

Analyzing the Relationship between Campaign Finance and Income Inequality

Abstract: Given the increasingly high presence of campaign finance and income inequality, this analysis investigates the interlinkages between the two trends. By analyzing Political Action Committee (PAC) receipts and disbursements from 1989 to 2021 with expected inflation, labor share, and the relative price of investment goods— evidence suggests a highly correlative relationship. Overall, higher quintiles have more relative leverage in donating and benefit from increased representation. The need for politicians to remain incumbent through financing explains much of this reinforcing effect, which amplifies disproportionate representation, as well as the implementation of policies to benefit those that donate the most specifically. Moreover, market concentration via policies plays a significant role in reinforcing this relationship.

Overview:

This paper analyzes the relationship between income inequality and campaign finance. Since the 1970s, the wealthiest 20% of Americans have increasingly held a larger share of total US income, while lower quintiles of workers have claimed substantially lower wage growth. Similarly, the 1970s Supreme Court decision of *Buckley V. Valeo* allowed the creation of PACs with unlimited campaign contributions— which has been steadily increasing with the GINI coefficient to the 21st century. While the high correlation of these trends proves challenging to isolate the causal effect, evidence suggests a reinforcing effect between income inequality and campaign finance. The relationship between campaign finance and income inequality has proven problematic for democracy. Evidence suggests the growing prevalence of money in politics has disproportionately represented more affluent Americans over middle and low-class Americans.

This research is not to deprecate the gains of wealthy Americans and corporations, nor is the purpose of this paper to imply that wealthy Americans and corporations are inherently rent-seeking. This paper aims to analyze the interlinkages of American democracy with its economic system to better understand the growing trends in the last fifty years to sustain democracy and welfare for future generations.

Literature Review:

This research is most closely related to Nicholas Miras', who finds a causal effect of campaign finance on income inequality. Miras reasons, "while Citizens United did cause a significant increase in the level of money in politics, it is more of a culmination of the trend rather than the commencement"¹. Other academic researchers such as Larry Bartles, John Woolley, Valentino Larcinese, and Alberto Parmigiani find evidence of the interlinkages between political

¹ Miras, N. "Examining the Influence of Economic Inequality on Campaign Finance in the Pre-Citizens United Era." *Cornell Policy Review*, (2016). [Examining the Influence of Economic Inequality on Campaign Finance in the Pre-Citizens United Era \(cornellpolicyreview.com\)](https://cornellpolicyreview.com)

factors and income inequality. Larry Bartles finds that U.S. senators have differential responses to income distribution preferences, finding those in the top income percentiles have marginally more representation than lower income quintiles². John Woolley questions the independence of the Federal Reserve, finding significant political and institutional factors to influence Federal Reserve policy³. Larcinese and Parmigiani link economic inequality to political inequality through evidence from the 1986 Tax Cut⁴. Other Academics have found relationships between inequality and business cycles, inflation, and investment. Christin Bayer, Benjamin Born, and Ralph Luetticke find that business cycles and policy responses can account for 50% of income inequality⁵. Another 2023 study found that the effect of inflation on inequality becomes stronger with higher levels of income inequality. After one year, a higher inflation rate increases income inequality only when income inequality is initially relatively low⁶. Other research investigates the link between inequality and investment— finding that imperfect markets are advantageous for higher amounts of wealth⁷. Additionally, this research contributes to other academic literature, such as Mehmet Akif Destek and Bilge Köksel, who found a causal effect of income inequality and the 1930 Great Depression and 2008 Great Recession by using a bootstrap rolling window empirical evidence. Destek and Kosel proved the Rajan hypothesis, which argues that income inequality plays a significant role in financial crises. Further, the authors' findings suggest that

²Bartels, Larry M. “Economic Inequality and Political Representation.” Princeton, NJ: Prince Working Group on Inequality. (2005). [Microsoft Word - represent21.doc \(russellsage.org\)](#)

³ Woolley, John T. “The Politics of Monetary Policy: A Critical Review.” *Journal of Public Policy* 14, no. 1 (1994): 57–85. <http://www.jstor.org/stable/4007563>.

⁴ Larcinese, Valentino & Alberto Parmigiani. “Income Inequality and Campaign Contributions: Evidence from the Reagan Tax Cut.” *London School of Economics: International Inequalities Institute. Working Paper 87*. (2023). [Larcinese_Parmigiani_III_WP_87.pdf \(lse.ac.uk\)](#)

⁵ Bayer, et al. “Shocks, Frictions, and Inequality in US Business Cycles.” *London School of Economics*. (2020)

⁶ Berisha, Edmond et al. “Inflation and Income Inequality: Does the Level of Income Inequality Matter?” *Journal of Economic Literature* (2023). Available at SSRN: <https://ssrn.com/abstract=4317185> or <http://dx.doi.org/10.2139/ssrn.4317185>

⁷Banerjee, Abhijit. “Inequality and Investment.” *MIT Economics*. (2005)

credit expansion to low and middle-income distributions impacts the causal effect of inequality-driven recessions⁸. Analyzing the role of credit in income inequality, Other literature sources, reason improper financial regulation, and excessive risk-taking contributed the most to the 2007 credit crunch⁹. Nevertheless, with previous empirical evidence of the causal effect of income inequality and political influence, as well as with research implying various interlinkages of direct relationships, i.e., inequality and investment, this paper uses a holistic institutional approach to the relationship between income inequality and political-corporate influence.

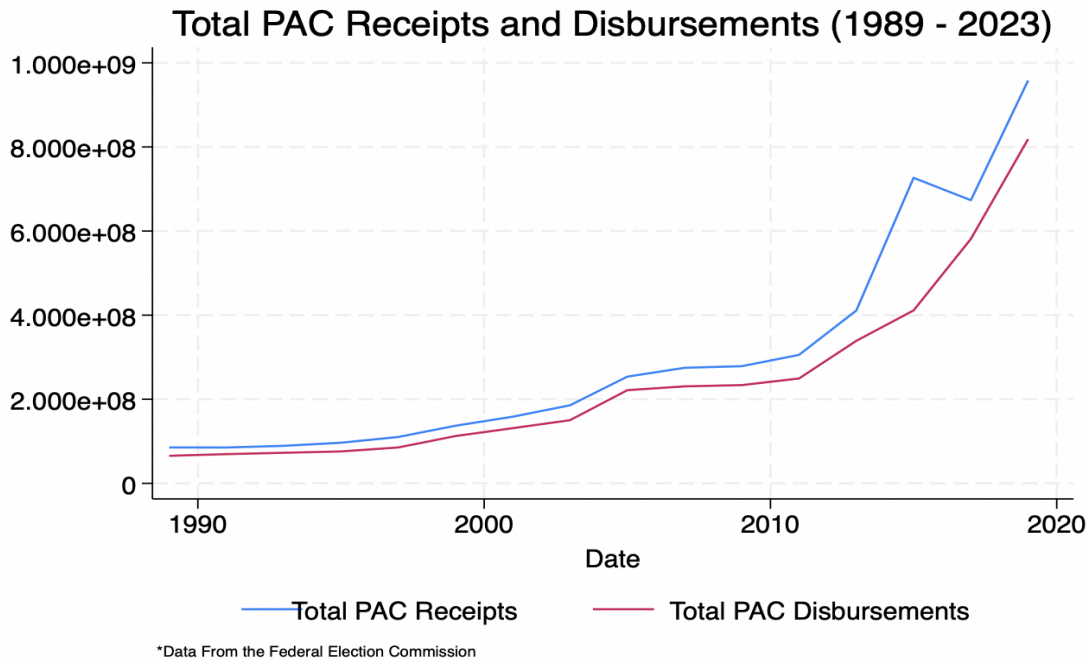
Growth of Campaign Finance and Income Inequality:

Since the 1970s, campaign finance has grown exponentially. The Federal Election Campaign Act (FECA), passed in 1971, established the creation and emergence of federal candidates, political parties, and political action committees (PACs) to contribute to campaigns within disclosure requirements. In 1976, *Buckley v. Valeo* ruled campaign contribution limits unconstitutional under the First Amendment provision of freedom of speech. Since the 1970s, campaign spending has steadily risen exponentially to 2023. From 1989 to 2023, total PAC receipts have risen by 1,806.5%. Notably, in 2010, *Citizens United v. The Federal Election Commission* upheld the constitutionality of allowing unlimited independent expenditures for political campaigns by corporations, nonprofit entities, labor unions, and other associations. In turn, *Citizens United v. The Federal Election Committee* led to the formation of Super PACs—allowing unlimited amounts of money from corporations, unions, and individuals to support or oppose candidates. The figure below exhibits the growing prevalence of campaign finance:

⁸ Destek, M.A., Koxsel, B. "Income inequality and financial crises: evidence from the bootstrap rolling window." *Journal of Financ Innov* 5, 21 (2019). <https://doi.org/10.1186/s40854-019-0136-2>

⁹ Crotty, J. "Structural Causes of the Global Financial Crisis: A Critical Assessment of the 'New Financial Architecture.'" *Economics Department Working Paper Series*. 16. (2008) <https://doi.org/10.7275/1068820>

Figure 1:



Political scientists such as Thomas Ferguson warned about the problematic implications of money in politics with the methodology of business elites rather than voters, who are the most influential players in political systems— undermining Voter Realignment Theory and the Median Voter Theorem¹⁰. Professor of Law at Harvard Law School, Lawrence Lessig, suggests the money in the political system is “legal but corrupt” because members of the US Congress depend on large donors for funding— which in turn impacts the ability of Congress to govern¹¹. Empirical evidence from a 2021 study quantified the impact of PAC Super PAC spending on a state-by-state basis using a difference-in-differences approach, finding states with increased

¹⁰ Ferguson, Thomas. “Golden Rule The Investment Theory of Party Competition and the Logic of Money-Driven Political Systems.” *University of Chicago Press*, (1995).

¹¹ Lessig, Lawrence. “Republic, Lost: How Money Corrupts Congress—and a Plan to Stop It.” *New York: Twelve*, 2011.

political spending to adopt more pro-growth policies and, in turn, higher incomes than those without¹².

Similarly, between 1989 and 2023, the US GINI Index rose approximately 23% from 40.1 to 49.9. While rapid technological change, globalization, and inflation led to rising inequality in the US, along with historical discrepancies, systemic problems relating to the economic and political system have exacerbated income inequality. Specifically, there is an overrepresentation of profitable corporations and the wealthiest Americans who can afford to donate to PACs competitively. As Paul Krugman once said, “Rising inequality isn’t about who has the knowledge; it’s about who has the power. Politics determines who has the power, not who has the truth.”¹³

Figure 2:

¹² Akey, Pat, Tania Babina, Greg Buchak, and Ana-Maria Tenekedjieva. “The Impact of Money in Politics on Labor and Capital: Evidence from Citizens United v. FEC.” Stanford University Graduate School of Business Research Paper, Rotman School of Management Working Paper No. [4159475, September 16, 2021](#)

¹³ Krugman, Paul. “Rising Inequality Isn’t About Who Has the Knowledge; It’s About Who Has the Power. Politics Determines Who Has the Power, Not Who Has the Truth.” *Goodreads*, accessed November 1, 2023. <https://www.goodreads.com/quotes/101628-rising-inequality-isn-t-about-who-has-the-knowledge-it-s-about>.

