

## The Wealth Elasticity of Political Contributions by the Forbes 400

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**Abstract:** Inequality in campaign contributions in the American plutocracy has grown hand in hand with the growth in economic inequality. We report on the campaign contributions of the *Forbes* 400 wealthiest individuals from 1983 to 2012. We find that the wealth elasticity of individual contributions is around 1.0 without statistical controls but remains around 0.6 even with fixed effects for individuals and election cycles. The results suggest that the inequality in campaign contributions is largely driven by the increase in economic inequality. The sensitivity of contributions to individual wealth mainly benefits Republicans. In contrast, turnover in membership in the 400 has favored the Democrats.

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The Forbes 400 series of the wealth of the 400 wealthiest Americans, published annually since 1982, allows us to match wealth with individual campaign contributions in federal elections. The direct empirical motivation of the paper is to examine whether the contributions of the super wealthy correlate with variations in their individual wealth. We have constructed a (unbalanced) panel of wealth and contributions data for 1982-2012.

In a larger context, however, it is important to ask how political inequality, as measured by inequality in campaign contributions, relates to inequality in wealth. Individual contributions are important and have been larger, when aggregated, then contributions by PACs (political action committees) and other organizations (Bonica et al., 2013). The number of campaign contributors, computed from itemized reports to the Federal Election Commission and the Internal Revenue Service has increased rapidly in recent years, passing 3,000,000 in the 2012 election cycle. Despite the increase in mass participation, the share of campaign contributions provided by the top 0.01% of contributors in the voting age population has risen sharply (Bonica et al., 2013) and is far greater than the share of income captured by the top 0.01% of the income distribution (Piketty and Saez, 2003) or the share of wealth captured by the top 0.01% of the wealth distribution (Saez and Zucman 2014, Kopczuk and Saez 2004 ), as seen in Figure 1. Even within the Forbes 400, contributions have become more concentrated.

From the 400 list, we have measurements not of income but of wealth. Membership on the list evolves rapidly. Nevertheless, the observation that the aggregate wealth of the 400, inflation adjusted to 2014 dollars, rose from \$0.2 trillion in 1982 to \$2.2 trillion in 2014 is striking. We examine whether this rising economic inequality in wealth has been accompanied by rising political inequality in campaign contributions both between the 400 and the general population and within the 400.

To summarize, we need to look for empirical results on individual contributions that are consistent with the observation that contributions have become increasingly unequal despite the fact that increasing multitudes of citizens are throwing chump change in the Trevi fountains of American politics. That is, political inequality has grown in spite of the increase in mass participation.

## I. Analytical Setup

We begin with a simple setup to suggest the channels by which political inequality can grow within the framework of our empirical work. We consider a world with two agents {POOR, RICH}. The wealth levels are  $W_{POOR} < W_{RICH}$ . We measure wealth inequality as the proportion of wealth held by the RICH agent and political inequality as the proportion of contributions made by the RICH agent. [As an aside, we note that empirical evidence shows that the RICH agent is more likely to vote than the POOR one (Bonica et al., 2013)]

Our basic empirical specification is log-linear:

$$\ln(C) = \ln(\alpha) + \beta \ln(W) \text{ or } C = \alpha W^\beta$$

The equation presumes that wealth is exogenous to contributions. More on this point in our concluding remarks.

We define wealth inequality as  $IW = W_{RICH}/(W_{RICH} + W_{POOR})$  and political or contribution inequality as  $IC = C_{RICH}/(C_{RICH} + C_{POOR})$ . Observe that if POOR and RICH share common parameters  $\alpha$  and  $\beta$ ,  $\beta$  determines whether contribution inequality is more than wealth inequality. This can occur only if  $\beta > 1$ , when contribution is a superior good with respect to wealth. In a simple unbalanced panel regression of  $C$  on  $W$ ,  $\beta$  is indeed estimated to be greater than 1. On the other hand, with fixed effects,  $\beta$  is less than 1.

So how might political inequality between agents RICH and POOR grow? Political inequality will indeed grow as wealth inequality grows, but  $\beta > 1$  is still required for political inequality to be greater than wealth inequality.

Political inequality will exceed wealth inequality only if RICH and POOR have different parameter values  $\alpha_{POOR}$ ,  $\alpha_{RICH}$ ,  $\beta_{POOR}$ ,  $\beta_{RICH}$ . A necessary condition for political inequality to exceed wealth inequality is either  $\alpha_{POOR} < \alpha_{RICH}$  or  $\beta_{POOR} < \beta_{RICH}$ . When parameter values are sufficiently distinct, political inequality can exceed wealth inequality. Parameter values can change over time as the identity of the agents turns over. Bill Gates, who has topped the 400 for years, was not in the 400 during the early 1980s.

While we have no way to measure parameter values at the individual level for those not in the 400, we do have the ability to use the data to discover trends that would be likely to produce increased political inequality. (We also examine the relationship between wealth and campaign contributions at the level of census-tracts.)

First, for each member of the 400 we have aggregated contributions over the two-year election cycles of American politics. We estimate cycle fixed effects. These are important to control for the fact that contributions tend to be more in presidential than in midterm cycles. Cycle fixed effects also control for both the effect of changes in campaign finance law and changes in interest in politics perhaps driven by contributing becoming a display tournament for the wealthy. An increasing sequence of cycle fixed effects would cause contributions to grow, for a fixed value of  $\beta$ , faster than indicated by the increases in individual wealth.

Second, there are individual fixed effects, which are important given substantial heterogeneity in contributions across individuals. These fixed effects may, even after cycle fixed effects, have a temporal pattern. As membership of the 400 has turned over, it has become increasingly male dominated<sup>1</sup> and is likely to reflect more new entrepreneurial wealth as against inherited wealth (Edlund and Kopczuk, 2009). Again, if individual fixed effects have grown in time, the contributions of the wealthy would grow faster than indicated by the increases in individual wealth.

Third, temporal variation in  $\beta$  could be explored with the same motivation that suggests looking at cycle and individual fixed effects.

Finally, our estimation is tobit. Tobit posits a wealth threshold below which the individual fails to contribute. The tobit is motivated by the observation that a substantial number of 400 members make no contributions. Figure 2 shows that only 72% contributed in 1984 but that 81% did in 2012.

In section II, we provide an overview of important patterns in the membership of the 400 and in their contributions. In section III, we describe the data. Subsequently, in section IV we present basic estimation results and do robustness checks. One check

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<sup>1</sup> The percentage of females in the 400 decreased from 20.2% in 1983 to 12.5% in 2012.

includes data on contributions when the individual is not a member of the 400. A second varies the time period of the analysis, and a third examines panel bias. Section V validates our results on wealth by using census tract data. The census data also extends the analysis to income. In section VI we breakdown contribution by whether it is directed to Republicans or Democrats and by the estimated political ideology of the donor. In section VII we investigate whether increases in individual wealth relate to partisan preferences. The two final sections provide discussion and a conclusion.

## **II. The Politics of Wealth Concentration**

Many have considered the connection between politics and inequality. Here we provide background on relevant trends for the 400.

We begin by tracking how the wealth of the 400 corresponds to that of the non-entrepreneurial upper middle class that heeded the advice of Burton Malkiel (2015) and directed their savings (other than real estate) to indexed funds. Figure 3 plots the aggregate wealth of the 400 against the S&P 500 index. It is striking that until 1998 the index tracked the aggregate wealth of the 400 closely, but since then the aggregate wealth of the 400 increased much faster than the S&P 500. All dollar amounts in the paper are expressed in 2012 dollars, adjusted using the CPI-U series, figure 4 excepted.

We also consider how the 400 have fared during Democratic and Republican administrations. In Figure 4, we plot the growth of wealth, with each president's term of office shaded. The 400 prospered under Reagan but also did very well under the two Democrats, Clinton and Obama. They did not do well under either Bush. This pattern is seen more clearly in Figure 5. It plots the year-over-year change in the 400's share of total U.S. wealth shaded by the party of the president. (The calculations for total U.S. wealth are from Saez and Zucman (2014).) Again it shows that the 400 have done much better under Democratic administrations. Between 1982 and 2014, the 400's share of wealth grew from 1.4 percent to 4.0 percent. The cumulative gains during the Clinton and Obama administrations sum to 3.4, accounting for the entire increase and then some. Even after excluding the sharp decline in 2001 following the collapse of the dot-com bubble, the 400 barely kept above water during Republican administrations, with a

cumulative gain of just 0.4 percent. The results are similar when using the top 0.00025% households (data from Saez and Zucman, 2014) in place of the top 400.

Also of interest are changes in the political orientation of the 400. For each individual, we construct a measure of partisan giving by calculating the share of major party contributions given to Republicans. Figure 6 plots two trend lines for the average percentage contributed to Republicans, one with individuals weighted equally and another with individuals weighted by the *Forbes* estimate of wealth. The 400 have trended steadily to the left even as their fortunes swelled.

This trend is all the more remarkable given that the composition of the 400 has been impervious to the changing demographics of labor markets and other areas of society. The 400 in 2012 was 89% percent male, 66% over the age of 60, and overwhelmingly white—all groups that voted disproportionately for Mitt Romney in 2012—but the 400 are less Republican than what one might expect based on this demographic profile. This is perhaps made less surprising when taking into consideration how the 400 have fared during Democratic administrations. It is also the case that changes in partisanship could well reflect changes from a manufacturing and extraction economy to a technology and information economy—Silicon Valley and Hollywood are generous to Democrats.

Over time, the share of all individual contributions made by the 400 has increased. This marker of increased political inequality is shown in Figure 7. In the 2004 and 2012 election cycles, the share of contributions increased to the point where the 400 had a greater share of contributions than their share of wealth. The figure also shows the contribution share of the top 400 donors in each election cycle. Clearly, the 400 are far from representing all the largest contributors; the result shows that there is a high degree of heterogeneity in individual contributions.

In the most recent presidential election cycle, 2011-12, the *Forbes* 400 were hefty contributors but were still far from dominating the set of large contributors. Of the top 400 donors in the 2011-12 election cycle, only 64 were also on the *Forbes* 400; another 21 had appeared on the list in the past. Many of the largest donors are from the class of not-quite-so-fabulously wealthy individuals with fortunes measured in the hundreds of millions rather than billions. Fred Eychaner, whose net worth was estimated at \$500

million in 2005 (about two-thirds of the amount required to make it onto the list that year), has been among the top ten among Democratic donors donating a total of \$21.6 million during the 2004-2012 election cycles. Over the same period, Bob J. Perry, whose estate was estimated at \$650 million at the time of his death in 2013, gave an average of \$13.5 million per election cycle in support of conservative causes, for a total of \$67.5 million, making him second only to Forbes 400 member Sheldon Adelson in total donations.<sup>2</sup> This observation suggests that wealth alone does not drive contribution and that individual fixed effects, perhaps ideological in nature, may be important. Still, the Forbes 400 clearly accounts for a growing share of contributions, nearing 5.0 percent in 2012 up from just 0.4 percent three decades earlier.

Figure 8 plots logged total contributions of 400 members in each election cycle against logged wealth. Observe that the figure shows very large contributions in two recent presidential years, 2004 and 2012. To check that the figure was not distorted by a few large contributions, we redid the figure with the five largest contributions trimmed from each year. Results are similar. (See the online Appendix.) The strong relationship in figure 8 might reflect changes in the composition of the 400. In 2012, only exactly half, 200, of the 400 members ten years earlier, in 2002, were still members. Naturally, this group was relatively super wealthy since great wealth makes it less likely that one will get bumped off the list by a new fortune. The 200 had 68% of the total wealth of the 400 in 2002. Nonetheless, their share had declined to 64% in 2012, implying that the arrivals were relatively wealthier than the departures.

### **III. Data**

We collected data on wealth and political contributions of all 1,510 individuals who have appeared on the Forbes 400 annual list of the richest Americans from 1982 to 2013. Our data is represented as an unbalanced panel of individuals across election cycles. Our

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<sup>2</sup> Estimates of net worth for Eychaner and Perry are provided by The Center for Public Integrity. See <http://www.publicintegrity.org/2012/04/26/8754/meet-super-donor-all-stars>.

dependent variable is contributions by individuals, aggregated over the two-year election cycles.

### **Political Contributions**

We include federal election contributions to candidates, party committees, and to 527s and super PACs. We do not include undisclosed contributions to 501c(3)s made possible by *Citizens United*. Before 2013-14, these were relatively small. In addition, small, unreported contributions, typically below \$200 to an organization or candidate in an election cycle have not been included. For more details, see Bonica, Rosenthal, and Rothman (2014). The original data was drawn from the FEC and IRS web sites. The data is maintained in the DIME database at Stanford. ([data.stanford.edu/dime](http://data.stanford.edu/dime)). The panel dataset includes contributions for 400 members for all years from 1983-84 through 2011-12 where the individual had reached voting age (18) and was not deceased.

