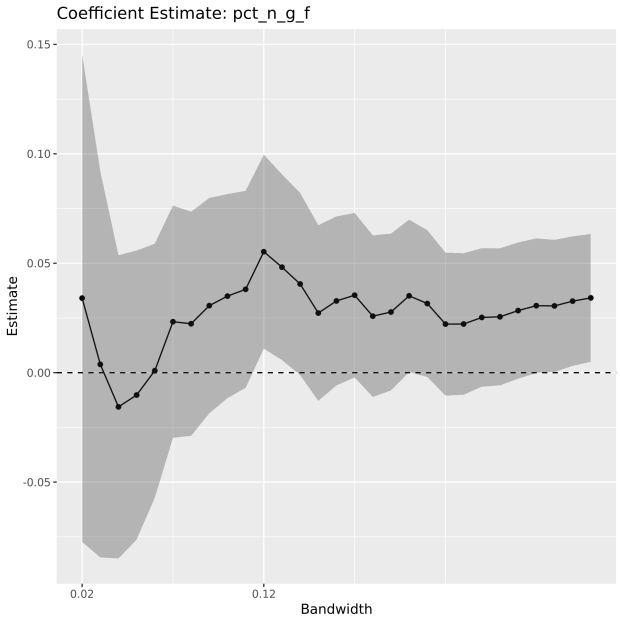
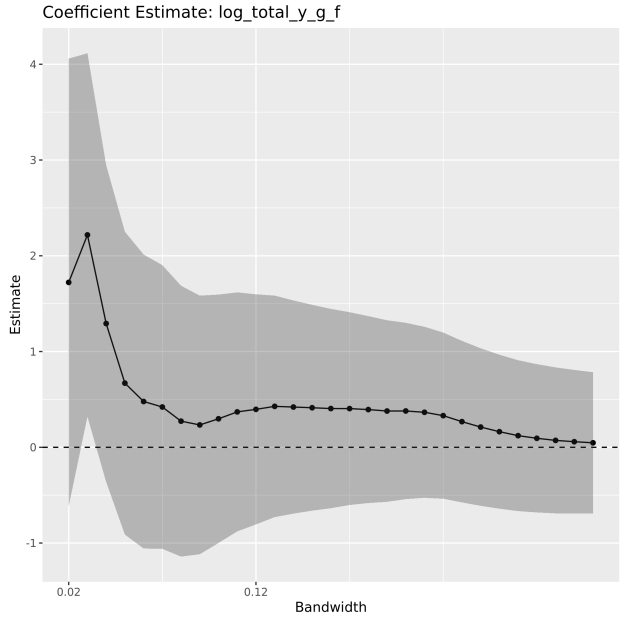
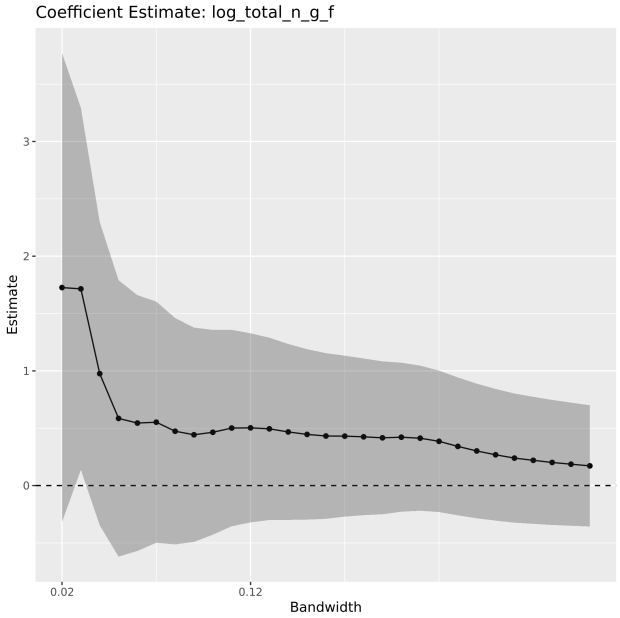


Figure 3: RD Finds No Significant Effect of Female Presence on Female Campaign Contributions Across Different Bandwidths Using Triangular Kernel

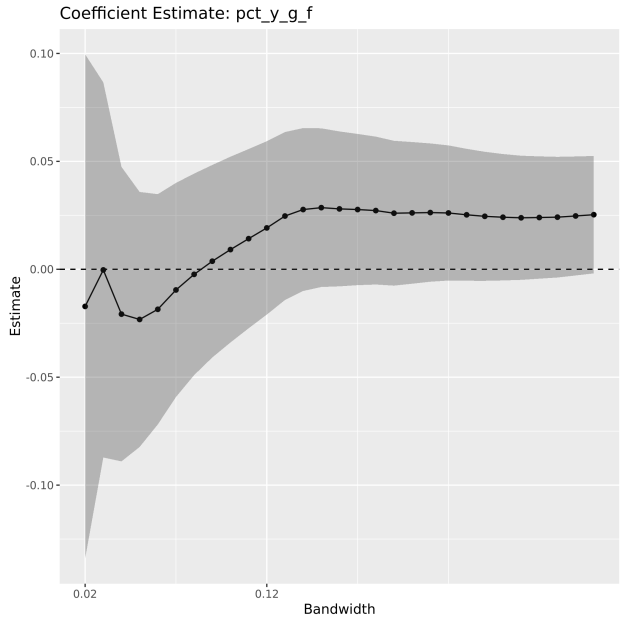
(a) Log Amount



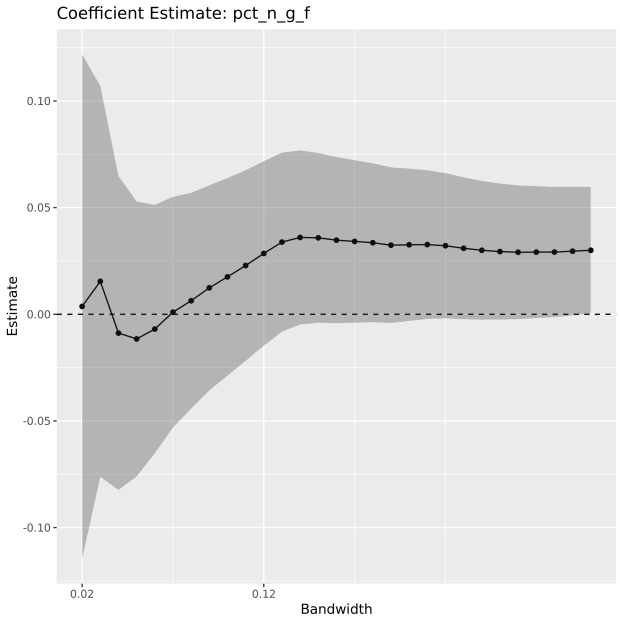
(b) Log Number



(c) Percent Amount



(d) Percent Number



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