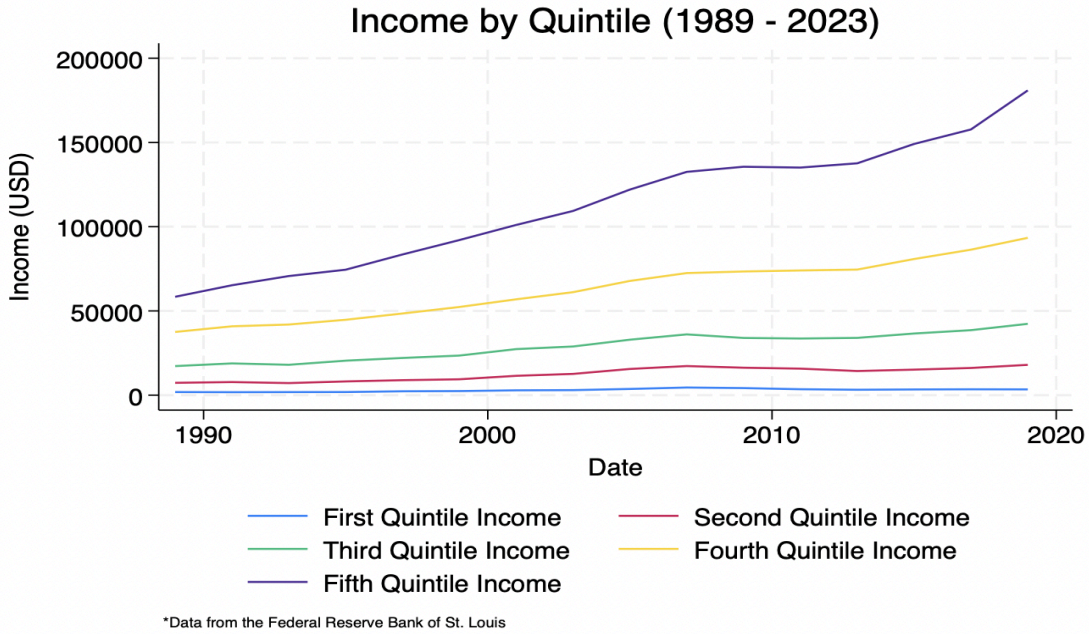
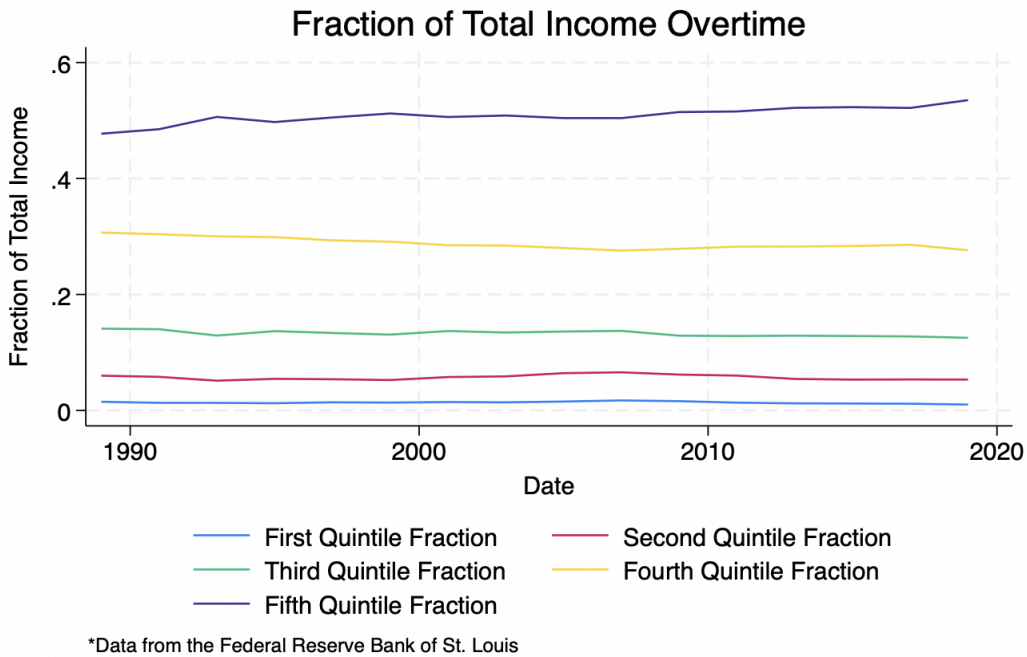


Figure 3:



The Relationship Between Income Inequality and Campaign Finance:

Empirical evidence has shown a highly correlative relationship between income inequality and campaign finance. However, researchers and academics have yet to come to a consensus on whether this relationship is causal or not. Overall, literature studying the effects of income inequality and campaign finance shows an apparent causality dilemma. A methodology similar to Ferguson and Bartles suggests that higher-income Americans wield substantially more political power and, thus more representation. In turn, tailoring policies for those disproportionately who spend rather than those who do not. The following analysis is tedious considering this sample only has 17 observations of PAC disbursements and receipts. Thus, to avoid multicollinearity, a series of equations were made with only two independent variables. Available Open Secrets PAC data is not as comprehensive before 1989— so to insure robustness of this study, analysis was conducted from 1989 onward. Evidence alludes to the relationship between income inequality and PAC spending to not only be highly correlative but also reinforcing due to the systemic nature of both trends, as well as interconnecting mechanisms such as labor supply elasticity, gross private domestic, and credit.

Using the function below, we analyze the relationship between logs of income quintiles and logs in PAC receipts:

$$\text{Log(PAC Receipts)} = \beta_1 (\text{log(Income Quintile)}) + \epsilon$$

The table below shows linear regressions of the log of Total Pac Receipts as the dependent variable and the log of income variables as dependent variables. For the sake of investigating causality, these regressions did not include control variables since the number of observations is only 17. However, all p-values are significant at the 0.01 level. These regressions show greater statistical significance in more affluent income distributions. Based on log changes

in data, quintiles four and three exhibit the highest correlation, with quintile one lagging behind quintiles two and five. In 2021, a one percent increase of the average income for Quintile 5, \$1,891.34, would equate to a 2.383% increase in the log of total PAC receipts. Whereas a one percentage increase in the average income of quintile four in 2021, \$1005.27, would equal a 2.842% increase in total PAC receipts. At face value, these results show that on a macro scale, the fifth quintile of income has the same influence as the second quintile. However, since incomes of the top quintile have grown 223.94% compared to second quintile incomes that have grown 155.36% since 1989, top quintiles have substantial amounts of influence on PAC receipts. These discrepancies in income growth rates on PAC receipts are evident in the following Figure as well.

Figure 4: Regressions of Log of Income Quintiles and Logs of Total PAC Receipts (1989 - 2021)

		Income Group				
log(Total PAC Receipts)		Log(Quintile 1)	Log(Quintile 2)	Log(Quintile 3)	Log(Quintile 4)	Log(Quintile 5)
	Coefficient	2.17	2.319927	2.736578	2.842358	2.383067
	t	(0.001)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
R ²	0.5501	0.7826	0.8807	0.9252	0.9043	

- *P-values in parentheses*
- **** significant at 0.01 level*

Figure 4: Regressions of Log of Income Quintiles and Logs of Total PAC Receipts (1989 - 2021)

- $N = 17$

Using the function below, we analyze the relationship between income quintiles as a fraction of total income and logs in PAC receipts:

$$\text{Log(PAC Receipts)} = \beta_1 (\text{Income Fraction}) + \epsilon,$$

In the Figure below, regressions show the relationship between income quintiles as a fraction of total income and the log of total PAC receipts. Statistical significance increases with a quintile of higher incomes, as well as coefficients. In these regressions, only the fifth quintile exhibits a positive relationship with changes in total PAC receipts. Therefore, every 1% increase in the fifth quintile share of income is associated with a 52% increase in PAC receipts. These results are consistent with Miras', who analyzes the causal effect of income shares of the 10% and bottom 90% on presidential and congressional campaign spending. Miras reasons "the top .001% – the very richest Americans – is really the driving force behind the increases" because "evidence suggests that candidates are likely procuring them from those who can most afford it: the wealthiest Americans"¹⁴.

Figure 5: Regressions of Income Quintiles by Fraction of Total Income and Total PAC Receipts (1989 - 2023)

	Income Group

¹⁴ Miras, N. "Examining the Influence of Economic Inequality on Campaign Finance in the Pre-Citizens United Era." *Cornell Policy Review*, (2016). [Examining the Influence of Economic Inequality on Campaign Finance in the Pre-Citizens United Era \(cornellpolicyreview.com\)](https://cornellpolicyreview.com)

log(Total PAC and Receipts)		Quintile1 Fraction	Quintile2 Fraction	Quintile3 Fraction	Quintile4 Fraction	Quintile5 Fraction
	Coefficient	-253.5563 (0.023)**	-35.02308 (0.512)	-133.0082 (0.001)***	-68.51699 (0.001)**	52.6528 (0.000)***
	R ²	0.2998	0.0292	0.5358	0.5337	0.7283

- *P-values in parentheses*
- **significant at 0.10 level*
- ***significant at 0.05 level*
- **** significant at 0.01 level*
- *N = 17*

While the wealthiest Americans are not inherently rent-seeking, these continued assessments of these correlations may prove that disproportionate representation of the wealthiest citizens may lead to a reinforcing effect towards wealth inequality stemming from the problematic structure of money in politics.

In the table below, regressions exhibit how logs of total disbursements correlate with changes in the log of income quintiles using the formula:

$$\text{Log(Income Quintile)} = \beta_1 (\text{log(Total Disbursements)}) + \epsilon,$$

Similar to the regressions above, higher income levels show a greater statistical fit exhibited with larger R² values. The coefficients of PAC disbursements to income groups also increase with wealth by income quintile. All regressions show statistical significance at the 0.01 level. Thus, the regressions below indicate a strong statistical correlation of higher income levels rising at a higher rate with increased PAC disbursement.

Figure 6: Regressions of Log of PAC Disbursements and Log of Income Quintiles (1989 - 2021)		
Income Group	log(Total Disbursements)	R ²
	Coefficient	
Log(Quintile1)	.2588726 (0.000)***	0.5718
Log(Quintile2)	.3430798 (0.000)***	0.8069
Log(Quintile3)	.3253567 (0.000)***	0.8972
Log(Quintile4)	.3282748 (0.000)***	0.9379
Log(Quintile5)	.3829468 (0.000)***	0.9180
<ul style="list-style-type: none"> • <i>P-values in parentheses</i> 		

- ****significant at 0.01 level*
- *N = 17*

Controlling For Income Inequality:

Multiple sets of regressions below use control variables such as expected inflation, labor share, and the relative price of investment goods to control for income inequality.

Controlling with One-Year and Ten-Year Expected Inflation:

Although there are only 17 observations in the sample size, the regressions below control for one-year and ten-year inflation better to isolate the association of changes in long-term disbursements and receipts. These regressions isolate the association of PAC disbursements and receipts using one-year and ten-year expected inflation to control for short and long-term trends and investigate the relationship of employer-employee bargaining power. The formula analyzing the log of PAC disbursements and log of income quintiles controlled by expected inflation is shown below:

$$\text{Log(Income Quintile)} = \beta_1 (\text{log(Total Disbursements)}) + \beta_2 (\text{Expected Inflation}) + \varepsilon,$$

Like the regressions above, the regressions below yield similar results of higher income quintiles exhibiting stronger statistical significance and fitting compared to lower incomes. The mean VIF for each regression is the same for each regression, presenting 2.31 for one-year inflation expectations and 3.62 for ten-year inflation expectations. Notably, the coefficients of one-year and ten-year expected inflation fluctuate across income quintiles. In both models, the lowest income group is most susceptible to changes in expected inflation, and the fourth quintile is least susceptible to inflation expectation changes. Considering that one-year and ten-year expected inflation is highly correlated with corporation profit growth, at -0.7315 and -0.8608,

respectively, the degree of expected inflation may be overestimating the impact of the log of quintile five and quintile four due to structural differences in salaries— mainly attributed to income increases from growth in corporate profits, such as a larger share of the quintiles affected through incentive-based bonuses or equity. A study by the Economic Policy Institute found that 73% of CEO compensation in 2023 comprised stock awards and stock options, which grew to 82% of total compensation in 2021¹⁵. With high multicollinearity between the log of total disbursements and corporate profits, regressions controlling total disbursements with corporate gains proved statistically insignificant, with high mean VIF and low fitting.

Below, the regressions show how changes in expected one-year and ten-year inflation profoundly affect income quintiles. Considering that the VIFs of each model are identical for one-year and ten-year expected inflation with total PAC disbursements, these results exhibit that higher income quintiles are associated with changes in wage bargaining via responsiveness to PAC disbursements and expected inflation. Throughout the figures below, the association of the total influence of total disbursements and its statistical significance increases at higher income quintiles. In comparison, the magnitude of expected inflation decreases at higher income quintiles. Results show that the lowest income quintile has no statistical relationship with PAC disbursements, with the strongest negative association with expected inflation. In other words, results indicate that lower-income Americans benefit marginally less from total PAC disbursements while having less bargaining power in wage settings. Moreover, results indicate declining demand for low-skilled, low-income workers, consistent with declined labor shares in the US since the 1980s, ultimately contributing to low wage bargaining power¹⁶. Considering the

¹⁵ Bivens, Josh & Kandra, Jori. “CEO pay has skyrocketed 1,460% since 1978. CEOs were paid 399 times as much as a typical worker in 2021.” *Economic Policy Institute*. (2022). <https://www.epi.org/publication/ceo-pay-in-2021/>

¹⁶ Leduc, Sylvain and Liu, Zheng. “Are Workers Losing to Robots?” *Federal Reserve Bank of San Francisco*. (2019).

statistically significant relationship between expected inflation and the first income quintile, rather than change in disbursements. Results suggest that the bottom distribution of workers receives marginally less benefits from the initiatives in money in politics.