### **Wealth**

Our principal independent variable is wealth. We typically cannot measure wealth for years in which the individual does not appear in the 400 list. For some years, *Forbes* also lists the wealth of “drop offs”, those individuals who were in the list the preceding year but whose wealth no longer suffices to put them in the 400. We use this information where available. Otherwise, we adapt our methods to recognize that we have an upper bound (subject to *Forbes*’s measurement error) on the wealth of the individual. That is, we measure individual contributions for all years where the individual is alive and 21 and older but, for individuals whose wealth is unmeasured by *Forbes*, we “know” only that the individual’s wealth is below the minimum needed to be on the list. For individuals on the list in both years of an election cycle, we measure their wealth as the average of their wealth over the two years. For individuals on the list in only one year, we measure their wealth as the average of their reported wealth in that year and the minimum threshold for inclusion on the list in the other year. We exclude the 1981-1982 and 2013-2014 election cycles from the regression analyses as we observed wealth in only one of the two-years



when we constructed our panel.<sup>3</sup> Our results are robust to running the analysis with only the observations where the individual belonged in both years of the cycle.

### **Record Linkage**

Linking contribution records to 400 members is complicated by variations in name and address. (To start, *Forbes* introduces variation in name across years.) We used a combination of automated and directed matching to create our dataset, which contains 169,798 contribution records to federal elections made between 1983 and 2012. It remains possible that the data contains errors. The entire dataset will be posted on a web site. Corrections are welcome.

### **Covariates**

We have information on the gender, age, and geographic location of residence of the individual and rough measures of the source of wealth (finance, technology, oil, etc.). We do not use that information in this study, but remove the effects of such variables other through fixed effects. We do use age in cross-sectional estimates.

### **The Forbes 400: Potential Selection Effects**

Membership in the Forbes 400 evolves extremely rapidly. Figure 9 cross-tabulates membership by year. Only 38 members of the 1982 list also appear in 2012. Death is a much less important part of the story than is entrepreneurial mobility. In an average year in our panel, 6.9 individuals exited the list due to death, accounting for 14 percent of total turnover. Death does generate dynastic turnover as, for example, when Sam Walton is succeeded by his children. Longer dynasties, such as Du Ponts, Rockefellers, Fords, and Morses, appear, but relatively young new entrepreneurial blood (Bill Gates, Mark Zuckerberg, Michael Bloomberg, George Soros, Larry Ellison) is constantly entering. Winners, like John Paulson, stick, and losers, like Raj Rajurtnam exit. As such, the wealth of the 400 increases by selection.

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<sup>3</sup> We did use aggregate wealth for 2014 of the 400 in constructing figures 3, 4, and 5.

To see if the aggregate wealth elasticity represents more than selection, we investigate individual wealth elasticity as well. We study if new blood is more politically engaged by comparing average values of individual fixed effects across years.<sup>4</sup>

### **Heterogeneity of Contributions**

There is considerable heterogeneity in contribution within the 400. In 2012, the two largest donors both in the 400 and overall were Sheldon and Miriam Adelson, who gave \$56.8 million and \$46.6 million, respectively. The Adelsons' money may not have been well spent, since most of it went to the presidential nomination bid of Newt Gingrich. (We treat households like the Adelsons as a single household identified by the main source of wealth. In this case, we treat Sheldon Adelson as contributing \$103.4 million.) But, as said previously, only 39 other members gave over \$1 million.

### **IV. Wealth Elasticity Results for the Forbes 400**

We need to deal not only with strong variation in contributions across individuals who do contribute but also with the variation in participation shown in Figure 2. To deal with non-participation, our basic regression specification is tobit, as used by Gordon, Hafer, and Landa (2007). The tobit is standard practice in studies of charitable giving, of which campaign contributions can be thought of as a special case (Joulfaian 2000, Wooldridge 2002, 518-19). We report the marginal effects of log wealth on the expected value of log contributions evaluated at the mean value for explanatory variables. These are in the row labeled " $dE[Y]/dx$ " in the tables. Given that censoring is not severe, the marginal effects are similar to the raw coefficients. Only 22 percent of observations in our sample are left-censored compared to 65 percent for the sample used by Gordon, Hafer, and Landa (2007). Heterogeneity of contributions is captured by individual fixed effects.

Our first set of results pertains to an unbalanced panel of members of the 400 during their period of membership. We thus exclude, for the moment, contribution data

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<sup>4</sup> We do not include age in our panel analysis because age is highly collinear with the intertemporal pattern of both cycle fixed effects and individual fixed effects.

for individuals when they are non-members. We also, to estimate fixed effects, include only individuals who have been members for at least two election cycles.

Our basic results appear in Table 1. The first model, with no fixed effects, suggests that campaign contributions are a superior good since both the tobit coefficient on wealth and the marginal effect are (slightly) greater than 1.0. Superiority goes away with fixed effects. Models 2, 3, and 4, which alternate cycle and individual fixed effects and presidential year dummy have elasticity estimates that are 0.87 or lower. The estimated marginal effects all have z-statistics, with respect to 1.0, that are greater than 2. If we replace cycle fixed effects with a presidential year dummy, we get the expected result that more is given in presidential cycles. The elasticity drops to 0.74 with both individual and cycle fixed effects. Still, the estimates in the range [0.74, 1.08] shown in the table, given measurement error in wealth, are impressive and likely to be enough, given the high rate of growth of wealth in the 400, to propel the 400 to a greater share of total campaign giving.

The increase in contributions by the 400 also reflects increasing fixed effects. More precisely, a substantial portion of the increase in contributions by the 400 is a result of current members, *ceteris paribus*, contributing more than members in earlier years. This is shown by predicted contribution amounts displayed in Table 2. These are drawn from the full specification, column 5 of Table 1. The Ns for the average in each cycle are given in the diagonal elements of figure 9. They are either 400 or extremely close to it. The first set of predicted values are calculated by setting each member's wealth to the average net worth of the 400 in 1984 (\$649 M). For the second set of predicted values, wealth is set to the average net worth of the 400 in 2012 (\$4,070 M). Both sets of predictions are calculated with election cycle fixed effects set to its 1984 value. Individual fixed effects have clearly increased over the 30 years of our panel and have done so within each gender. Comparing the first and last rows in column 1 suggests that average contribution amounts would have increased from \$28,071 in 1984 to \$43,987 in 2012 due to turnover in membership alone. This compares to a predicted increase from \$28,071 to \$105,484 assuming the average net worth of 1984 400 members had risen to

the 2012 level. A striking observation is that the predicted contribution amounts for women are less than those for men in every cycle except 2006.<sup>5</sup>

### **Robustness**

We next report on three robustness checks. The first includes the wealth of individuals dropped off the 400. The second limits the time period. The third checks for panel bias by using only individuals on the 400 for five or more election cycles.

In recent years, *Forbes* has been reporting estimates of wealth of individuals who dropped off the list in a given year. Including these estimates generates another 800 observations. The estimates reported in Table 3 show little change. A dummy for *Drop-off* is positive but insignificant. We conducted further analysis with proxies for wealth when wealth was not observed but the individual was over 21 years of age. Our basic results hold in these specifications. Contributions are systematically lower when an individual is not on the list. The decline is less when an individual leaves the list but rejoins it later than when an individual permanently exits the list. Full details are in the online Appendix.

Because campaign finance may have been changed by the *Citizens United* decision in 2010, we also report results restricted to the 1983-84 through 2007-08 cycle. Again, results are robust, although the elasticity drops slightly with individual and cycle fixed effects included, as shown in Table 4.

Our final robustness check limits the analysis to those on the 400 for five or more cycles (generally 10 years) as against Table 1, where the sample includes those present in two or more cycles. Again the results, shown in Table 5, are robust.

We include cross-sectional results by election cycle in the online appendix. We estimate the cross-sectional regressions first without and then with controls for individual-level characteristics including age, residence outside the United States, and gender, which were subsumed by the fixed-effects in the panel regression. The cross-

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<sup>5</sup> The sudden increase in average contributions for women starting in 2004 is explained by entry onto the list by Marion Sandler, Linda Pritzker and Penny Pritzker. Were we to exclude these three observations from the calculations in column 2, the averages for women would have been much lower at \$17,769 in 2004 and \$19,719 in 2006.

sectional results are largely consistent with the panel estimates. The estimates for wealth elasticity range from a maximum of 1.60 in 1984 to a minimum of 0.46 in 1996. In none of the cross-sectional regressions do we reject the null that wealth elasticity is equal to one. When individual-level controls are included, we find the coefficients for female and residing outside of the United States are both consistently associated with reduced contributions. We previously noted that the percentage of females in the 400 has declined. Much female wealth may come from inheritance. Heirs may have less political interest than entrepreneurs. Separating heirs from entrepreneurs, however, may be tricky. The Koch brothers are heirs that grew their business. The estimated effects for age are not consistent across elections cycles.

## **V. Wealth Elasticity Results from Census Tracts**

The results above represent estimates of elasticity at the very extreme of the wealth distribution. This leaves open the possibility that the estimates might differ when looking at the overall distribution. Analogously, luxury yachts may look like a normal good when looking only at the 400 but appear as a luxury good in looking at the entire wealth distribution.

While we are unaware of any other comparable data sources with individual-level data on wealth and campaign contributions, the American Community Survey (ACS) provides estimates of household income and housing property values aggregated by census tract. The total value of owner occupied housing provides an indirect measure of wealth. We additionally estimate income elasticity using ACS estimates of per-capita income by census tract. The dependent variable is log total contributions dollars aggregated by census tract. In order to calculate the values, we overlay geo-coordinates provided in the DIME data onto census tract shape files. To remain consistent with the 5-year American Community Survey data which were collected between 2008 and 2012, we include all federal contributions made during the three election cycles of 2008, 2010, and 2012.

One limitation of this approach is the \$200 disclosure threshold for federal contributions. While this is unlikely to pose an issue for the 400, it will censor contributions from the less well off. This could bias the contribution totals in lower and middle-class neighborhoods downwards. Small donors, defined as those making “small

gifts” in amounts below the \$200 minimum threshold for inclusion in itemized reports, accounted for about 10-15 percent of total contributions in recent elections.

A similar but opposite limitation is in the wealth data. Housing wealth, while a large fraction of the wealth of the 99%, is a small fraction of the wealth of the 400. The ratio of housing values to wealth is likely to be lower in very affluent census tracts than in poorer ones. Furthermore, housing values imperfectly measure housing wealth since the values do not measure housing equity.

Table 6 reports the estimated elasticity with respect to (housing value) wealth and income. The wealth elasticity estimate is very close to 1.00 and is consistent with the *Forbes* estimates when controlling for cycle fixed-effects. This increases our confidence of the validity of the *Forbes* estimation. It also provides added confidence in the finding that contributions are in fact normal with respect to wealth and are not simply an artifact of the sample. At the same time, the estimated income elasticity of 2.16 does indicate campaign contributions are a superior good with respect to income. However, both estimates may be slightly inflated due to the censoring problem discussed above.

We draw on contribution records from state elections in Ohio and Florida, which do not have a minimum reporting threshold and instead require that all contributions be itemized, to assess sensitivity to the \$200 threshold. We do so by estimating the wealth and income elasticity first based on total amounts contributed to state elections by census tract and then again based on total amounts from contributions of \$200 or more. We estimate the models separately for each state. The coefficient estimates do not appear to be very sensitive to the reporting thresholds. The estimated coefficient on wealth elasticity fell very slightly from 0.84 to 0.82 for Florida and from 0.85 to 0.82 in Ohio after censoring contributions below \$200. The corresponding estimates for income elasticity before and censoring at \$200 were 1.67 and 1.65 for Florida and 1.88 and 1.86 for Ohio.

## **VI. Wealth Effects for Republicans and Democrats**

If increases in individual wealth lead to substantial increases in individual giving, the increases appear mainly to the benefit of Republicans. In Table 7, we report separate estimates for Democratic and Republican contributions. So if an individual gave only to

Democrats, the individual would be recorded as a zero contributor to Republicans. Note that the number of observations is identical to that in Table 1. The results show that the elasticity is much higher for Republican donations than for those to Democrats. In fact, the Democrat coefficient is quite close to zero.