Figure 7: Regressions of Log of PAC Disbursements and Log of Income Quintiles; Controlled by One-Year Expected Inflation (1989 - 2021)				
Income Group	log(Total Disbursements)	One-Year Expected Inflation	Mean VIF	R ²
	Coefficient	Coefficient		
Log(Quintile1)	0.1227093 (0.122)	-15.18786 (0.028)**	2.31	0.701 0
Log(Quintile2)	0.2535429 (0.000)***	-9.987088 (0.059)*	2.31	0.851 7
Log(Quintile3)	0.2602913 (0.000)***	-7.2575 (0.033)**	2.31	0.926 5

Log(Quintile4)	0.2636211 (0.002)**	-7.21157 (0.003)**	2.31	0.967 6
Log(Quintile5)	0.291497 (0.000)***	-10.20046 (0.002)**	2.31	0.960 8
<ul style="list-style-type: none"> ● <i>P-values in parentheses</i> ● <i>*significant at 0.10 level</i> ● <i>**significant at 0.05 level</i> ● <i>***significant at 0.01 level</i> ● <i>N = 17</i> 				

Figure 8: Regressions of Log of PAC Disbursements and Log of Income Quintiles; Controlled by Ten-Year Expected Inflation (1989 - 2021)

Income Group	log(Total Disbursements)	Ten-Year Expected Inflation	Mean VIF	R ²
	Coefficient	Coefficient		
log(Quintile1)	0.0377743 (0.687)	-26.16359 (0.014)**	3.62	0.7273

log(Quintile2)	0.1955355 (0.018)**	-17.4596 (0.032)**	3.62	0.8625
log(Quintile3)	0.2143939 (0.000)***	-13.13075 (0.011)**	3.62	0.9361
log(Quintile4)	0.2252634 (0.000)***	-12.18982 (0.001)**	3.62	0.9724
log(Quintile5)	0.2384211 (0.000)***	-17.1024 (0.000)***	3.62	0.9667
<ul style="list-style-type: none"> ● <i>P-values in parentheses</i> ● <i>*significant at 0.10 level</i> ● <i>**significant at 0.05 level</i> ● <i>***significant at 0.01 level</i> ● <i>N = 17</i> 				

The formula for analyzing the log of income quintiles controlled by expected inflation on PAC receipts:

$$\text{Log(Total PAC Receipts)} = \beta_1 (\text{log(Income Quintile)}) + \beta_2 (\text{Inflation Control}) + \varepsilon,$$

In the Figures below, the regressions exhibit more substantial statistical significance and magnitudes of coefficients between higher income quintiles and PAC contributions while controlling for one-year expected inflation. Like the Figures above, the lowest quintile does not show statistical significance in this relationship, most likely due to the negligible effect of lower

incomes towards PAC contributions, intuitively from lower income levels. The mean VIF values, when controlling for one-year expected inflation, increase with a higher income quintile while avoiding multicollinearity. However, the mean VIF values for the regression plots using ten-year expected inflation as a control variable show high multicollinearity at the second quintile and above. The first quintile in the ten-year expected inflation model shows a relatively low degree of multicollinearity but no association with changes in PAC Receipts.

The lack of statistical significance between expected inflation and PAC receipts indicates a strong relationship between income quintiles and growth in PAC receipts. The high mean VIF values in the ten-year expected inflation model with income quintiles coefficients yielding statistical significance at the 0.01 level indicate suppression of 10-year expected inflation with similar results to the one-year expected inflation model.

Figure 9: Regressions of Income Quintiles and Total PAC Receipts; Controlled by One-Year Expected Inflation (1989 - 2021)						
		Income Group				
log(Total PAC Receipts)		Log(Quintile 1)	Log(Quintile 2)	Log(Quintile 3)	Log(Quintile 4)	Log(Quintile 5)
	Coefficient	1.131545 (0.183)	2.090262 (0.002)**	2.8408 (0.000)***	2.842358 (0.000)***	2.804343 (0.000)***
	One-Year Expected	-36.68421 (0.131)	-8.978985 (0.614)	3.623932 (0.788)	13.51078 (2.14)	16.40308 (0.201)

	Inflation					
	Mean	2.80	2.89	3.02	3.29	3.59
	VIF					
	R ²	0.6200	0.7866	0.8814	0.9333	0.9152
<ul style="list-style-type: none"> ● <i>P-values in parentheses</i> ● <i>*significant at 0.10 level</i> ● <i>**significant at 0.05 level</i> ● <i>*** significant at 0.01 level</i> ● <i>N = 17</i> 						

Figure 10: Regressions of Income Quintiles and Total PAC Receipts; Controlled by Ten-Year Expected Inflation (1989 - 2021)

		Income Group				
		Log(Quintile 1)	Log(Quintile 2)	Log(Quintile 3)	Log(Quintile 4)	Log(Quintile 5)
log(Total PAC Receipts)	Coefficient	.18959 (0.812)	1.607485 (0.034)**	2.806669 (0.001)**	3.534221 (0.000)***	3.037486 (0.000)***
	Ten-Year	-80.47899	-30.89505	2.668562	25.65426	28.32044

Expected Inflation	(0.010)**	(0.260)	(0.908)	(0.176)	(0.201)
Mean VIF	3.62	4.79	5.89	6.78	7.70
R ²	0.7248	0.8020	0.8808	0.9347	0.9144

- *P-values in parentheses*
- **significant at 0.10 level*
- ***significant at 0.05 level*
- **** significant at 0.01 level*
- *N = 17*

When analyzed together, the four Figures above indicate a reinforcing relationship between income inequality and campaign finance. Results show that in a pre-existing level of income inequality, higher income quintiles, notably the fourth and fifth quintiles, can contribute more to PACs with disproportionately higher representation. In turn, legislators grow increasingly dependent on donations, leading to policy outcomes favoring donors. Figure 7 and Figure 8 quantify this relationship, where higher quintiles receive higher income rates than lower quintiles. Thus, income inequality increases since the top distribution wields greater political power.

Controlling with Labor Share in GDP:

As the Figures above show, bargaining power for lower-income quintiles concerning expected inflation is substantially lower than higher quintile counterparts. These discrepancies in

wage bargaining power may stem from technological changes in productivity— a growing trend since the 1980s. The labor share compensation as GDP captures the growing adoption of capital by firms from increased capital-labor substitutability.

In applying political representation in the money in politics system, lower labor shares, related to broader income distributions, would create less representation for low-income quintiles. The regressions below use labor share compensation in GDP as a proxy for technological shifts toward replacing workers via automation. Below are the formulas for analyzing the log of PAC receipts with labor share compensation in GDP as control, and income quintiles logs, as well as income quintiles as fractional shares:

$$\text{Log(Total PAC Receipts)} = \beta_1 (\text{log(Income Quintile)}) + \beta_2 (\text{Labor Share}) + \varepsilon,$$

$$\text{Log(Total PAC Receipts)} = \beta_1 (\text{Income Quintile Fractional Share}) + \beta_2 (\text{Labor Share}) + \varepsilon,$$

In regressions analyzing the log of income quintiles using labor share as a control, the magnitude of coefficients and statistical fitting between income quintiles and changes of total PAC receipts become larger at higher quintiles compared to lower ones. However, at the top quintile, the coefficient of income growth reflects a smaller magnitude, falling between the second and third quintiles. Notably, the lowest income quintile is the only income quintile in these regressions that exhibits statistical significance with labor share.

In regressions analyzing the fractional distributional share of income with labor share, only the top three quintiles show a statistically significant association with changes in PAC receipts. Similar to the figure above, only the top quintile shows a positive relationship with growth in PAC receipts. The bottom two quintiles show statistical significance within labor share controls but not PAC receipts. Labor share shows more statistical significance in all income quintiles except for quintile 3— which may show changes in the dominance of statistical strength

of higher fractional incomes and PAC receipts in the distributions above compared with the statistical strength of labor share in the distributions below. Overall, these results support the hypothesis of lower incomes having less political representation due to proportionally smaller amounts of income and wage bargaining.

The results below reflect labor share declines since the 1980s. Notably, lower labor shares allude to diminished demand for low-skilled and low-income jobs while increasing productivity and gains for higher-skilled ones— further polarizing income distributions¹⁷. Thus, the regressions in figure 11 further support the role of money in politics via PAC contributions by controlling for changes in capital-labor substitution elasticities.

¹⁷ Dao, Mai Chi, et al. “Drivers of Declining Labor Share of Income” *IMF*. (2023).

Figure 11: Regressions of Income Quintiles and Total PAC Receipts; Controlled by Labor Share (1989 - 2019)						
		Income Group				
log(Total PAC Receipts)		Log(Quintile 1)	Log(Quintile 2)	Log(Quintil e3)	Log(Quintil e4)	Log(Quintil e5)
	Income Quintile Coefficie nt	1.585243 (0.004)**	1.86691 (0.000)**	2.307947 (0.000)***	2.523634 (0.000)***	2.057777 (0.000)***
	Labor Share Coefficie nt	-18.852 (0.091)*	-10.62182 (0.231)	-8.92635 (0.173)	-5.131933 (0.350)	-6.985347 (0.235)
	VIF	1.05	1.44	1.42	1.51	1.46
	R ²	0.6810	0.8099	0.8961	0.9289	0.9173
<ul style="list-style-type: none"> ● <i>P-values in parentheses</i> ● <i>*significant at 0.10 level</i> ● <i>**significant at 0.05 level</i> ● <i>*** significant at 0.01 level</i> ● <i>N = 16</i> 						

Figure 12: Regressions of Income Quintile Fractions and Total PAC Receipts; Controlled by Labor Share (1989 - 2019)						
		Income Group				
log(Total PAC Receipts)		Quintile1 Fraction	Quintile2 Fraction	Quintile3 Fraction	Quintile4 Fraction	Quintile5 Fraction
	Quintile	-130.5121	-19.85588	-86.16832	-52.24795	40.04416
	Coefficien	(0.185)	(0.622)	(0.029)**	(0.001)**	(0.000)***
	t					
	Labor Share	-32.30036	-36.40407	-19.3767	-21.66384	-17.20834
	Coefficien	(0.020)*	(0.013)*	(0.144)	(0.031)**	(0.057)*
t						
VIF	1.05	1.01	1.41	1.17	1.25	
R ²	0.4613	0.3922	0.5770	0.7350	0.7925	

- *P-values in parentheses*
- **significant at 0.10 level*
- ***significant at 0.05 level*
- **** significant at 0.01 level*
- *N = 16*

In the models below, the regressions assess the effect of total disbursements on income quintiles by controlling for labor share, using the same framework simple linear regression formulas as follows:

$$\log(\text{Income Quintile}) = \beta_1 (\log(\text{PAC Disbursements})) + \beta_2 (\text{Labor Share}) + \varepsilon,$$

$$\text{Income Quintile Fraction} = \beta_1 (\log(\text{PAC Disbursements})) + \beta_2 (\text{Labor Share}) + \varepsilon,$$

In the set of regressions modeling the effect of PAC disbursements and changes in incomes, results show statistical significance of PAC disbursements across all income distributions. These models show a positive relationship between total disbursements and incomes for the first, second, fourth, and fifth quintiles. These results may illustrate the competitive nature of PACs in money in politics, as seen in Figure 13. The positive association and statistical significance at the 0.01 level for all distributions except for the third quintile may reflect party affiliation in the US, with low-income Americans generally identifying with democrats—who labor unions typically raise donations for—and high-income Americans generally identifying with republicans, that corporate PACs typically raise for¹⁸. Moreover, these results may indicate deviation from the median voter theorem due to economic polarization¹⁹. The relatively high coefficient of the log of total disbursement with the second quintile may indicate the effectiveness of PACs, such as labor unions, in increasing wages effectively for low-income Americans. However, as shown in Figure 14, the top quintile only shows increasing fractional shares with total disbursements when controlling income effects associated with labor share. Quintiles three and four show statistical significance and a negative relationship with PAC

¹⁸ Pew Research Center. “A Deep Dive Into Party Affiliation.” *Pew Research Center*. (2015).