An even sharper (if not statistically significantly so) difference occurs if we analyze contributions in terms of a continuous measure of ideology. This measure, developed from contribution data, is the common-space DIME score of Bonica (2014). The measure corresponds well with the common notion of liberal and conservative and correlates highly, for elected members of Congress, with the widely used DW-NOMINATE scores of Poole and Rosenthal (2007). Illustrative scores for 400 members are David Koch, 0.88; Sheldon Adelson, 0.76; Bill Gates, -.043; Warren Buffet, -0.78; George Soros, -1.08. We separate liberal and conservative candidates on the basis of their DIME score, with a score of 0 being the separating value. Even with fixed effects, contributions to conservatives have an elasticity of nearly 1.0. The results are robust to restricting the sample to those in the 400 for five or more cycles.

We explore the partisan differences further by running separate regressions for individuals grouped into ideological camps. Individuals with strong partisan leanings, defined as those who have given more than 90 percent of their contribution dollars to a single party during the period of our panel (including years they were not 400 members), are placed in the liberal and conservative groups. The dependent variable for each group is log contributions to their respective parties. Non-donors and donors who have never given to a candidate or committee affiliated with a major party are excluded from the analysis. Breaking out donors by partisan leanings allows us to rule out concerns that the lower estimated elasticity for giving to Democrats might be dragged down by zeroes generated by conservatives who rarely support Democrats. The results, shown in Table 8, are similar to those reported in Table 7.

We observe, to summarize this section, that were the composition of the 400 to remain unchanged but the members' wealth uniformly shifted upward, the Republicans would be the beneficiaries of the shift in wealth. That is, supposing a one-percent across the board increase in the net worth of the 400, the corresponding increase in contributions going to Republicans would be 0.72 percent versus just 0.18 percent for Democrats.

## **VII. Partisan Preferences Are Insensitive to Changes in Wealth**

Canonical models of redistribution offer some possible insights as to why wealth effects differ by party. These models predict that preferences over redistribution are a function of an individual's income and the aggregate income of society (e.g. Meltzer and Richard 1981, Bolton and Roland 1999). As an individual's income increases relative to society, her preferred level of redistribution will decrease. In a polarized two-party system where the parties differ on their proposed levels of redistribution, support for the anti-redistributive party is predicted to be increasing in relative income. A direct implication is that demand for Republican and Democratic policies will behave as superior and inferior substitute goods. If Individuals do in fact move to the right as wealth increases, it could explain why the wealth elasticity is lower for Democrats.

There is strong empirical evidence of a relationship between income and partisanship (e.g. McCarty, Poole, and Rosenthal 2006, Bonica, Rosenthal, and Rothman, 2014, 2015). However, the trend towards Democrats shown in Figure 6 suggests these findings might not hold for the 400. Our data allow us to directly test this by examining the preference dynamics of the Forbes 400 as revealed by their contribution patterns. We construct two time-varying measures of political preferences. The first are period-specific DIME scores. The dynamic ideal points are recovered by applying the one-period-at-a-time estimation procedure developed by Nokken and Poole (2004) to the DIME scores (See Bonica 2014 for details.) The technique estimates independent period-specific ideal points for contributors made in each period, with the candidate ideal points held static. This allows contributor ideal points to change freely from one cycle to the next. The second measure is the percentage of contribution dollars made to Republican recipients grouped by election cycle. We regress these preference measures on log wealth first specified with a simple bivariate regression and then including fixed effects and controlling for age.

The results reported in Table 9 offer little evidence of a wealth effect on ideology. Wealth alone fails to explain any of the variance in giving patterns. Only in the two-way fixed effects model is the coefficient for wealth statistically significant. Even then, the effect sizes are extremely small. To place the effect size in context, moving from the



average 400 net worth of \$4 billion in 2012 to the top value of \$63.4 billion would correspond to a shift of just 0.12 of a standard deviation in overall DIME scores, or about a third of the difference between Hillary and Bill Clinton. We further consider whether contributors change before and after making it onto the list. We estimate separate DIME scores for each individual based on contributions made before and after appearing on the Forbes 400. A t-test of before and after estimates is not significant ( $t = 0.47$ ).

Taken in context, the results suggest that if the first billion did not induce a preference for Republican policies, it is unlikely the next ten billion will either. Insofar as individual preferences respond to increases in wealth, the transition must typically occur at a much earlier point in the wealth distribution. The evidence here is consistent with the partisan stability of contributions by medical doctors (Bonica, Rothman, and Rosenthal, 2014, 2015). It is also consistent with a long-standing view in political science that partisan identification is fixed early in adult life and remains stable (Green, Shickler, and Palmquist 2004).

## **VIII. Discussion**

The increasing share of total contributions made by the Forbes 400 appears to reflect two factors. First, entrants to the list are likely to be heavier contributors than those who exit. Second, even though the elasticity of contribution with individual and cycle fixed effects is less than 1.0, the elasticity appears large enough for continuing members to be increasing their contributions at a higher rate than the growth of contributions in the general population.

### **Does the Deregulation of Political Finance Account for Increased Inequality?**

A robust regulatory framework governs the market for political contributions. It has been widely speculated that the recent wave of successful legal challenges brought against the Federal Election Commission—notably the rulings in Supreme Court rulings in *Citizens United vs. FEC* and *McCutcheon vs. FEC*—are primarily responsible for the increased concentration of campaign contributions. It stands to reason that contribution limits that cap direct donations to candidates during an election cycle at a few thousand dollars, while intended to keep most legislative services and favors priced out of the market, also artificially constrains spending on politics well below what demand would dictate in an unregulated market (McCarty and Rothenberg 1997; Ansolabehere et. al

2003). While changes to the regulatory environment have likely contributed to the trend, our results suggest they provide at best a partial explanation. There are no big jumps in our data that correspond to changes in campaign finance law.

It is possible that accounts focusing on changes to campaign finance laws have overestimated their practical importance. Granted, supposing the enactment of a legal environment where hard-money limits were strictly binding and soft-money and independent expenditure loopholes were closed, sustaining the current levels of inequality in campaign contributions would be infeasible. However, the legal framework for individuals to donate unlimited amounts was set in place decades earlier by *Buckley v. Valeo* (424 US 1 [1976]).

### **Partisan Trends in Giving by the *Forbes* 400**

The shifting partisan leanings of the nation's wealthiest individuals have implications for understanding recent trends in political fundraising. The historic rise in inequality in recent decades has not ushered in an era of Republican fundraising dominance. On the contrary, we have seen the exact opposite. Democrats have made substantial gains against Republicans in recent decades while inequality was on the rise. In the 1980s, Democrats faced a sizable fundraising deficit, often being outraised in Congressional races by a 2:1 margin. By 2004, Democrats had closed the gap and have since managed to outraise Republicans in two of the past six election cycles. These trends are partly attributable to strong support for Democrats among high earning professionals. Our results show that these patterns extend to the wealthiest members of society, owing in part to the growth of technology sector. The relative political benefits to parties will nonetheless depend heavily on the partisan leanings of entrants to the *Forbes* 400, which are in turn related to sources of wealth.

Contributions depend heavily on partisan efforts at fund-raising. But donors also structure the process as noted by the activity of the Koch brothers and the Adelsons on the Republican side and by the engagement with and disengagement from Barack Obama by George Soros. Whether the impetus is from politicians or contributors or self-spenders such as Ross Perot and Donald Trump, much of the money may not find its way to supporting the candidates of the two major parties but is dissipated in primaries or third party runs. Competitive spending in the out party, as with the Republicans for 2016 and

the Democrats for 2004, may be important to short-term variations in how the wealthy support the two major parties. Our results show, however, a definite long-term trend to the Democrats.

### **VIII. Conclusion**

We have shown the campaign contributions by members of the 400 are sensitive to changes in the wealth of the individuals. One might be concerned about the endogeneity of wealth with respect to contributions. This is only a partial concern. Entrepreneurs such as Bill Gates, Sergey Brin, Larry Page, George Soros, and Mark Zuckerberg got wealthy before they became contributors. Gates, Brin, Page, and Zuckerberg made no contributions in election cycles prior to joining the 400. Those of Soros were well under \$10,000 per cycle. On the other hand, established wealth may contribute to preserve or increase wealth by items like the carried interest deduction, the diminished estate tax, and special treatment for the fossil fuels sector. The question must be left to future research.

The increasing concentration of campaign contributions is likely to be responsive to the increase in economic inequality. On the other hand, the wealth elasticity is largely a matter that affects Republican or conservative contributors.

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**Table 1: Wealth Elasticity Estimates: Tobit**

	(1)	(2)	(3)	(4)	(5)
(Intercept)	-17.72 (1.69)	-11.34 (2.01)	-11.43 (2.25)	-11.00 (2.26)	-9.26 (2.90)
Ln(Net Worth)	1.19 (0.08)	0.87 (0.10)	0.82 (0.09)	0.79 (0.09)	0.75 (0.12)
Presidential Year				0.76 (0.08)	
1986		-0.31 (0.42)			-0.36 (0.24)
1988		-0.16 (0.42)			-0.32 (0.24)
1990		-0.95 (0.42)			-1.07 (0.26)
1992		0.46 (0.40)			0.03 (0.25)
1994		-0.39 (0.42)			-0.92 (0.26)
1996		0.50 (0.40)			-0.18 (0.26)
1998		-0.36 (0.42)			-1.25 (0.28)
2000		0.65 (0.42)			-0.25 (0.29)
2002		0.24 (0.42)			-0.87 (0.28)
2004		1.38 (0.41)			0.22 (0.28)
2006		0.36 (0.43)			-0.70 (0.31)
2008		1.24 (0.42)			0.23 (0.32)
2010		0.69 (0.43)			-0.30 (0.31)
2012		1.15 (0.45)			0.12 (0.33)
$dE[Y]/dx$	1.08 (0.07)	0.79 (0.09)	0.82 (0.08)	0.78 (0.08)	0.74 (0.12)
Indv. FEs	No	No	Yes	Yes	Yes
AIC	34627	34585	28711	28616	28602
Log Likelihood	-17311	-17276	-13260	-13211	-13191
N. Censored	1434	1434	1434	1434	1434
Num. obs.	6418	6418	6418	6418	6418

Dependent Variable: Log Contributions. The 1983-1984 cycle is the reference category.

**Table 2: Mean Predicted Contributions for Individuals by Election Cycle, Gender**

Forbes Membership in Year	Wealth set to 1984 Average (\$649 M)			Wealth set to 2012 Average (\$4,070 M)		
	All	Female	Male	All	Female	Male
1984	28071	12343	31977	105484	46383	120162
1986	28678	12317	32640	107764	46282	122652
1988	28468	9353	31835	106976	35147	119629
1990	28940	10175	32503	108750	38235	122136
1992	30815	9096	34958	115795	34181	131362
1994	31711	9232	36256	119161	34691	136240
1996	33783	7160	39194	126949	26904	147279
1998	35224	6543	40453	132362	24585	152010
2000	34602	6583	38840	130023	24738	145949
2002	37938	18393	40656	142561	69117	152773
2004	45320	41154	45996	170300	154647	172842
2006	45956	49067	45538	172689	184379	171118
2008	41607	34982	42409	156348	131454	159361
2010	43329	33237	44694	162818	124897	167948
2012	43987	37247	44856	165292	139963	168557

Notes: The predicted contribution amounts are drawn from the specification of Table 1, column 5. All entries in the table were calculated with the election cycle fixed effect set to its 1984 value, 0.

**Table 3: Wealth Elasticity Estimates, with Dropoffs: Tobit**

	(1)	(2)	(3)	(4)	(5)
(Intercept)	-17.80 (1.68)	-11.34 (2.04)	-11.10 (1.88)	-10.37 (1.86)	-7.49 (2.50)
Ln(Net Worth)	1.19 (0.08)	0.87 (0.10)	0.81 (0.07)	0.76 (0.07)	0.67 (0.10)
Presidential Year				0.75 (0.07)	
Dropoff	0.68 (0.30)	0.53 (0.30)	0.36 (0.19)	0.33 (0.19)	0.36 (0.19)
1986		-0.22 (0.37)			-0.32 (0.21)
1988		-0.08 (0.37)			-0.31 (0.22)
1990		-0.90 (0.38)			-1.05 (0.22)
1992		0.42 (0.38)			-0.03 (0.22)
1994		-0.47 (0.38)			-0.93 (0.23)
1996		0.49 (0.38)			-0.13 (0.24)
1998		-0.26 (0.39)			-1.20 (0.25)
2000		0.34 (0.39)			-0.14 (0.27)
2002		0.32 (0.39)			-0.73 (0.26)
2004		1.42 (0.39)			0.33 (0.26)
2006		0.35 (0.40)			-0.54 (0.28)
2008		1.33 (0.41)			0.39 (0.29)
2010		0.67 (0.41)			-0.24 (0.28)
2012		1.30 (0.41)			0.23 (0.30)
$dE[Y]/dx$	1.07 (0.07)	0.78 (0.09)	0.80 (0.07)	0.75 (0.07)	0.66 (0.10)
Indv. FEs	N	N	Y	Y	Y
AIC	38744	38697	32218	32115	32093
Log Likelihood	-19368	-19331	-14613	-14560	-14537
N. Censored	1653	1653	1653	1653	1653
Num. obs.	7193	7193	7193	7193	7193

Dependent Variable: Log Contributions. The 1983-1984 cycle is the reference category.