¹⁹ Groot, L., van der Linde, D. Income inequality, redistribution and the position of the decisive voter. *J Econ Inequal* **14**, 269–287 (2016). <https://doi.org/10.1007/s10888-016-9333-7>

disbursements, while the bottom quintiles do not show statistical significance at all. Overall, these results support the dispositional gains of PAC disbursements for the top 20% of earners.

Figure 13: Separate Regressions of PAC Disbursements Logs and Income Quintiles Logs; Controlled by Labor Share of GDP (1989 - 2021)				
Income Group	log(Total Disbursements)	Labor Share	R ²	Mean VIF
	Coefficient	Coefficient		
log(Quintile1)	.3184989 (0.002)***	.3982923 (0.936)	0.6319	1.58
log(Quintile2)	.3837006 (0.000)***	-.1033077 (0.978)	0.8210	1.58
log(Quintile3)	-.0036717 (0.029)**	1.178592 (0.619)	0.9056	1.58
log(Quintile4)	.3559716 (0.000)***	.2743543 (0.392)	0.9432	1.58
log(Quintile5)	.4278061 (0.000)***	.9305501 (0.695)	0.9294	1.58

- *P-values in parentheses*
- ***significant at 0.05 level*
- ****significant at 0.01 level*
- *N = 16*

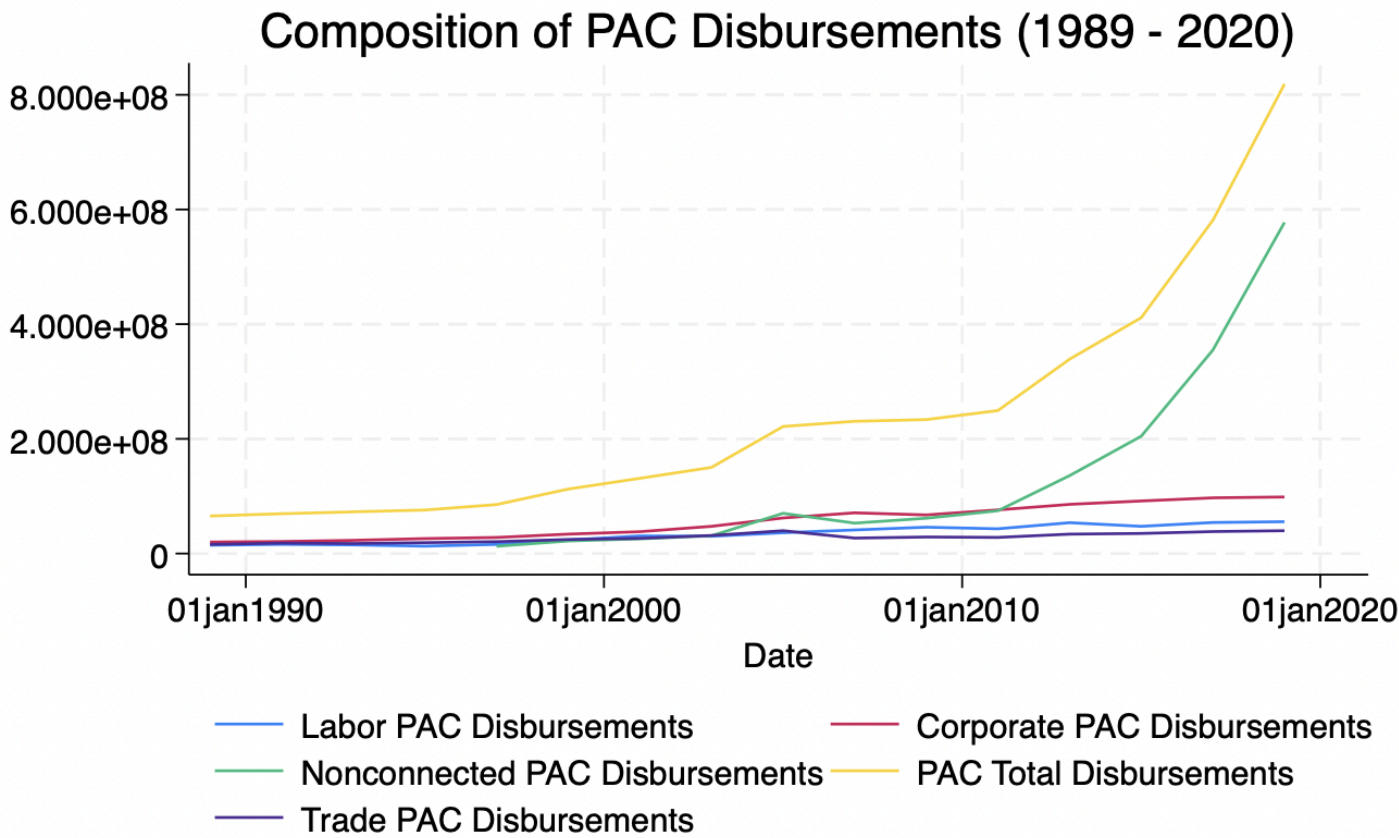
Figure 14: Separate Regressions of PAC Disbursements Logs and Income Quintiles Fractions; Controlled by Labor Share of GDP (1989 - 2021)

Income Group	log(Total Disbursements)	Labor Share	R ²	Mean VIF
	Coefficient	Coefficient		
Quintile1 Fraction	-0.0009159 (0.228)	-0.0044568 (0.917)	0.5290	1.58
Quintile2 Fraction	-0.0006358 (0.747)	-0.0473792 (0.677)	0.0144	1.58
Quintile 3 Fraction	-0.0036717 (0.029)**	.0632126 (0.478)	0.5149	1.58
Quintile 4 Fraction	-0.0113869 (0.000)***	-0.1262683 (0.392)	0.6750	1.58

Quintile 5	.0166104	.1148915	0.9710	1.58
Fraction	(0.000)***	(0.551)		

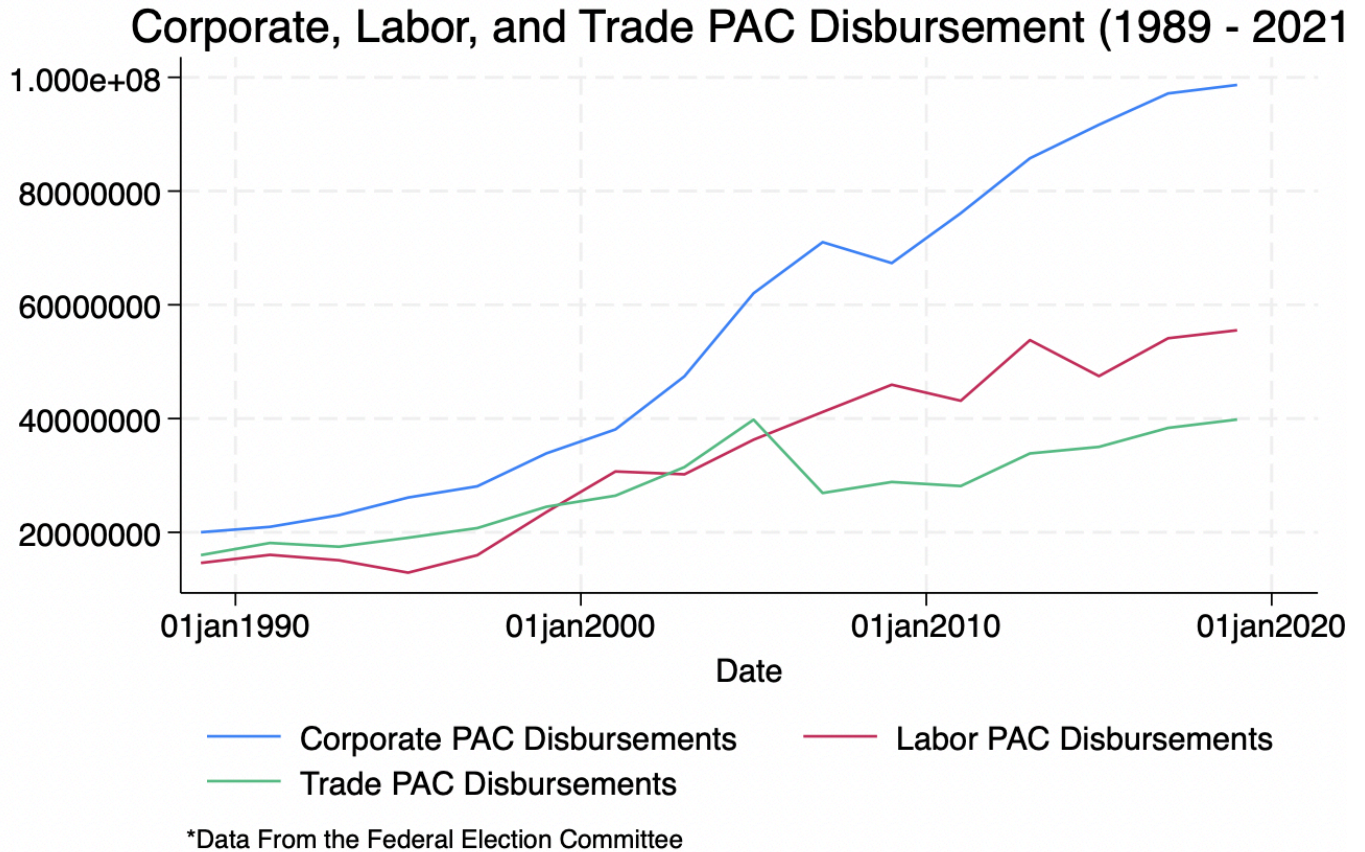
- *P-values in parentheses*
- ***significant at 0.05 level*
- ****significant at 0.01 level*
- *N = 17*

Figure 15:



*Data from the Federal Election Commission

Figure 16:



Another metric associated with labor share, relative price in investment goods, is also regressed with income quintiles and PAC receipts to reflect the price of capital on other consumer goods. The relative price of investment goods is the relative price of capital over the relative price of consumer goods. Below is the formula for analyzing the log of PAC receipts with income quintiles and the relative price in investment goods compensation in GDP:

$$\text{Log}(\text{Total PAC Receipts}) = \beta_1 (\text{log}(\text{Income Quintile})) + \beta_2 (\text{relative price in investment goods}) +$$

$$\varepsilon,$$

$$\text{Log}(\text{Total PAC Receipts}) = \beta_1 (\text{Income Quintile Fractional Share}) + \beta_2 (\text{relative price in investment goods}) + \varepsilon,$$

The models below show similar trends to Figures 11 and 12. The relative price of investment goods has a strong negative association with PAC receipts at the lowest income quintiles when analyzing the percentage changes in incomes. The statistical significance of each coefficient is less robust, considering mean VIFs above 5. However, the high collinearity between the relative price of investment goods and percent changes in income quintiles, with more significant correlations at higher incomes, contributes to interconnections in the relationships between income distribution and share of labor. Moreover, models using fractional shares of incomes indicate multicollinearity to the point of statistical insignificance at the highest quintile. The fractional shares of income regressions exhibit a positive relationship between high-income quintiles and PAC donations, exhibited by quintile four, and a negative relationship between low-income quintiles and PAC donations with the lowest quintile. Ultimately, these results show how PAC receipts increase at growth rates of higher income distributions.