**Table 4: Wealth Elasticity Estimates, 1984-2008: Tobit**

	(1)	(2)	(3)	(4)	(5)
(Intercept)	-17.34 (1.88)	-11.55 (2.24)	-10.78 (2.06)	-10.38 (2.04)	-8.79 (2.80)
Ln(Net Worth)	1.17 (0.09)	0.88 (0.11)	0.78 (0.08)	0.75 (0.08)	0.71 (0.12)
Presidential Year				0.81 (0.08)	
1986		-0.32 (0.40)			-0.36 (0.21)
1988		-0.16 (0.40)			-0.31 (0.23)
1990		-0.96 (0.40)			-1.02 (0.23)
1992		0.45 (0.40)			0.08 (0.23)
1994		-0.40 (0.40)			-0.86 (0.23)
1996		0.49 (0.40)			-0.12 (0.24)
1998		-0.37 (0.41)			-1.15 (0.26)
2000		0.64 (0.43)			-0.16 (0.29)
2002		0.23 (0.42)			-0.78 (0.27)
2004		1.37 (0.41)			0.30 (0.27)
2006		0.34 (0.43)			-0.59 (0.29)
2008		1.22 (0.44)			0.33 (0.32)
$dE[Y]/dx$	1.06 (0.08)	0.80 (0.10)	0.77 (0.08)	0.74 (0.08)	0.70 (0.12)
Indv. FEs	N	N	Y	Y	Y
AIC	30046	30012	24883	24783	24778
Log Likelihood	-15020	-14989	-11345	-11294	-11279
N. Censored	1277	1277	1277	1277	1277
Num. obs.	5596	5596	5596	5596	5596

Dependent Variable: Log Contributions. The 1983-1984 is the reference category.

**Table 5: Wealth Elasticity Estimates (Minimum of 5 cycles): Tobit**

	(1)	(2)	(3)	(4)	(5)
(Intercept)	-11.90 (1.83)	-6.61 (2.15)	-11.19 (2.03)	-11.00 (2.01)	-8.81 (2.75)
Ln(Net Worth)	0.93 (0.09)	0.66 (0.10)	0.81 (0.08)	0.79 (0.08)	0.72 (0.12)
Presidential Year				0.69 (0.09)	
1986		0.11 (0.48)			-0.05 (0.28)
1988		0.09 (0.47)			-0.19 (0.27)
1990		-0.47 (0.46)			-0.78 (0.27)
1992		0.53 (0.45)			0.12 (0.27)
1994		-0.08 (0.45)			-0.68 (0.27)
1996		0.69 (0.45)			-0.02 (0.27)
1998		-0.23 (0.46)			-1.06 (0.29)
2000		0.93 (0.48)			-0.07 (0.32)
2002		0.48 (0.47)			-0.61 (0.30)
2004		1.33 (0.46)			0.38 (0.30)
2006		0.46 (0.48)			-0.49 (0.32)
2008		1.51 (0.49)			0.48 (0.34)
2010		1.01 (0.49)			-0.11 (0.33)
2012		1.37 (0.51)			0.24 (0.34)
$dE[Y]/dx$	0.87 (0.08)	0.61 (0.10)	0.81 (0.08)	0.79 (0.08)	0.72 (0.12)
Indv. FEs	N	N	Y	Y	Y
AIC	26845	26821	22286	22224	22214
Log Likelihood	-13419	-13394	-10569	-10537	-10519
N. Censored	975	975	975	975	975
Num. obs.	4944	4944	4944	4944	4944

Dependent Variable: Log Contributions. The 1983-1984 is the reference category.

**Table 6: Wealth and Income Estimates for Census Tracts (2007-2012): OLS**

	Wealth Elasticity	Income Elasticity
(Intercept)	-8.05 (0.08)	-19.41 (0.12)
Log Per-capita Housing Value	0.99 (0.01)	
Log Per-capita Income		2.16 (0.01)
R <sup>2</sup>	0.35	0.50
Num. obs.	36,247	36,246
Dependent Variable: Log per-capita contribution amounts		

**Table 7 Wealth Elasticity Estimates by Party: Tobit**

	Contributions to Democratic Recipients	Contributions to Republican Recipients	Contributions to Liberal Recipients (DIME score < 0)	Contributions to Conservative Recipients (DIME score > 0)
(Intercept)	-5.24 (4.10)	-15.24 (3.28)	-3.36 (4.13)	-15.72 (3.24)
<i>Ln</i> (Net Worth)	0.44 (0.19)	0.90 (0.15)	0.31 (0.19)	0.93 (0.15)
1986	-1.40 (0.41)	0.09 (0.30)	-0.92 (0.41)	0.20 (0.29)
1988	-1.05 (0.42)	0.38 (0.31)	-0.32 (0.42)	0.26 (0.31)
1990	-0.93 (0.42)	-1.35 (0.32)	-0.82 (0.43)	-1.28 (0.31)
1992	0.14 (0.42)	-0.10 (0.32)	0.51 (0.42)	-0.06 (0.31)
1994	-0.48 (0.43)	-1.61 (0.32)	-0.08 (0.43)	-1.48 (0.32)
1996	-0.93 (0.44)	-0.01 (0.33)	-0.06 (0.44)	-0.22 (0.33)
1998	-1.68 (0.46)	-1.60 (0.35)	-0.83 (0.47)	-1.81 (0.35)
2000	-0.61 (0.50)	-0.06 (0.38)	0.26 (0.50)	-0.31 (0.38)
2002	-0.98 (0.48)	-1.77 (0.37)	-0.12 (0.48)	-1.97 (0.36)
2004	-0.19 (0.48)	0.02 (0.37)	0.67 (0.48)	-0.15 (0.36)
2006	-0.92 (0.50)	-1.47 (0.39)	0.05 (0.51)	-1.58 (0.38)
2008	0.45 (0.53)	-0.27 (0.41)	1.40 (0.53)	-0.58 (0.41)
2010	-0.34 (0.51)	-0.85 (0.40)	0.47 (0.52)	-0.68 (0.39)
2012	-1.64 (0.53)	-0.28 (0.41)	-0.76 (0.54)	-0.35 (0.41)
$dE[Y]/dx$	0.18 (0.08)	0.72 (0.12)	0.12 (0.08)	0.76 (0.12)
Indv. Fixed Effects	Y	Y	Y	Y
AIC	23684	26781	23541	26993
Log Likelihood	-10732	-12281	-10660	-12386
N. Censored	3112	2315	3137	2256
Num. obs.	6418	6418	6418	6418

Dependent Variable: Log Contributions. The 1983-84 election cycle is the reference category.

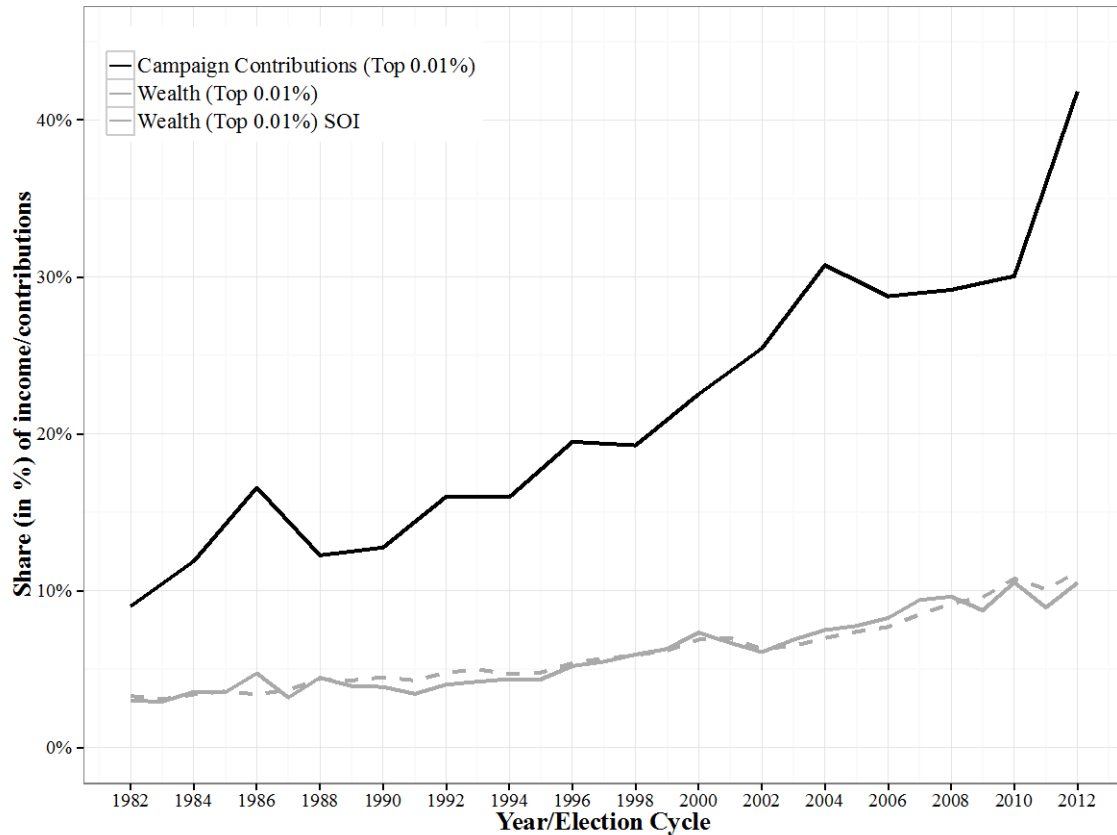
**Table 8. Wealth Elasticity Estimates for Donors Grouped By Partisan Leanings: Tobit**

	Democratic Donors	Democratic Donors	Democratic Donors	Republican Donors	Republican Donors	Republican Donors
(Intercept)	-15.76 (6.36)	-0.26 (7.79)	8.06 (8.99)	-20.50 (3.48)	-13.85 (4.32)	-4.11 (5.04)
<i>Ln</i> (Net Worth)	1.05 (0.30)	0.27 (0.39)	0.25 (0.45)	1.32 (0.17)	1.00 (0.21)	0.82 (0.23)
1986		-2.89 (1.50)	-2.37 (0.82)		0.04 (0.74)	-0.20 (0.43)
1988		-0.79 (1.47)	-0.79 (0.85)		-0.20 (0.77)	-0.19 (0.48)
1990		-2.17 (1.45)	-2.17 (0.86)		-1.31 (0.77)	-1.38 (0.48)
1992		1.46 (1.45)	0.88 (0.85)		0.07 (0.76)	-0.37 (0.47)
1994		0.24 (1.43)	-0.87 (0.87)		-0.95 (0.77)	-1.50 (0.48)
1996		2.31 (1.44)	1.65 (0.91)		0.30 (0.76)	-0.65 (0.49)
1998		0.29 (1.47)	-0.19 (0.99)		-0.83 (0.78)	-1.68 (0.52)
2000		1.34 (1.48)	0.20 (1.06)		0.74 (0.81)	0.10 (0.57)
2002		0.83 (1.46)	-0.73 (1.04)		-0.35 (0.79)	-0.94 (0.55)
2004		2.19 (1.46)	0.55 (1.04)		1.76 (0.78)	0.83 (0.55)
2006		0.95 (1.52)	-0.98 (1.12)		-0.08 (0.81)	-0.67 (0.59)
2008		2.47 (1.50)	0.85 (1.18)		0.95 (0.84)	0.27 (0.63)
2010		1.28 (1.50)	-0.57 (1.13)		0.52 (0.83)	-0.05 (0.61)
2012		2.03 (1.52)	0.32 (1.16)		1.38 (0.86)	0.85 (0.63)
$dE[Y]/dx$	0.86 (0.25)	0.22 (0.31)	0.24 (0.42)	1.19 (0.15)	0.90 (0.19)	0.81 (0.23)
Indv. Fes	N	N	Y	N	N	Y
AIC	4716	4700	3894	9554	9551	8196
Log-Lik	-2355	-2333	-1767	-4774	-4759	-3780
N. Censored	265	272	265	405	405	405
Num. obs.	881	881	881	1764	1764	1764

Dependent Variable: Log Contributions. The 1983-84 election cycle is the reference category.