Figure 17: Regressions of Income Quintile Logs and Total PAC Receipts Logs; Controlled by Relative Price of Investment Goods (1989 - 2019)						
		Income Group				
log(Total PAC Receipts)		Log(Quintile 1)	Log(Quintile 2)	Log(Quintile 3)	Log(Quintile 4)	Log(Quintile 5)
	Coefficient	-0.9164356 (0.079)*	-0.2333826 (0.766)	1.299037 (0.322)	4.464284 (0.007)**	2.850678 (0.095)*
	Relative Price of Investment Goods Coefficient	-2.787815 (0.000)***	-2.355518 (0.004)**	-1.157904 (0.265)	1.275972 (0.264)	.4327754 (0.771)
	Mean	4.12	10.37	24.18	46.76	59.21
	VIF					
	R ²	0.9068	0.8838	0.8912	0.9318	0.9049

- *P-values in parentheses*
- **significant at 0.10 level*
- ***significant at 0.05 level*
- **** significant at 0.01 level*

Figure 17: Regressions of Income Quintile Logs and Total PAC Receipts Logs; Controlled by Relative Price of Investment Goods (1989 - 2019)						
		Income Group				
log(Total PAC Receipts)		Log(Quintile 1)	Log(Quintile 2)	Log(Quintile 3)	Log(Quintile 4)	Log(Quintile 5)
	Coefficient	-0.9164356 (0.079)*	-0.2333826 (0.766)	1.299037 (0.322)	4.464284 (0.007)**	2.850678 (0.095)*
	Relative Price of Investment Goods Coefficient	-2.787815 (0.000)***	-2.355518 (0.004)**	-1.157904 (0.265)	1.275972 (0.264)	0.4327754 (0.771)
	Mean	4.12	10.37	24.18	46.76	59.21
	VIF					
	R ²	0.9068	0.8838	0.8912	0.9318	0.9049

• $N = 17$

Figure 18: Regressions of Income Quintile Fractions and Total PAC Receipts Logs;
Controlled by Relative Price of Investment Goods (1989 - 2019)

		Income Group				
log(Total PAC Receipts)		Quintile1 Fraction	Quintile2 Fraction	Quintile3 Fraction	Quintile4 Fraction	Quintile5 Fraction
	Coefficient	-103.516 8 (0.013)**	-26.08017 (0.156)	-10.49518 (0.682)	38.9143 (0.019)**	3.131925 (0.810)
Relative Price of Investment Goods Coefficient	-1.96619 1 (0.000)* **	-2.147309 (0.000)***	-2.061066 (0.000)***	-2.999072 (0.000)***	-2.056177 (0.001)***	
Mean VIF	1.17	1.00	3.20	4.38	5.15	
R ²	0.9258	0.8992	0.8845	0.9223	0.8835	

- *P-values in parentheses*
- **significant at 0.10 level*
- ***significant at 0.05 level*
- **** significant at 0.01 level*

Figure 18: Regressions of Income Quintile Fractions and Total PAC Receipts Logs;
Controlled by Relative Price of Investment Goods (1989 - 2019)

		Income Group				
log(Total PAC Receipts)		Quintile1 Fraction	Quintile2 Fraction	Quintile3 Fraction	Quintile4 Fraction	Quintile5 Fraction
	Coefficient	-103.516 8 (0.013)**	-26.08017 (0.156)	-10.49518 (0.682)	38.9143 (0.019)**	3.131925 (0.810)
Relative Price of Investment Goods Coefficient	-1.96619 1 (0.000)* **	-2.147309 (0.000)***	-2.061066 (0.000)***	-2.999072 (0.000)***	-2.056177 (0.001)***	
Mean VIF	1.17	1.00	3.20	4.38	5.15	
R ²	0.9258	0.8992	0.8845	0.9223	0.8835	

• $N = 17$

The figure below models the log of total disbursements and log of income quintiles, controlled by the relative price of investment goods using the following equation:

$$\text{Log}(\text{Income Quintile}) = \beta_1 (\text{Total PAC Disbursements}) + \beta_2 (\text{relative price in investment goods}) + \varepsilon,$$

The results of this model are not robust considering the high multicollinearity of 8.97 between all regressions. However, consistent with the models in Figure 17 and Figure 18 above, the overall fitting of these models increases with income groups. The strong collinearity between the relative price of investment goods may reflect increased market concentration considering the price of machinery and equipment in advanced, emerging, and developing countries from high productivity growth rates in capital goods-producing sectors²⁰. Similarly, since the early 2000s, the correlation between market concentration and productivity became negative— with higher concentration levels and lower productivity resulting in higher consumer prices and corporate profits before tax. According to a McKinsey study, weak productivity accounts for half of the gap between historical productivity growth and median wage growth²¹. Therefore, firms that have high market concentrations with low productivity most likely stem from political cooperation, in turn, stagnant wage growth and lower bargaining power. Lowered relative price of investment goods from market concentration can also decrease labor share, as seen in Figure 18, providing non-technological evidence of increasing capital-labor substitution from political cooperation. Thus, aggregate slowing productivity growth coupled with increasing capital-labor substitutions exhibit evidence for increasing inequality; thus, these differences in productivity rates between capital and labor reflect the declining relative price of investment capital and labor

²⁰ Lian, W., Novta, N., Pugacheva, E. *et al.* The Price of Capital Goods: A Driver of Investment Under Threat. *IMF Econ Rev* 68, 509–549 (2020). <https://doi.org/10.1057/s41308-020-00118-0>

²¹ Manyika, James. Et al. “A new look at the declining labor share of income in the United States.” McKinsey Global Institute. 2019.

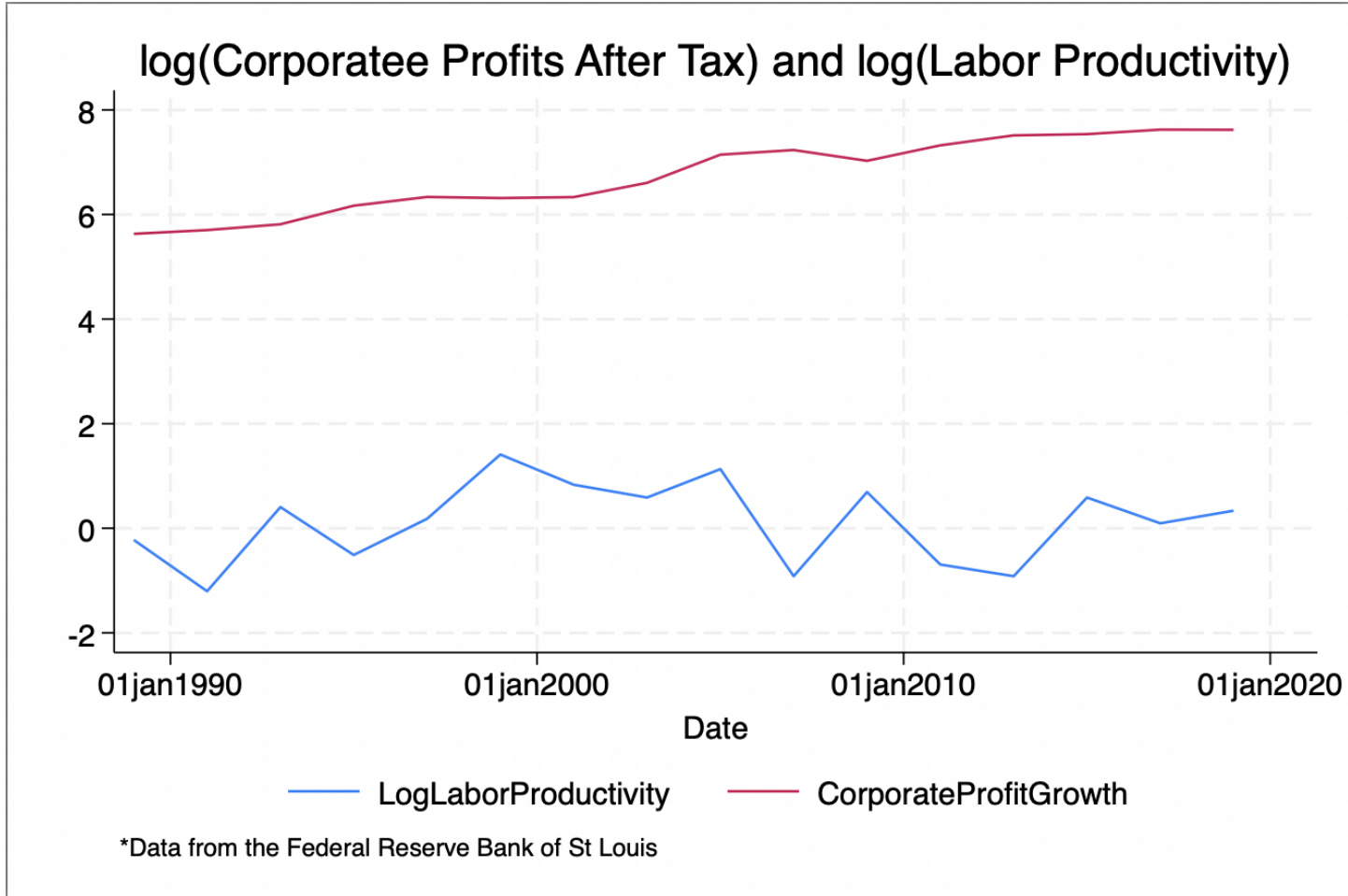
share trends from the past three decades. For instance, industries with higher HHI growth, such as interactive media services and telecom, can attribute more capital stock increases to consolidation and capital-labor substitutability. Explaining this negative relationship between market concentration and labor productivity, Thomas Philippon finds that the elasticity of firm entry to the market-to-book values of industries has decreased in industries with unprecedented amounts of lobbying and regulations— suggesting a higher prevalence of rent-seeking behavior²². Thus, this reasoning explains the high multicollinearity between total disbursements and the relative price of investment goods.

Figure 19: Regressions of PAC Disbursements Log and Income Quintile Log; Controlled by PIRIC (1989 - 2021)				
Income Group	log(Total Disbursements)	Relative Price of Investment Goods	R ²	Mean VIF
	Coefficient	Coefficient		
log(Quintile1)	-.1967215 (0.136)	-1.10973 (0.002)***	0.7941	8.97
log(Quintile2)	.0077643 (0.936)	-.8167569 (0.002)***	0.9036	8.97
log(Quintile3)	-.0036717	-.610181	0.9639	8.97

²² Philippon, Thomas. “The Economics and Politics of Market Concentration” *NBER THE REPORTER: NO. 4*. (2019)

	(0.029)**	(0.000)***		
log(Quintile4)	.1094507 (0.001)***	-.5330087 (0.000)***	0.9902	8.97
log(Quintile5)	.0843196 (0.030)**	-.7273921 (0.000)***	0.9881	8.97
<ul style="list-style-type: none"> ● <i>P-values in parentheses</i> ● <i>**significant at 0.05 level</i> ● <i>***significant at 0.01 level</i> ● <i>N = 17</i> 				

Figure 20:



Backwards Selection Regression Models:

Below show a series of backward selection machine learning regression models that uncover the most statistically significant PAC disbursements with changes in incomes by quintile. It is worth mentioning that Super PACs fall under ‘Non Connected Disbursements’, which produced an unprecedented amount of cash flows after the 2010 ruling of *Citizens United v. FEC*. Unfortunately, since Super PACs are a broad category of unlimited contributions from various sectors and quintiles, data availability to break down nonconnected disbursements was not attainable.

The model below still alludes to the consistency of the relationship between campaign finance and income inequality. Quintiles four and five are the only income groups that receive gains in income from non-connected PAC disbursements. Moreover, low-income quintiles receive higher growth in income from labor PAC disbursements, while it diminishes in higher-income quintiles. Although these results are not fully robust due to the nature of Super PAC data and the limited number of observations, the statistical significance of variables, increasing statistical fit, and relatively low multicollinearity in the same logical reasoning of this study provide a strong foundation for further research.

Figure 22: Backward Selection Regressions of PAC Disbursements by Type and Income Quintiles (1989 - 2021)						
Income Group	log(Corporate Disbursements)	log(Labor Disbursements)	log(Trade Disbursements)	log(NonConnected-Disbursements)	R ²	Mean VIF
	Coefficient	Coefficient	Coefficient	Coefficient		
log(Quintile1)	-	.3598593 (0.005)**	-	-	0.5290	3.68
log(Quintile2)	-	.5648802 (0.000)***	-	-	0.8366	1.00
log(Quintile3)	-	.5194894 (0.000)***	-	-	0.8978	1.00

log(Quintile4)	-	.2449499 (0.002)**	-	.095763 (0.000)***	0.9728	4.27
log(Quintile5)	-	.2962952 (0.002)**	-	0.2962952 (0.001)***	0.9710	4.27
<ul style="list-style-type: none"> ● <i>P-values in parentheses</i> ● <i>**significant at 0.05 level</i> ● <i>***significant at 0.01 level</i> ● <i>N = 17</i> 						

Below, are five separate backward selection regressions picking the statistically strongest PAC type (disregarding Super PACs) for each change in income, with additional explanatory variables. The backward selection models selected changes in labor disbursements to have a statistically significant relationship with the lowest two quintiles of income, with a positive association and high statistical significance. The top three quintiles positively correlate with changes in corporate PACs and labor productivity. The statistical significance of labor productivity may reflect expansion in the business cycle to increase incomes. Overall, these results support the sheer influence and competitiveness of money in politics, as well as disproportionate gains for more affluent quintiles.