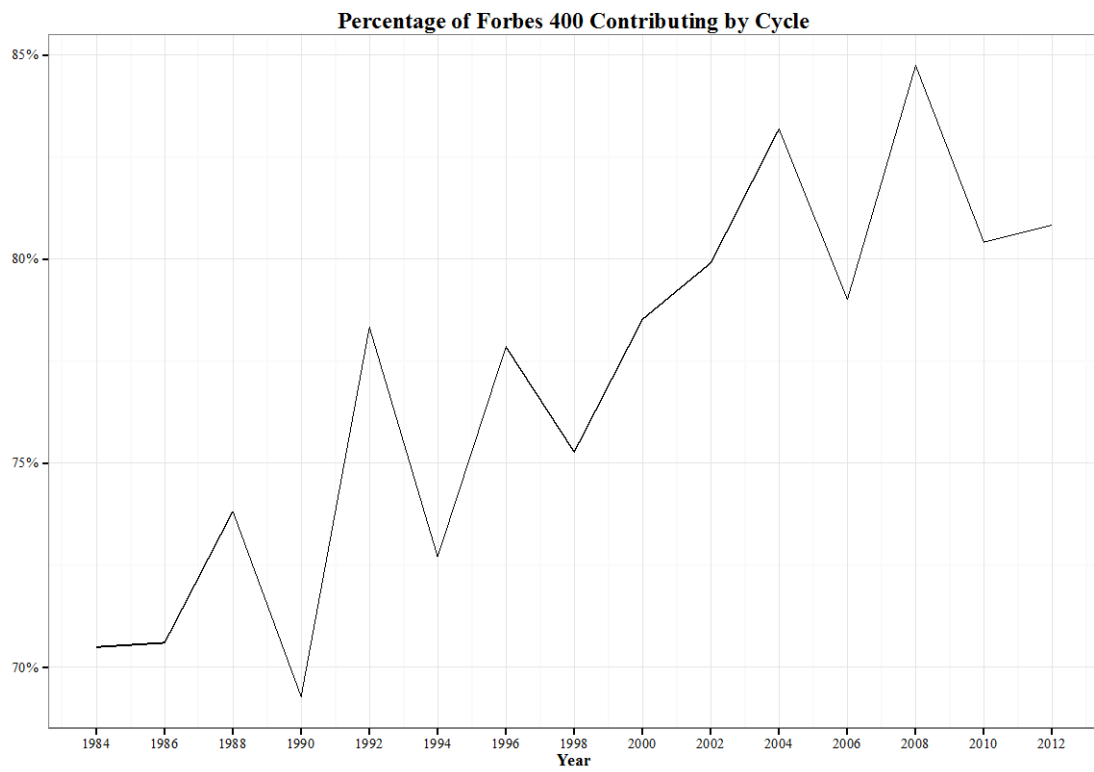
**Table 9: The Effect of Wealth on Partisanship and Ideology: OLS**

	Dynamic DIME Score	Dynamic DIME Score	Dynamic DIME Score	% to Repub- licans	% to Repub- licans	% to Repub- licans
(Intercept)	0.694 (0.234)	0.111 (0.279)	-0.848 (0.316)	0.730 (0.141)	0.455 (0.169)	-0.121 (0.219)
Ln(Wealth)	-0.023 (0.011)	0.011 (0.014)	0.038 (0.014)	-0.005 (0.007)	0.010 (0.008)	0.029 (0.010)
Indv. Fes	N	N	Y	N	N	Y
Cycle Fes	N	Y	Y	N	Y	Y
R <sup>2</sup>	0.001	0.011	0.801	0.000	0.011	0.737
Num. obs.	5022	5022	5022	4890	4890	4890



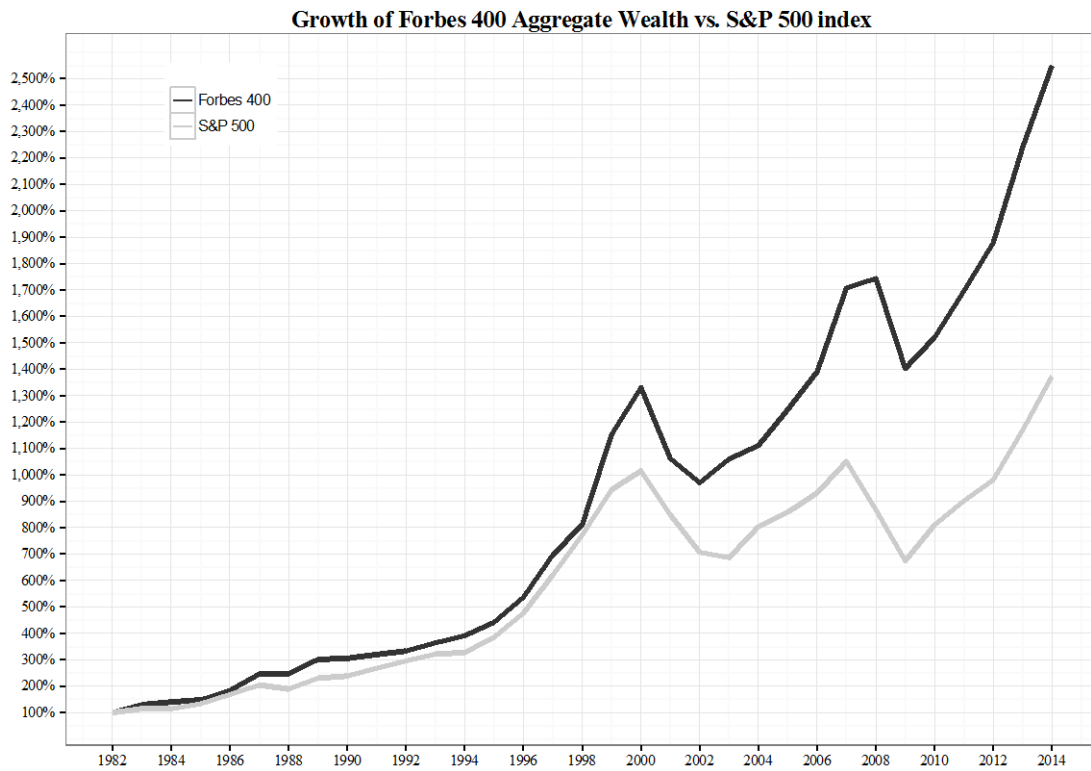
**Figure 1: Concentration of Wealth and Campaign Contributions in the Top 0.01 Percent of Households and Voting Age Population**

Note: The dark line tracks the share of campaign contributions in federal elections given by the top 0.01 percent of the voting age population. See Bonica et al. (2013) for details on how the trend was constructed. The shaded lines track the share of total private wealth owned by the top 0.01 percent of households as measured by Saez and Zucman (2014) by capitalizing income tax data (solid line) and by Kopczuk and Saez (2004) estimated from estate tax returns (dashed line). Both measures were obtained from <http://eml.berkeley.edu/~saez/>.



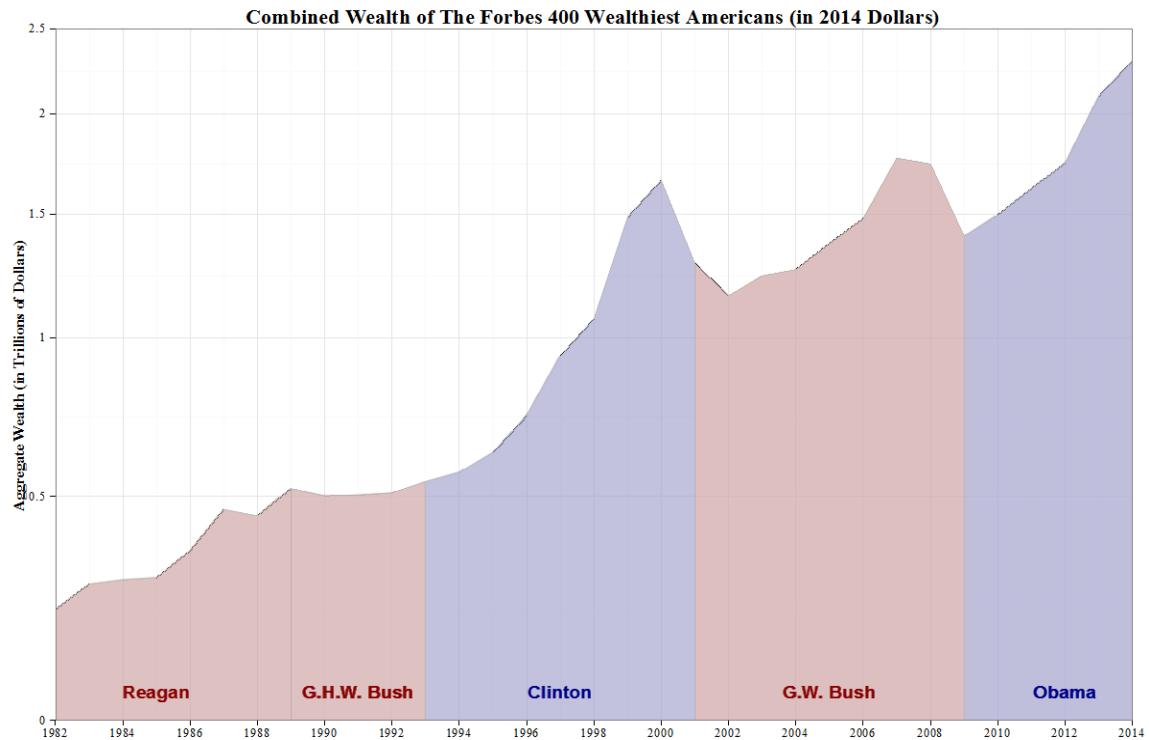
**Figure 2: Percentage of Forbes 400 Contributing to Federal Elections by Cycle.**





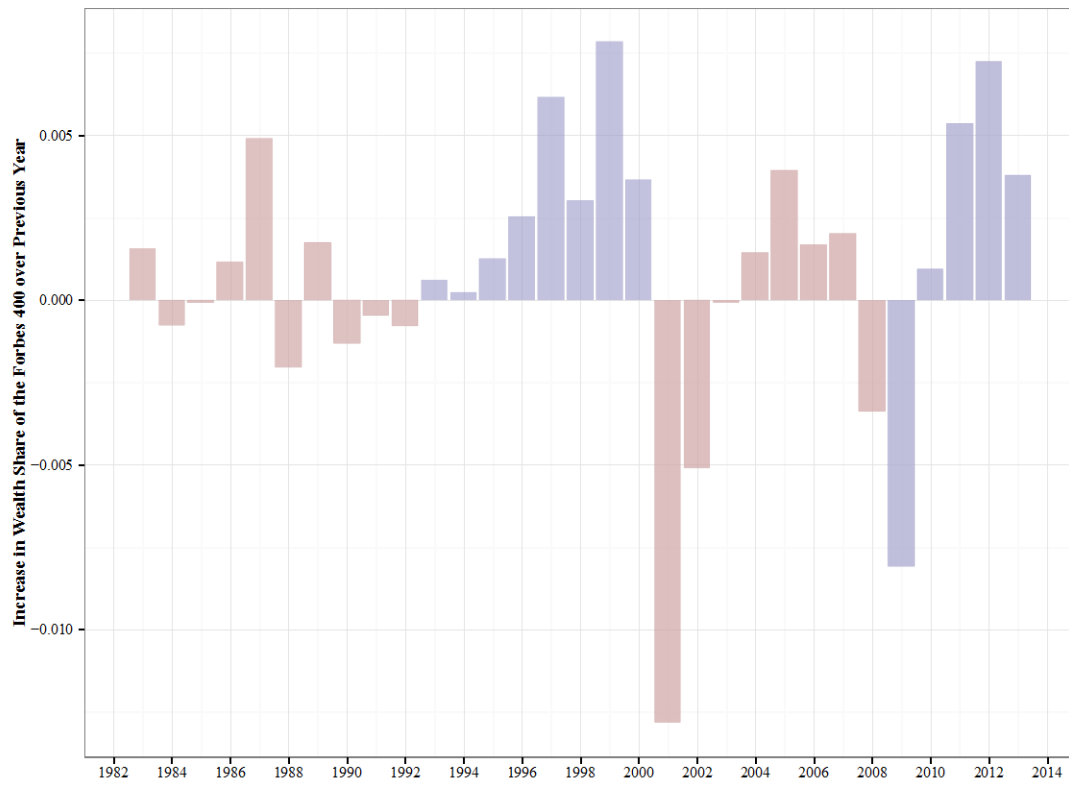
**Figure 3: Growth of Forbes 400 Aggregate Wealth vs. S&P 500 Index (Nominal).**

Note: The *Forbes* 400 starts in 1982. Figures that show only wealth could start in 1982. Figures showing contributions start in 1984 because of our use of two-year election cycles. The absence of *Forbes* data for 1981 resulted in our first election cycle being 1983-84.