Figure 23: Backward Selection Regressions of PAC Disbursements by Type and Income Quintiles (1989 - 2021)

Income	log(Corporate)	log(Labor Disbursements)	log(Trade Disbursements)	log(Unemployment)	log(Labor Productivity)	log(One-Year)	log(Ten-Year)	R ²	Me
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Group	Disbursements)	ts)	ts)	nt Rate)		Expected Inflation)	Expected Inflation)		an VI F
	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient		
log(Quintile 1)	-	0.5107262 (0.000)***	-	-	-	-	-	0.817	1.00
log(Quintile 2)	-	.6074598 (0.000)***	-	-	-	-	-	0.926	1.00
log(Quintile 3)	.5026925 (0.000)***	-	-	-	.0508319 (0.002)**	-	-	0.945	1.01
log(Quintile 4)	.4937187 (0.000)***	-	-	-	.0541059 (0.001)**	-	-	0.948	1.01
log(Quintile 5)	.5849541 (0.000)***	-	-	-	.0634579 (0.000)***	-	-	0.956	1.01

	ent	t	nt		ient	t	ient		
log(Quintile1)	-	-.6839931 (0.000)** *	-	-	-	-	-	0.7573	1.00
log(Quintile2)	-	-.8335601 (0.000)** *	-	-	-	-	-	0.9036	1.00
log(Quintile3)	-	-.7721681 (0.000)** *	-	-	-	-	-	0.9586	1.00
log(Quintile4)	.1094507 (0.001)**	-.5330087 (0.000)** *	-	-	-	-	-	0.9902	8.97
log(Quintile5)	.0843196 (0.030)**	-.7273921 (0.000)**	-	-	-	-	-	0.9881	8.97

- *P-values in parentheses*
- **significant at 0.10 level*
- ***significant at 0.05 level*
- ****significant at 0.01 level*
- *N = 17*

While the backward selection ML regressions do not provide robust causal effects— the nature of the algorithm selecting statistically significant variables in the reasoning of this research provides a foundation for the interaction between PAC disbursement and income inequality.

Explanations for the Reinforcing Effect:

In the most basic sense, evidence of the effect and associations of the economic environment are reflected in the political scope and back through money in politics. For every one percent increase in the GINI index from 1989 to 2021, there is a 129MM increase in PAC disbursements. There is undoubtedly an association between income inequality and money in politics in the US system. Based on the evidence above, the interlinkages between the association of campaign finance and income inequality present multiple possible causes, most likely interconnected with different weights and conditions. These findings set a precedent for market concentration and cyclical market catalysts to bridge the gap between inequality and money-in-politics while the conflict theory of inflation framework amplifies these interconnections.

The Market Concentration Catalyst:

Political leverage for businesses to increase market concentration may be a catalyst for increasing inequality, thus reinforcing the leverage of corporations and high-income individuals in the American System. Increased market concentration with technological advancement, in turn, decreases labor share and the relative price of investment goods but increases the firm's ability to set higher consumer prices. Notably, US capital deepening in the past 3 decades coincided with declining prices of investment goods relative to consumer prices. A report by the IMF found that an increase in market power can account for a 76% decline in labor share in manufacturing²³. Simultaneously, market concentration in manufacturing has grown slower than in non-manufacturing sectors from 1997 to 2012, whereas the Herfindahl-Hirschman Index (HHI) has increased in 70% of US industries since 1998²⁴. Based on the shift of a positive correlation to a negative correlation between corporate profit growth and labor productivity in tandem with the declining relative price of investment goods— labor share decreased with bargaining power, disproportionately affecting low-income quintiles. In turn, income inequality increased, coinciding with greater competitiveness of money in politics. Due to the profits gained from increased market concentration, corporations could defend their prerogative of the bottom line through campaign finance. Similarly, the wealthiest 1%, who hold 54% of corporate equities and mutual-fund shares, also benefit from corporate profits and account for higher representation. As a result, labor PACs increased spending to compete. However, due to increased prices and lower wages, as seen by decreased relative price of investment and labor share— labor unions inherently have less bargaining power in campaign finance. Intuitively, this leads to legislators favoring policies for corporations and the ultra-wealthy for policymakers to

²³Velasquez, Agustin. "Production Technology, Market Power, and the Decline of the Labor Share." *IMF Working Paper*. 2023.

²⁴Hatzius, Jas. Et al. "Concentration, Competition, and the Antitrust Policy Outlook (Briggs/Phillips)." *Goldman Sachs*. (2021)

keep a source of funding or incumbency. Similarly, retained corporate profits through the lens of the McNollgast Theory and the Information Acquisition and Procurement Hypotheses would lead to similar outcomes of firm earnings to safeguard future profits²⁵²⁶²⁷²⁸. With higher corporate profits, rent-seeking firms may increase market concentration through policy influence of regulation, patent law, copyright protection, tax loopholes, occupational licensing, and non-compete agreements. Thus, barriers to entry are higher, and corporate profit and leverage increase with inequality and political weight, creating a reinforcing effect. This reinforcing catalyst only holds if firms increase relative prices and lower relative wages due to increased market concentration.

While market concentration is not solely deterministic per se on firms forming rent-seeking policies, previous literature provides evidence of mechanisms such that high-profit, collusive industries are more inclined to form lobby groups due to immediate revenue gains from such action. Richard Damania and Per G. Fredriksson found that in highly collusive industries, firms are more likely to offer independent contribution schedules to create such outcomes. In a game theory framework, when lobbying payoffs trump the outcomes of freeriding, firms will always lobby²⁹. Theoretically, even in non-collusive industries where the payoffs of freeriding

²⁵ McCubbins, M.D., Noll, R.G., and Weingast, B.R. “Administrative Procedures as Instruments of Political Control”, in Martin Lodge, Edward C. Page, and Steven J. Balla (eds), *The Oxford Handbook of Classics in Public Policy and Administration*, Oxford Handbooks (2015; online edn, Oxford Academic, 7 July 2016), <https://doi.org/10.1093/oxfordhb/9780199646135.013.1>,

²⁶ Ovtchinnikov, A. Reza, S, and Wu, Y. “Political Activism and Firm Innovation.” *Harvard Law School Forum on Corporate Governance*. (2016). Retrieved from: [Political Activism and Firm Innovation \(harvard.edu\)](https://www.harvardlawreview.org/Political-Activism-and-Firm-Innovation/)

²⁷ McCubbins, M.D., Noll, R.G., and Weingast, B.R. “Administrative Procedures as Instruments of Political Control”, in Martin Lodge, Edward C. Page, and Steven J. Balla (eds), *The Oxford Handbook of Classics in Public Policy and Administration*, Oxford Handbooks (2015; online edn, Oxford Academic, 7 July 2016), <https://doi.org/10.1093/oxfordhb/9780199646135.013.1>,

²⁸ Ovtchinnikov, A. Reza, S, and Wu, Y. “Political Activism and Firm Innovation.” *Harvard Law School Forum on Corporate Governance*. (2016). Retrieved from: [Political Activism and Firm Innovation \(harvard.edu\)](https://www.harvardlawreview.org/Political-Activism-and-Firm-Innovation/)

²⁹ Damania, R. Per G. Fredriksson. “On the formation of industry lobby groups.” *Journal of Economic Behavior & Organization* 41, No. 4. (2000): 315-335. [https://doi.org/10.1016/S0167-2681\(99\)00079-7](https://doi.org/10.1016/S0167-2681(99)00079-7)

are higher, the fragmented nature of such industry would cause freeriding firms to ultimately lose profits to lobbying firms as politically active firms fundamentally change the legislative environment³⁰. Industries such as oil and pharmaceuticals exhibit a high correlation between lobbying and HHI³¹. As a result, firms may create favorable regulatory and legislative environments as seen in process-based frameworks such as the McNollgast Theory. Therefore, higher concentration with increased inequality exacerbates the political leverage of firms, creating a reinforcing effect for firms to maintain political influence.

Cyclical Market Catalyst:

Another catalyst in reinforcing the relationship between income inequality and money in politics could be the cyclical nature of business cycles and inflation. Multiple sources of evidence, such as from Pierre Monnin and Edmond Berisha, find income inequality to contemporaneously decrease as inflation rises when income inequality is initially low and reaches an inflation maximum where income inequality rises again^{32,33}. Since inflation positively correlates with business cycles during expansion, when inflation reaches an inequality inflection point, where inequality rises with inflation from differences in expected inflation, structural changes in inequality in the distribution of resources and opportunities resonate into the next expansion cycle. This theory of reinforcing inequality may be more present in overheating economies where economic growth depends on interest rate shifts and domestic consumption. In turn, this leads to domestic policies favoring credit expansion as a welfare tactic in an attempt to

³⁰ Kerr, William R., William F. Lincoln, and Prachi Mishra. "The Dynamics of Firm Lobbying." *American Economic Journal: Economic Policy* 6, no. 4 (2014): 343–79. <http://www.jstor.org/stable/43189413>.

³¹ Showalter, R. *Democracy for Sale: Examining the Effects of Concentration on Lobbying in the United States*. *American Economic Liberties Project, Working Paper Series on Corporate Power*, (2021).

³² Berisha, Edmond and Dubey, Ram Sewak and Gharehgozli, Orkideh. "Inflation and Income Inequality: Does the Level of Income Inequality Matter?" *Applied Economics*, 55:37, 4319-4330, (2023) DOI: [10.1080/00036846.2022.2128293](https://doi.org/10.1080/00036846.2022.2128293)

³³ Monnin, Pierre. "Inflation and Income Inequality in Developed Economies" *CEP Working Paper*, (2014)

equalize excess production rather than implementing policies to address systemic inequality. In democratic countries like the US, with a high prevalence of money in politics, financialization, and a higher propensity for short-term economic gain, policymakers are more inclined to create expansionary policies before reelection to maintain incumbency. In turn, high inflation before election cycles increases inequality and provides more political leverage to the affluent end of the distribution.

The results shown in this study may also provide evidence for the cyclical market catalyst hypothesis, given the suppression of expected inflation in these models. Repression of expected inflation may indicate a bridge between expected inflation and PAC receipts, given that expected inflation may be seen as a proxy for disagreement in inflation forecasts and overall economic uncertainty³⁴. In theory, donors increase spending in the face of economic uncertainty to safeguard prerogatives. Evidence from Edward Kane supports this notion, finding that interests mobilize contingent to the degree of inflation³⁵. However, this association between expected inflation and PAC receipts may also stem from increased asset volatility prior to elections when the probability of a non-incumbent president is high³⁶. Economic and political uncertainty associated with PAC spending may indicate that the relationship between expected inflation and PAC spending may be more associated than deterministic— given the inherent economic uncertainty of future policy direction influencing financial and economic markets. Nevertheless, evidence finds a *political risk premium* in financial markets unrelated to economic uncertainty,

³⁴ Rich, R. & Joseph Tracy. “The Relationship between Expected Inflation, Disagreement, and Uncertainty: Evidence from Matched Point and Density Forecasts.” *Federal Reserve Bank of New York Staff Report No. 253*. (2006)

³⁵ Kane, E. “External Pressure and the Operations of the Fed.” *Political Economy of International and Domestic Monetary Relations*, (1982).

³⁶ Goodell, J.W. et al. “Election uncertainty, economic policy uncertainty and financial market uncertainty: A prediction market analysis.” *Journal of Banking & Finance 110* (2020).
<https://doi.org/10.1016/j.jbankfin.2019.105684>

but with purely political outcomes that grow in the face of economic uncertainty³⁷. Thus, firms may be more inclined to donate in the face of political and economic uncertainty to mitigate the risk of an unfavorable policy environment. Economic uncertainty may also lead to lower economic activity, and with it decreased flows of information³⁸. In application to the game theory model proposed by Damania and Frederiksson, lower information flows suggest less money-in-politics influence from firms that are inherently non-collusive. In contrast, collusive firms may strategically hold spending higher relative to political competition. For instance, collusive oil companies may decide to spend while environmental groups are unable to coordinate actions in response. Thus, the nature of collusive industries proves advantageous in fundraising amid business cycle fluctuations as political spending competitors who are not as well-organized fail to reap political fruits.

Conflict Theories of Inflation Applied to Inequality and Money in Politics:

Another theory of this reinforcing effect between income inequality and money in politics is through the framework of Robert Rowthorn, where conflict over wages and prices from expected inflation leads to inequality. Rowthorn also discusses how a low elasticity of substitution between capital and labor can lead to rising income inequality. If the elasticity of substitution is less than one, then a rising capital/labor ratio will tend to raise labor's share unless biased technical progress offsets the effect³⁹.

In Rowthorn's *Conflict, Inflation, and Money*, conflict in Rowthorn's model extends from expected inflation. If firms expect higher future inflation, since they seek to maximize profits by

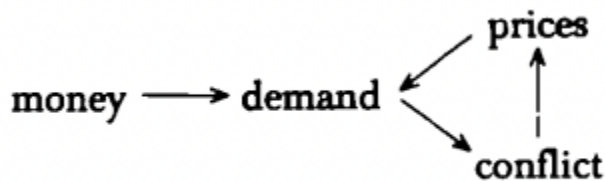
³⁷ Pástor, L. & Pietro Veronesi. "Political uncertainty and risk premia." *Journal of Financial Economics* 110, (2013): 520 -545

³⁸ Fernández-Villaverde, J. & Pablo A. Guerrón-Quintana. "Uncertainty shocks and business cycle research." *Review of Economic Dynamics* 37, no. 1. (2020): 118-146. <https://doi.org/10.1016/j.red.2020.06.005>

³⁹ Rowthorn, R. "Capital Formation, Technical Progress and the Distribution of Income." *Cambridge Journal of Economics* 16, no. 1 (1992): 57-75. doi:10.1093/oxfordjournals.cje.a035276.

holding wages as low as operationally possible. Similarly, if workers expect higher future inflation, workers demand higher wages to compensate for their income. This difference between the share of income workers aspire to receive and the share of income they actually receive—the aspiration gap can be positive or negative and is generally wider for lower-income distributions. Essentially the wider the aspiration gap, the more conflict, and sequent inflation. Results from this paper support evidence that higher income quintiles are less affected by inflationary pressures and thus have higher bargaining power and rates of PAC donations. Moreover, affluent quintiles are less susceptible to higher inflation expectations, statistically associated with higher actual inflation levels⁴⁰. Rowthorn’s conflict theory of inflation in itself is a reinforcing cycle where demand for money spurs conflicts and prices, driving demand for money again.

Rowthorn’s basic model:



Rowthorn’s wage-price conflict framework, described as the aspiration gap, essentially explains the amplification of inequality via reinforcing wage and price bargaining power. This exacerbation of income inequality through inflation essentially reinforces the money in the political system through the catalysts of increased market concentration and business cycles: implicit conflict between workers and firms, consumers and price setters, and collusive and non-collusive firms generate higher prices, leading to higher money demand.

⁴⁰ Adrian, T. “The Role of Inflation Expectations in Monetary Policy.” *IMF*. (2023). Retrieved from: <https://www.imf.org/en/News/Articles/2023/05/15/sp-role-inflation-expectations-monetary-policy-tobias-adrian>

Bolstering demand through monetary and fiscal policy increases wage-price conflict and results in higher discrepancies of bargaining power between capitalists and workers. Since there is a preexisting amount of inequality, amplified money demand exacerbates inequality and the distribution of resources. Rowthorn notes the profound effect of monetary policy, reasoning that the role of money has a direct causal link to prices. Guido Lorenzoni and Ivan Werning show a modernized comprehensive version of Rowthorn's model, exhibiting how monetary and fiscal policy affect both parts of the subsequent relationship between demand and conflict, with labor relationships, energy prices, and expectations contributing to further conflict⁴¹. The regressions in this analysis reason that the impacts of monetary policy are baked into the inflation expectations, considering the US's dependence on the Federal Reserve. Recent evidence that inflation expectations are lower in countries with strong monetary policy supports this reasoning⁴². Moreover, evidence from Kevin Grier shows how Senate Banking Committee leaders are motivated via constituencies which produce campaign funds to influence the ease and tightness of monetary policy. Notably, Grier finds a distinct divergence between senators representing of constituencies which provide low funding versus those with high funding⁴³. However, despite Grier's evidence, John Wooley finds a more nuanced approach in that Congressional influence only influences the Fed when "sufficiently aroused", asserting that "Presidents do not get what they want, but are *usually* not *very* happy with the policy they get" in that the Fed's duty is to "rarely provoke the president" concerning policy interests. While there is not much literature investigating the immediate influence of politicians on monetary policy, as

⁴¹ Lorenzoni, G & Ivan Werning. "Inflation is Conflict." *National Bureau of Economic Research WORKING PAPER 31099*. (2023). Doi 10.3386/w31099

⁴² Adrian, T. "The Role of Inflation Expectations in Monetary Policy." *IMF*. (2023). Retrieved from: <https://www.imf.org/en/News/Articles/2023/05/15/sp-role-inflation-expectations-monetary-policy-tobias-adrian>

⁴³ Grier, K. "Congressional influence on U.S. monetary policy: An empirical test." *Journal of Monetary Economics*, 28, No. 2. (1991): 201- 220.

Wooley describes most as a “horse-race journalistic coverage”, the design of the Fed concerning politicians inherently limits Fed independence⁴⁴. However, as a monetary regime which favors inflation more than the alternative, regardless for macroeconomic stability and growth or the interests of politicians, it is possible, in a monetary lens, the innate growth of the monetary base systemically promotes price conflict.

Rowthorn also asserts that political and ideological factors are critical, reasoning that political and ideological influences may create disproportionate market power in bargaining for wages and setting prices. Rowthorn explains that the prowess of political and ideological factors can manipulate demand— which is the regulator of conflict “imposing a discipline on the private sector.⁴⁵” When the greed of politicians insufficiently neglects the discipline of the private sector, price conflict spirals to a point that makes us firms and consumers subject to the market.

Limitations:

Since the FEC only provides data in tandem with congressional and presidential elections, data is two years apart, and there are only 17 observations from 1989 to 2023. Data from the FEC prior to 1989 proved inconsistent with calculations after 1989. The lack of data available to show specific breakdowns of PAC receipts and disbursements, especially after the decision of *United Citizens V. FEC*, blurs the robustness of the machine learning regressions. Moreover, the scope of this study primarily focuses on variables endogenous to the US. Notably, trade costs for capital-intensive industries would be advantageous in analyzing the relationship between inequality and money-in-politics.

Implications:

⁴⁴ Woolley, John T. “The Politics of Monetary Policy: A Critical Review.” *Journal of Public Policy* 14, no. 1 (1994): 57–85. <http://www.jstor.org/stable/4007563>.

⁴⁵ Rowthorn, R. E. “Conflict, Inflation and Money.” *Cambridge Journal of Economics* 1, no. 3 (1977): 215–39. <http://www.jstor.org/stable/23596632>.

Considering the disproportionate representation of top earners and corporations—aggressive taxes on high-income and corporations may prove beneficial to mitigate inequality and majoritarian representation. In a Rowthorn paradigm, this may increase overall inflation, which may be problematic in terms of the demand for money and force the Federal Reserve to implement more aggressive policies to combat inflation. Thus, it may be more beneficial to stress the implementation of progressive taxes on PAC donations to increase the representation of the majority by increasing the leverage of labor unions. Those in the camp of Lawrence Lessig even proposed a new Constitutional Convention to reject defeatism.

Policies should implement investment in human capital with the specific goal of increasing human labor productivity rather than implementing credit expansion as a welfare bandaid. The advent of generative AI and its policy responses in the coming years is imperative to foster a societal trajectory where human capital productivity growth is at a higher rate or at capital productivity to increase labor share, mitigate inequality, and increase representation for low-income quintiles.

Conclusion

Overall, evidence shows a reinforcing effect between campaign finance and income inequality in the US. Higher Quintiles have more relative leverage in donating and benefit from increased representation despite changes in expected inflation, labor share, and the relative price of investment goods. The need for politicians to remain incumbent through financing explains this reinforcing effect, which amplifies disproportionate representation and the implementation of policies to benefit those that donate the most specifically. Moreover, market concentration via policies plays a prominent role in reinforcing this relationship.

Other Regression Models and Figures:

Separate Regressions of Total PAC Receipts with One-Year Expected Inflation, Ten-Year Expected Inflation, GPDI, and CPI (1989 - 2021)								
log(Total Receipts)	log(CPI)		log(Corporate Profit Growth)		Relative Price of Investment Goods Coefficient		log(Welfare Investment)	
	Coefficient	R ²	Coefficient	R ²	Coefficient	R ²	Coefficient	R ²
	3.714803 (0.000) ***	0.9206	1.207604 (0.000)* **	0.9025	-2.16098 (0.000)* **	0.8830	1.453874 (0.000) ***	0.8488

- *P-values in parentheses*
- **significant at 0.10 level*
- ***significant at 0.05 level*
- ****significant at 0.01 level*
- *N = 17*

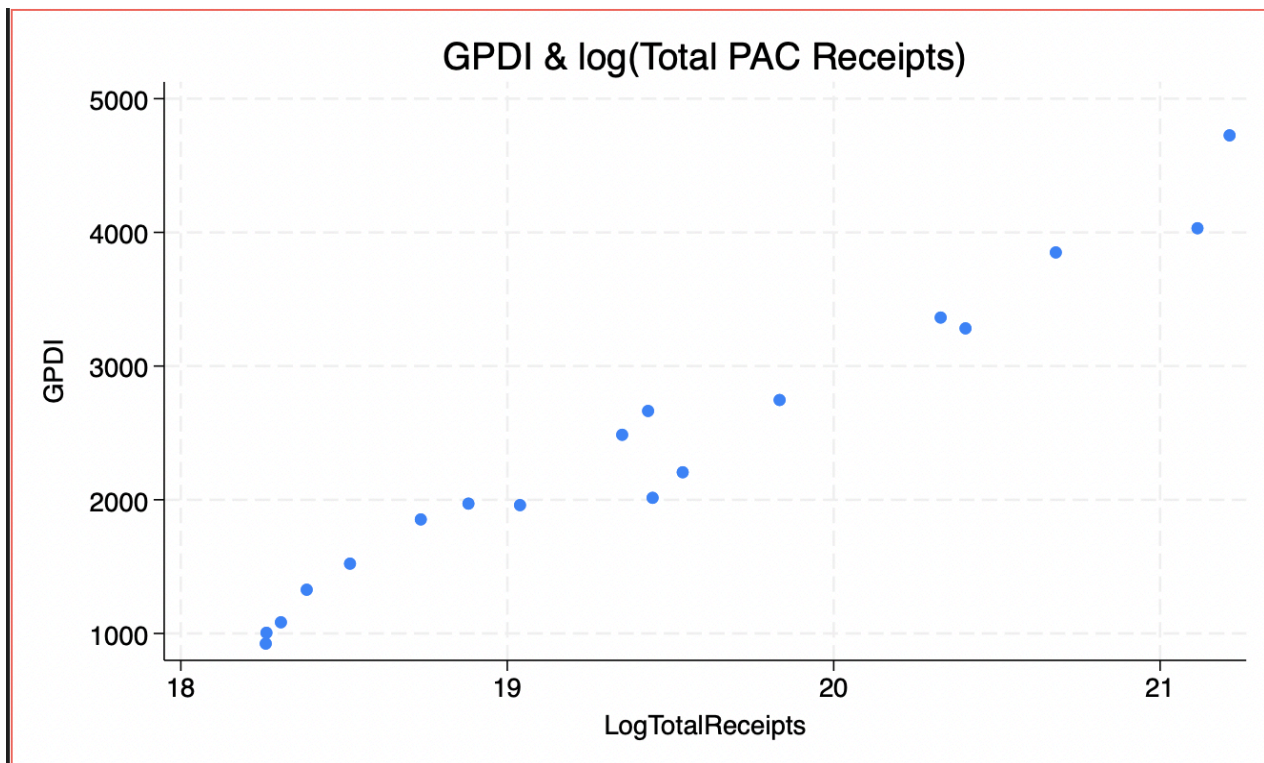
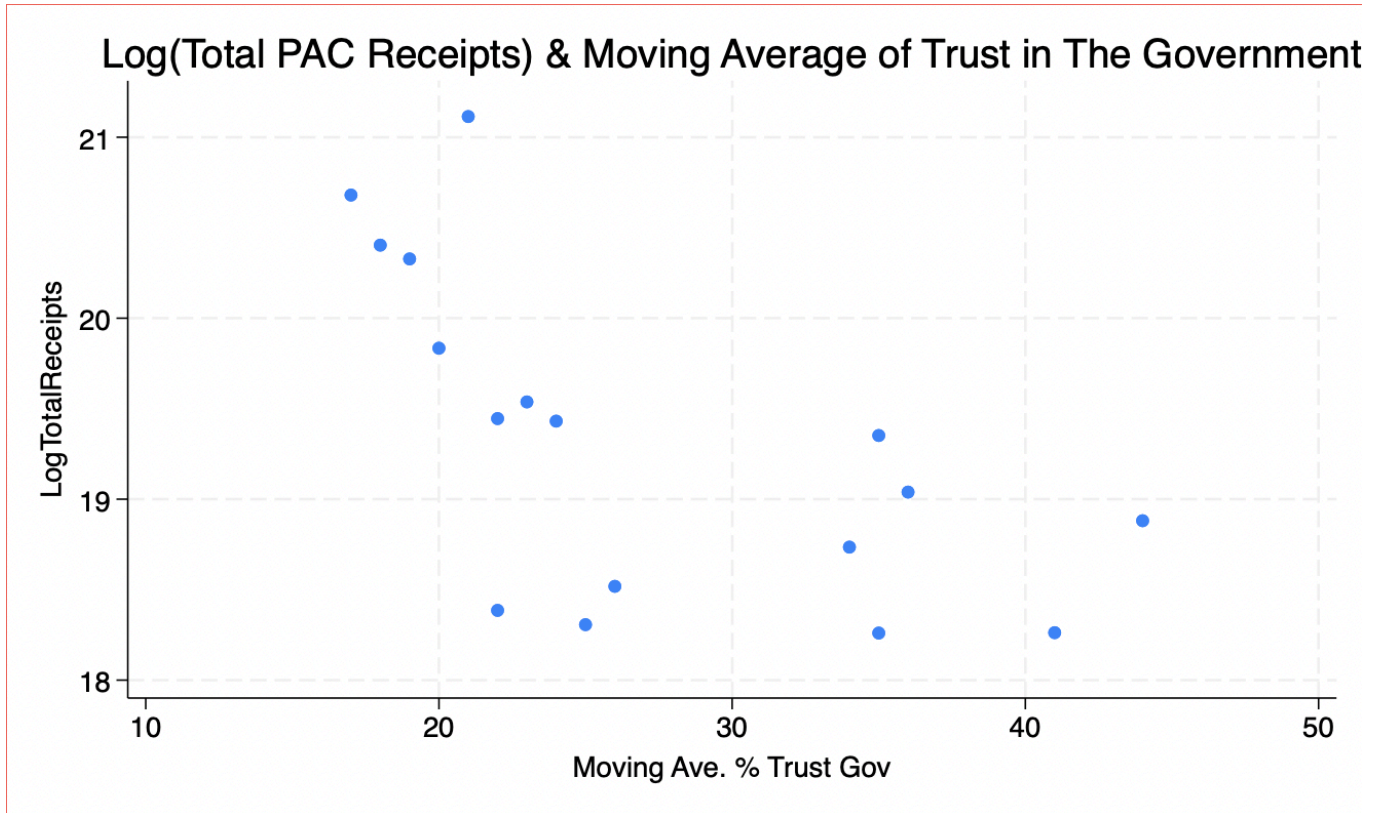
Separate Regressions of Total PAC Receipts with One-Year Expected Inflation, Ten-Year Expected Inflation, GPDI, and CPI (1989 - 2021)