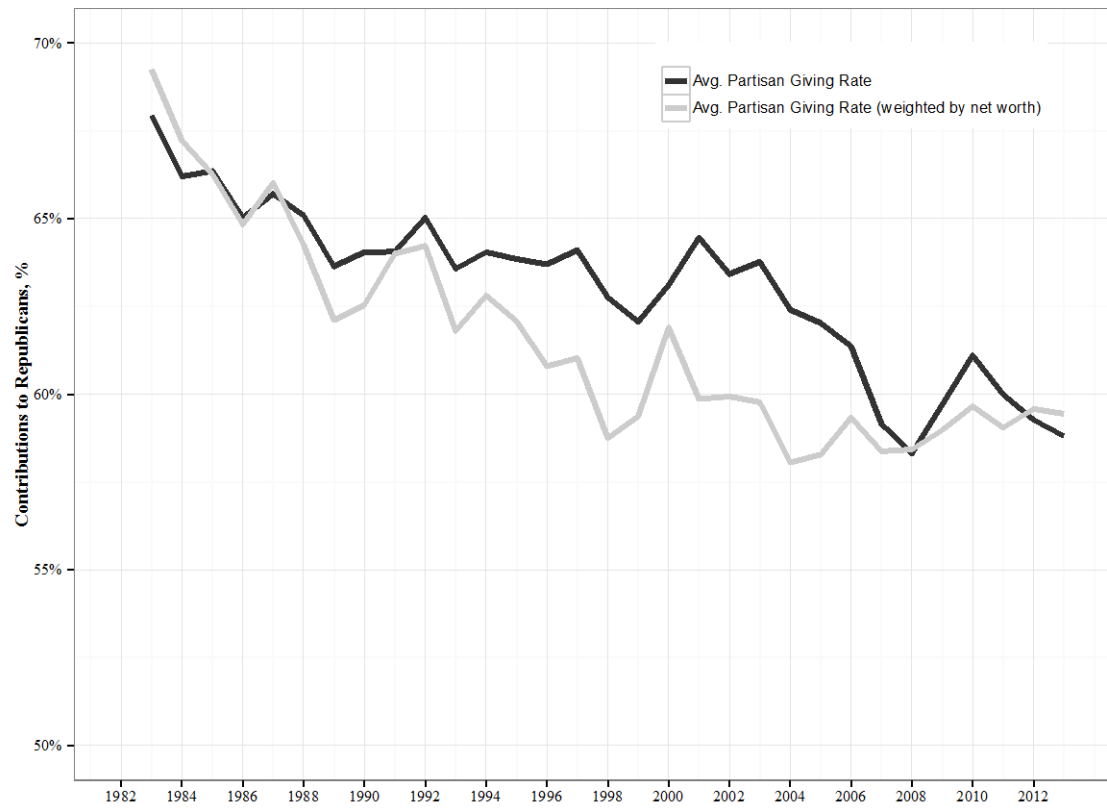


**Figure 4: Combined Wealth of the Forbes 400 Richest Americans (in 2014 Dollars).**

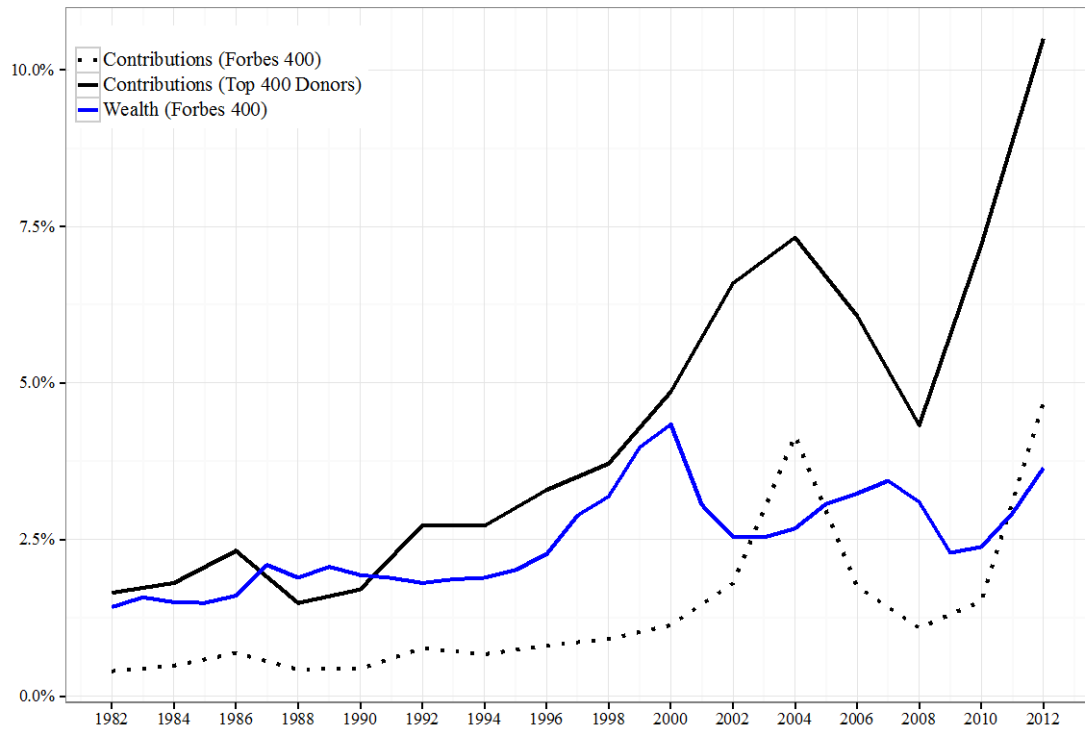
Notes: Y-axis is log-scaled. The *Forbes* 400 starts in 1982. Figures that show only wealth could start in 1982. Figures showing contributions start in 1984 because of our use of two-year election cycles. The absence of *Forbes* data for 1981 resulted in our first election cycle being 1983-84.



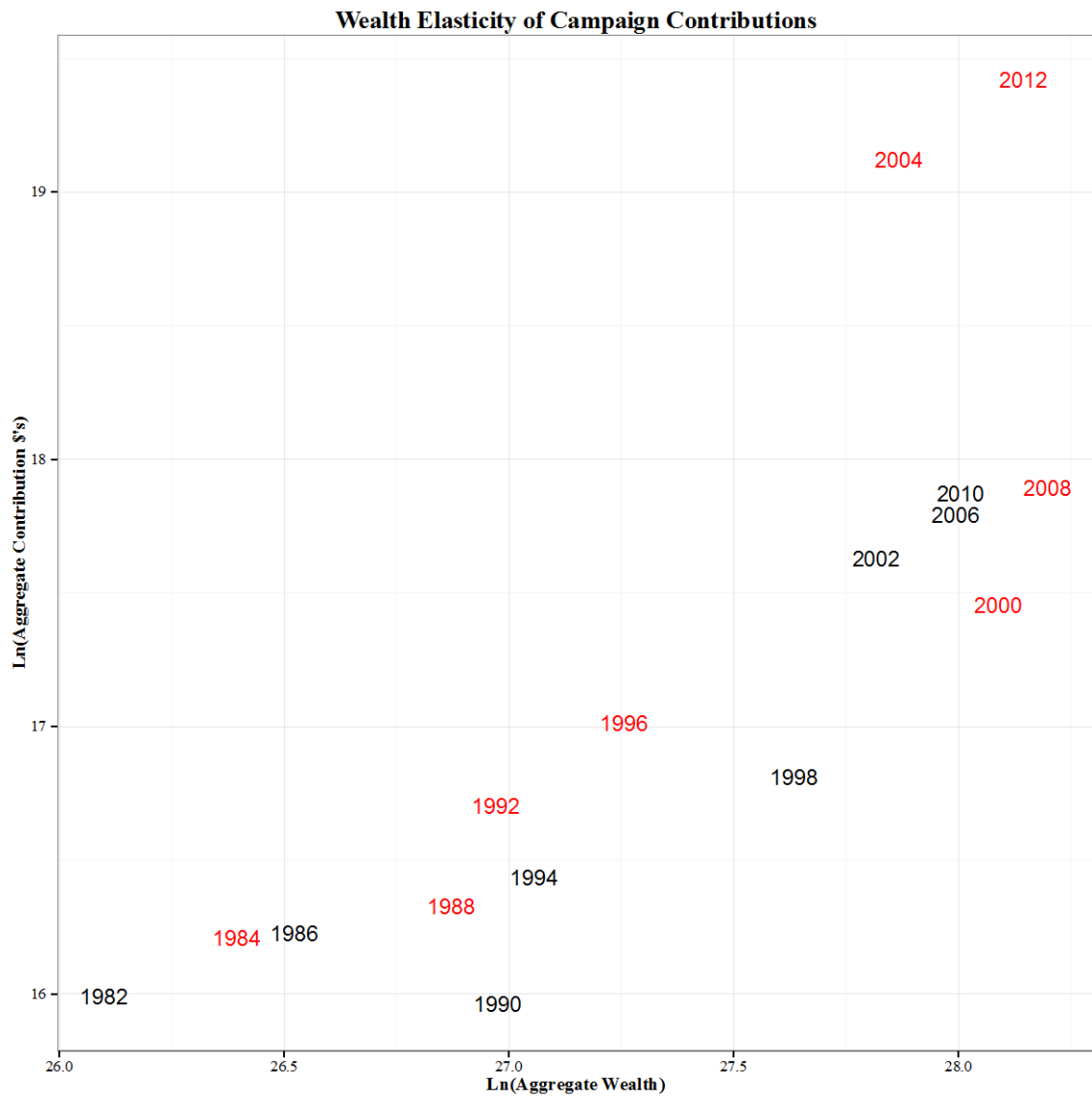
**Figure 5: Year-over-Year Increase in the Wealth Share of the Forbes 400.**



**Figure 6: Average Percentage Given to Republicans**

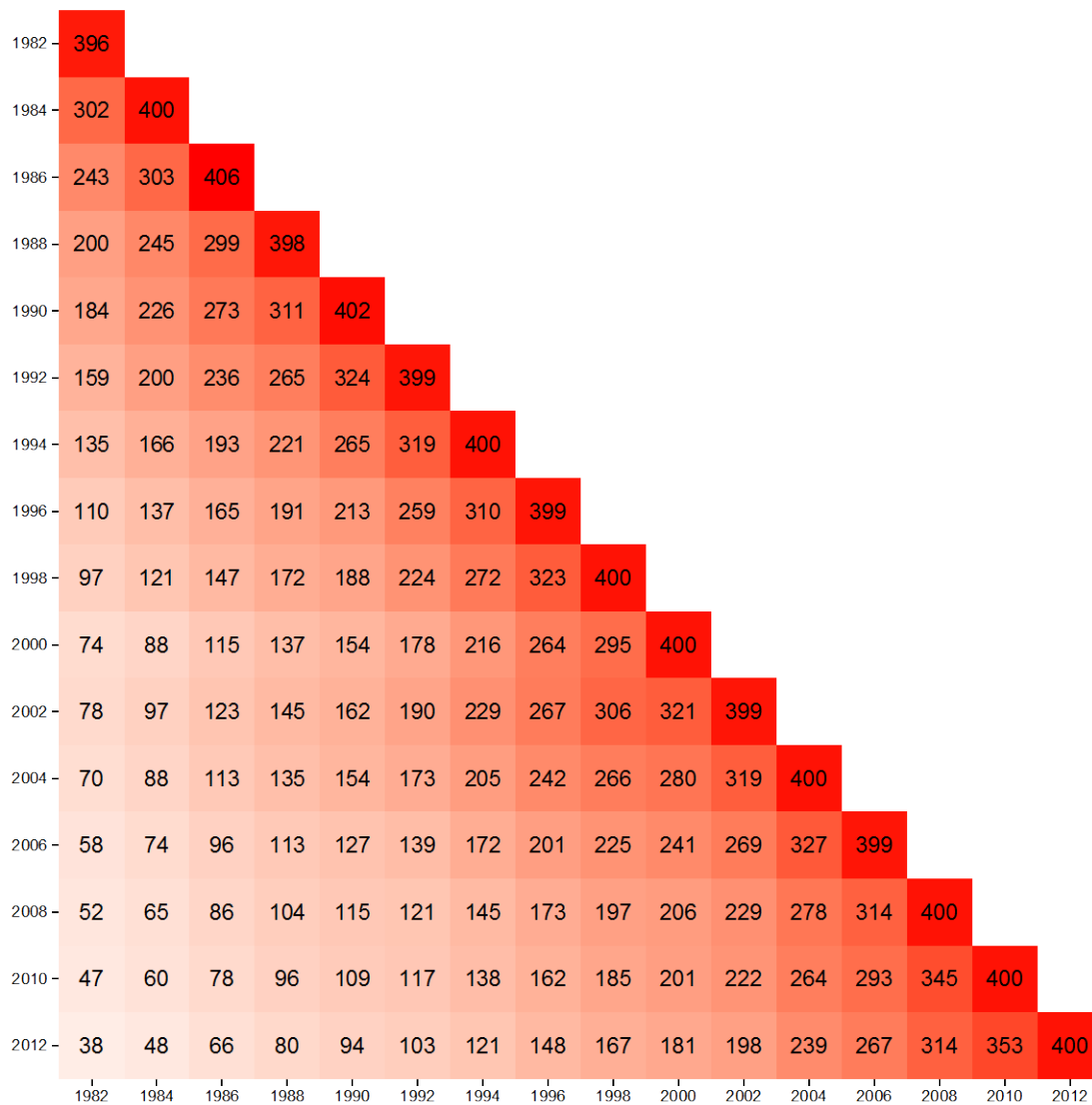


**Figure 7: Wealth and contribution shares of the Forbes 400 and the top 400 donors.**



**Figure 8: Wealth and Campaign Contributions.**

Note: Presidential years in red.



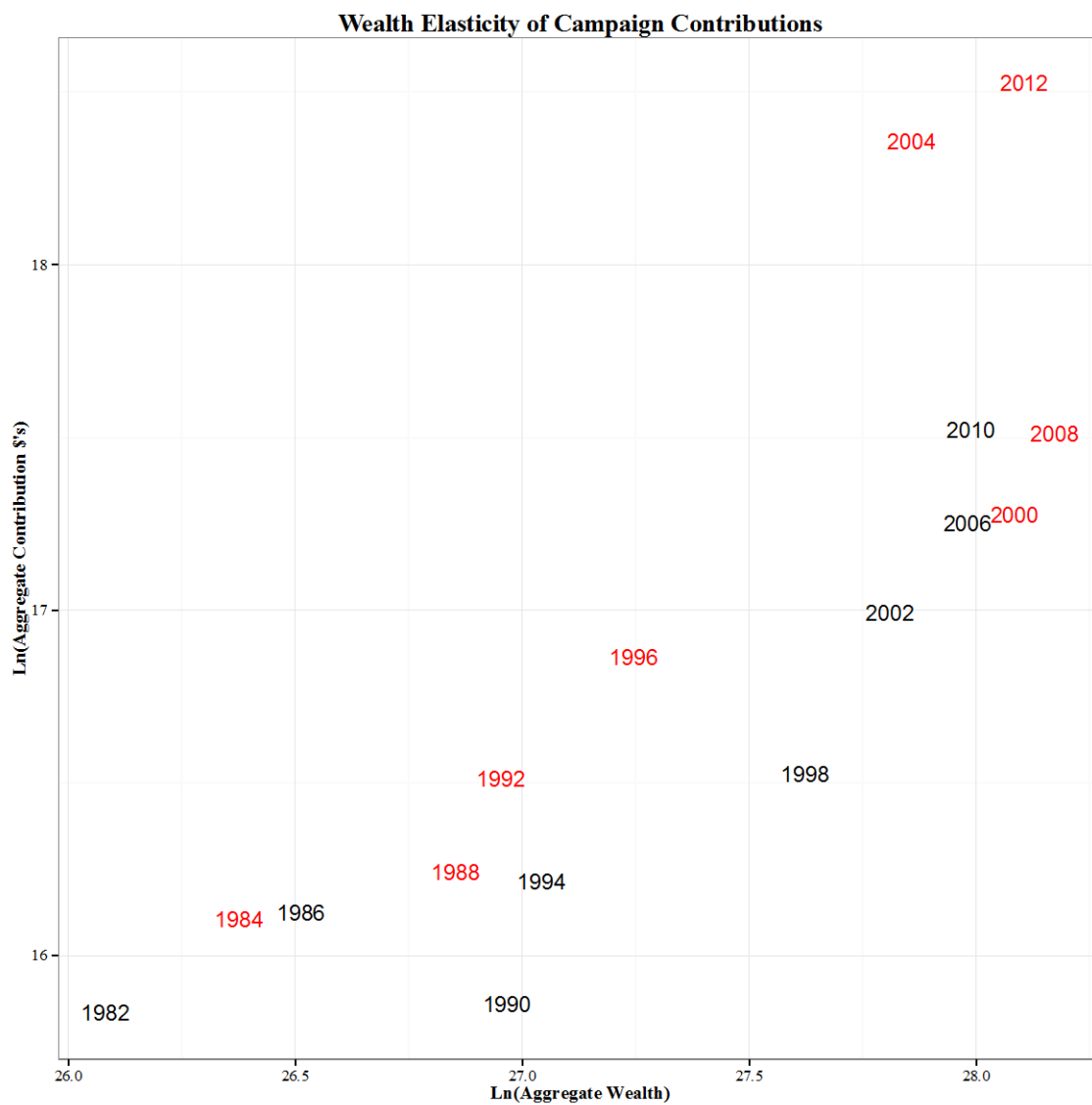
**Figure 9: Turnover in the 400.**

Note: The row entries for each column show members in a given year who were members in the year marking the column.

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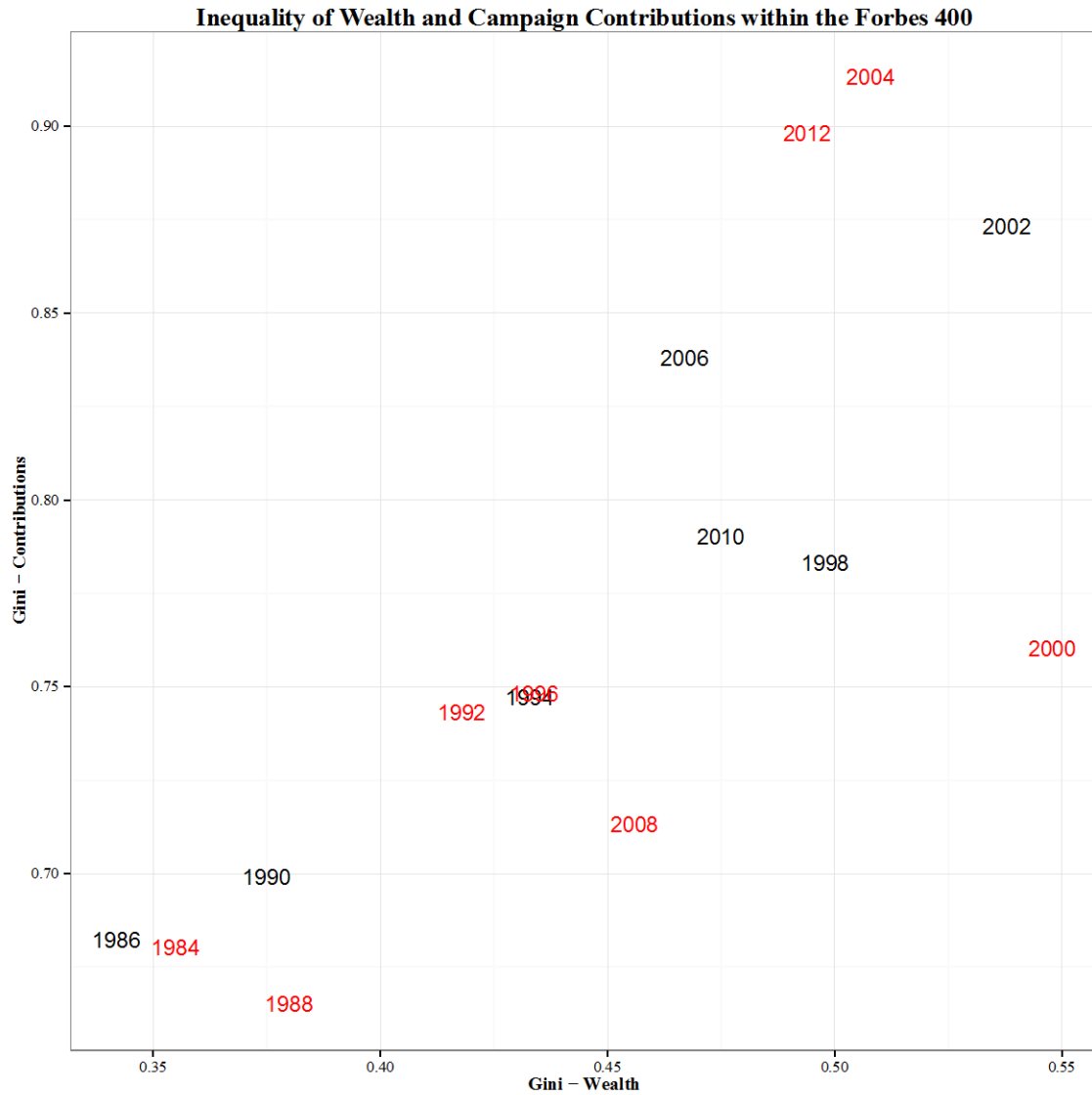
### Appendix

All dollar amounts in the appendix are in 2012 dollars, adjusted by the CPI-U series.



**Figure A1: Aggregate Campaign Contributions vs. Aggregate Wealth, Top 5 Contributors Dropped Each Year**





**Figure A2: Gini Coefficients for Wealth and Campaign Contributions within the Forbes 400.**

Note: The figure shows that both wealth and contributions have become more concentrated among members of the Forbes 400 at similar rates.

**Table A1: Cross-sectional Elasticity Estimates**

	1984	1986	1988	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
(Intercept)	-31.41 (11.67)	-18.35 (11.71)	-22.54 (11.33)	-21.15 (11.01)	-17.60 (9.24)	-14.50 (9.15)	2.31 (8.87)	-11.99 (8.27)	-5.85 (7.23)	-3.60 (7.46)	-4.90 (8.21)	-7.05 (9.06)	-6.29 (7.09)	-2.92 (7.92)	-11.79 (8.77)
Ln(Net Worth)	1.86 (0.58)	1.19 (0.58)	1.40 (0.55)	1.30 (0.53)	1.20 (0.45)	1.02 (0.44)	0.25 (0.42)	0.90 (0.39)	0.65 (0.33)	0.53 (0.35)	0.64 (0.38)	0.69 (0.42)	0.72 (0.32)	0.53 (0.37)	0.95 (0.40)
dE[Y]/dx	1.59 0.49	0.98 0.47	1.21 0.47	1.10 0.45	1.09 0.41	0.90 0.39	0.23 0.39	0.81 0.35	0.62 0.32	0.49 0.33	0.60 0.36	0.64 0.39	0.71 0.32	0.51 0.35	0.89 0.38
AIC	1846	2022	1869	1880	1919	1901	1960	1958	1886	1985	1905	1948	1959	1995	2057
Log Likelihood	-920	-1008	-931	-937	-956	-947	-977	-976	-940	-989	-950	-971	-976	-994	-1026
N. Censored	97	116	95	101	78	87	74	82	60	69	58	72	43	58	68
Num. obs.	351	388	353	361	357	358	361	365	345	365	342	355	361	362	365

Note: Sample includes only individuals who were on the list during both years in a given election cycle.

**Table A2: Cross-sectional Elasticity Estimates with Controls**

	1984	1986	1988	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
(Intercept)	-25.65 (12.83)	1.47 (13.82)	-14.80 (12.13)	-20.97 (13.59)	-13.20 (12.05)	-7.50 (11.67)	13.39 (11.08)	-20.88 (9.87)	-18.53 (8.90)	-11.30 (9.67)	-13.78 (12.11)	-5.54 (11.32)	-8.78 (7.77)	-10.69 (9.19)	-17.33 (10.66)
<i>Ln</i> (Net Worth)	1.56 (0.52)	0.81 (0.62)	1.43 (0.50)	1.24 (0.50)	1.10 (0.42)	0.94 (0.45)	0.16 (0.46)	0.76 (0.34)	0.65 (0.30)	0.58 (0.37)	0.58 (0.41)	0.59 (0.40)	0.59 (0.27)	0.55 (0.35)	0.97 (0.37)
Female	-2.00 (0.95)	-3.31 (0.91)	-2.47 (1.08)	-3.55 (0.99)	-3.22 (0.86)	-3.14 (0.88)	-2.36 (0.79)	-3.88 (0.87)	-4.24 (1.01)	-4.12 (1.04)	-2.09 (1.08)	-2.82 (1.12)	-1.26 (0.71)	-0.79 (0.82)	-2.16 (0.96)
Foreign Residence	-36.40 (0.00)	-10.50 (4.28)	-10.44 (3.99)	-7.89 (3.12)	-3.29 (2.25)	-7.34 (3.24)	-2.86 (2.68)	-2.62 (3.72)	-0.13 (2.51)	-5.97 (3.52)	-34.79 (0.00)	-11.41 (3.77)	-7.51 (2.63)	-6.60 (2.55)	-8.46 (2.97)
<i>Ln</i> (Age)	0.23 (1.50)	-2.70 (1.58)	-1.91 (1.66)	0.44 (1.68)	-0.43 (1.53)	-1.14 (1.56)	-2.14 (1.18)	3.00 (1.42)	3.23 (1.24)	1.75 (1.15)	2.50 (1.47)	0.31 (1.43)	1.33 (0.97)	1.84 (1.50)	1.33 (1.59)
dE[Y]/dx	1.32 0.44	0.67 0.51	1.24 0.43	1.06 0.43	1.01 0.39	0.84 0.41	0.15 0.42	0.70 0.31	0.62 0.29	0.54 0.35	0.55 0.39	0.55 0.37	0.59 0.26	0.53 0.34	0.92 0.35
AIC	1832	1999	1856	1860	1904	1879	1952	1934	1858	1960	1878	1918	1935	1980	2039
Log Likelihood	-910	-993	-922	-924	-946	-933	-970	-961	-923	-974	-933	-953	-961	-984	-1013
N. Censored	97	116	95	101	78	87	74	82	60	69	58	72	43	58	68
Num. obs.	351	388	353	361	357	358	361	365	345	365	342	355	361	362	365

Note: Sample includes only individuals who were on the list during both years in a given election cycle.

**Table A3: Contributions for Forbes 400 members when on and off the list: Tobit**

	<b>Model 1</b>	<b>Model 2</b>
(Intercept)	5.85 (0.98)	-17.09 (2.15)
Not yet on <i>Forbes</i> 400	-4.68 (0.15)	
Temporary Drop-off	-1.13 (0.25)	
Exited <i>Forbes</i> 400	-4.98 (0.15)	
On List One Year During Cycle	-1.38 (0.16)	-0.52 (0.15)
$\ln(\text{Net Worth})$		1.20 (0.10)
Years Until Entering List		-0.54 (0.01)
Years Since Exiting List		-0.25 (0.01)
Years Away From Appearing on List (Drop-offs)		0.09 (0.06)
1986	0.06 (0.25)	-0.29 (0.24)
1988	1.06 (0.24)	-0.27 (0.23)
1990	0.21 (0.24)	-1.69 (0.23)
1992	1.56 (0.23)	-0.77 (0.22)
1994	0.83 (0.23)	-1.83 (0.23)
1996	1.58 (0.23)	-1.44 (0.23)
1998	1.08 (0.24)	-2.49 (0.25)
2000	2.35 (0.23)	-1.82 (0.26)
2002	1.32 (0.24)	-2.10 (0.25)
2004	2.47 (0.24)	-1.68 (0.28)
2006	1.41 (0.25)	-2.99 (0.30)
2008	2.35 (0.26)	-2.19 (0.32)
2010	1.27 (0.26)	-2.78 (0.32)
2012	1.71 (0.27)	-2.09 (0.33)
dE[Y]/dx		0.80 (0.06)
Indv. FEs	Y	Y
AIC	85663	83612
Log Likelihood	-41320	-40293
Deviance	22063	21519
Num. obs.	21429	21429
Dependent Variable: Log Contributions		

We do not observe wealth estimates for most individuals during periods they were not on the list. We collected data on dates of death.<sup>6</sup> This makes it possible to determine which past-members who have dropped off the list were alive after the last cycle where they appeared on the list. We also observe when individuals on the list become of voting age and can legally donate to campaigns.

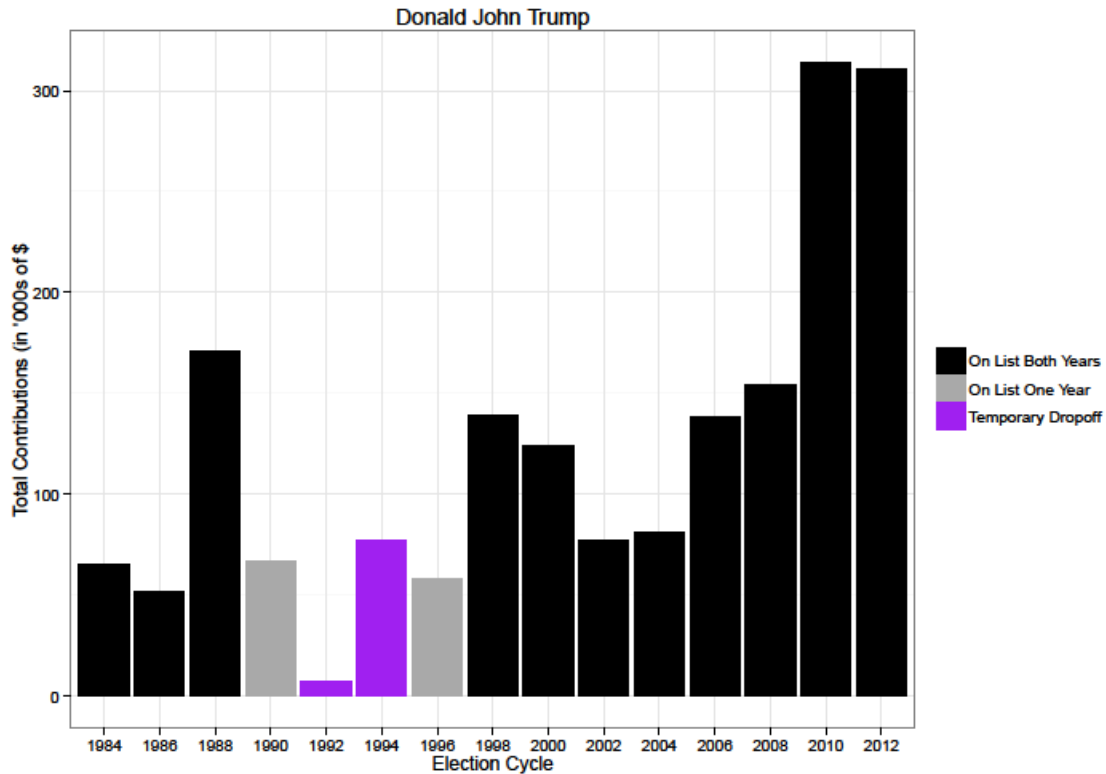
For individuals who are not currently on the list, we set their net worth to the minimum threshold for inclusion on the list in a given year, which is same as the value of the 400<sup>th</sup> ranked member. We then include controls for the number of years away from the list an individual is relative to the closest year from when the individual is on the list. This reflects that wealth should be closer to the minimum threshold for inclusion on the list the closer an individual is to membership. Likewise, for years between appearing on the list, we include a control for the duration in years from the last/next time an individual will appear on the list. This is calculated as the absolute distance between the current year and the most proximate year the individual appeared on the list. The variables *Years Until Entering List*, *Years Since Exiting List*, and *Years Away from Appearing on List (Drop-offs)* all take on values of zero for periods where an individual appears on the list.

Model 1 confirms that total giving is much greater when individuals are on the list than either before entering or after exiting. The estimate for *Temporary Drop-offs* indicates that individuals who temporally drop-off of the list but later rejoin it experience a smaller decline in giving relative to either the run up to joining the list or following falling off the list permanently. Donald Trump offers an illustration of this dropoff effect. Trump first appears on the list in 1982 and remains on it for every year with the exception of a gap of 6 years between 1990 and 1995. His contributions fall nearly to zero during the 1991-1992 election cycle as bankruptcy proceedings threatened his fortune. After emerging from bankruptcy Trump's net worth quickly recovered leading him to rejoin the list in 1996. His contribution levels recovered almost immediately after

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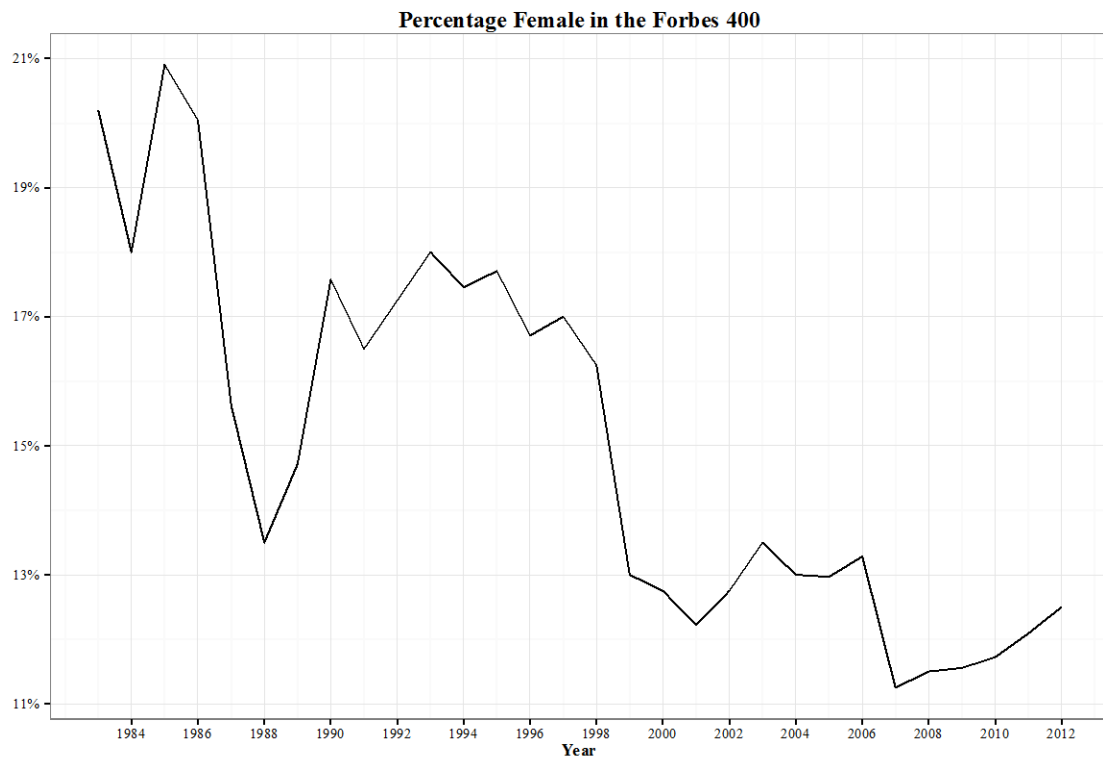
<sup>6</sup> Dates of death were obtained from wolframalpha.com, searches for obituaries in the *New York Times*, the *Los Angeles Times*, other newspapers, and Google searches. These sources were also useful for disambiguating parents from children with the same name.

successfully emerging from bankruptcy proceedings with much of his fortune intact.



**Figure A4:** Total Contributions by Cycle for Donald Trump.

Model 2 estimates wealth elasticity while including controls for years before/after appearing on the list. The model sets the log net worth for individuals who are not included on the list during a given cycle to the threshold value for inclusion (the net worth of the 400<sup>th</sup> ranked member). The temporal controls *Years Until Entering List*, *Years Since Exiting List*, and *Years Away from Appearing on List (Drop-offs)* should serve to discount the expected contribution amounts for individuals that years away from appearing on the list. The negative coefficient values indicate that contributions are lower the further away a candidate is from joining the list. The effects are not symmetric with respect to the run-up to first appearing on the list and the period after exiting the list permanently. The expected decrease in giving for each year since permanently exiting the list is less than half of the expected decrease in giving for each year prior to appearing on the list the for the first time.



**Figure A5:** Percentage of Forbes 400 Members that are Female by Cycle