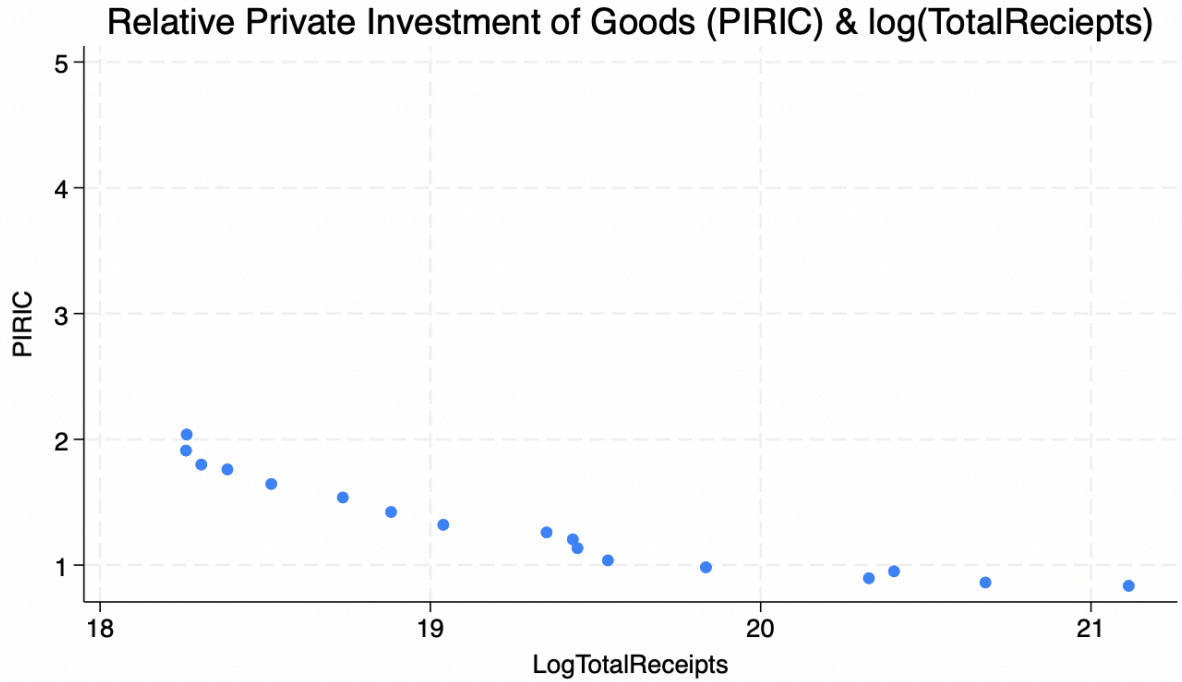
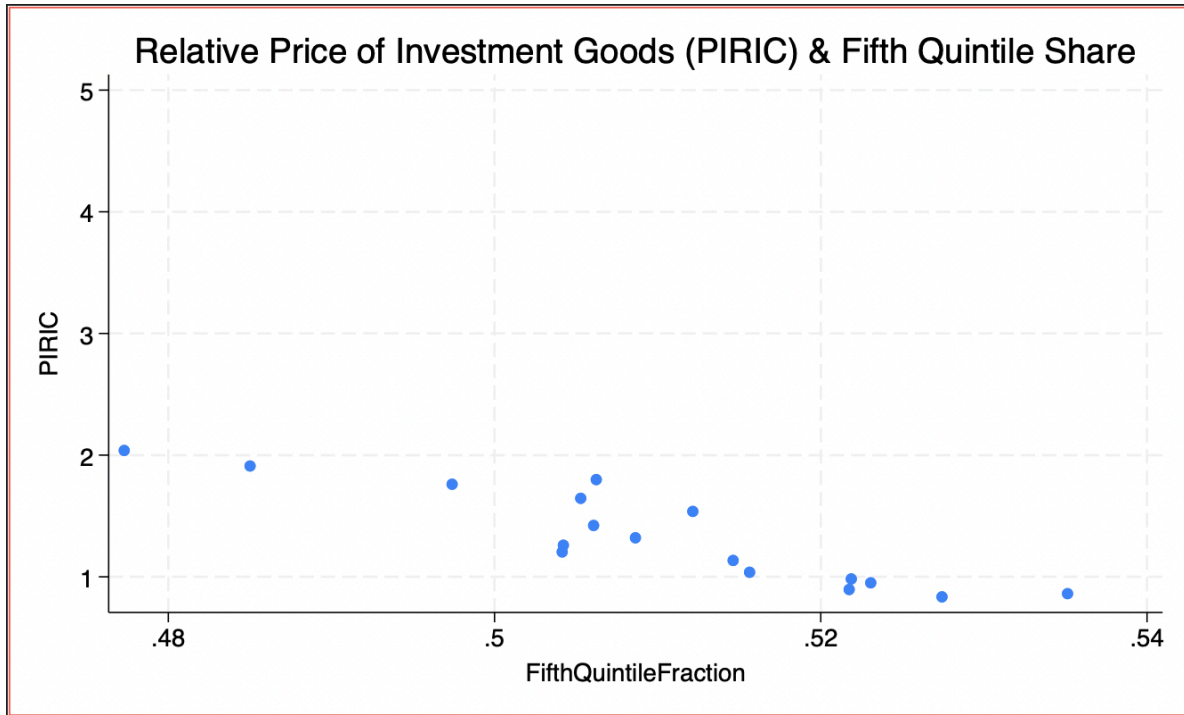
log(Total Receipts)	log(One-Year Expected Inflation)		log(Ten-Year Expected Inflation)		log(Labor Share)		log(GPDI)		log(CPI)	
	Coefficient	R ²	Coefficient	R ²	Coefficient	R ²	Coefficient	R ²	Coefficient	R ²
	-59.17929 (0.004)* *	0.4068	-88.97487 (0.000)* **	0.6169	7.461536 (0.010) **	0.3872	1.793997 (0.000)***	0.8918	3.714803 (0.000)* **	0.9206

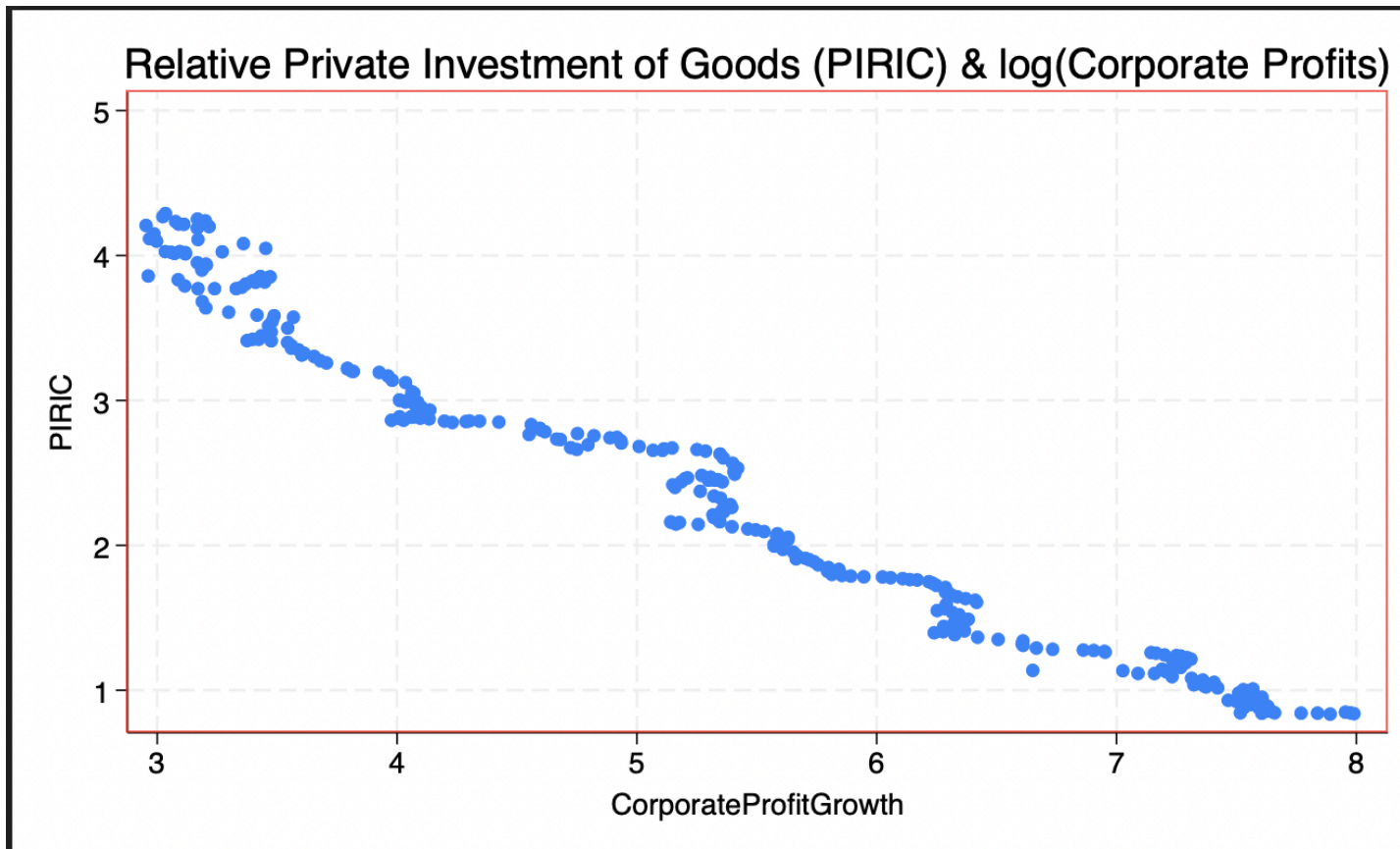
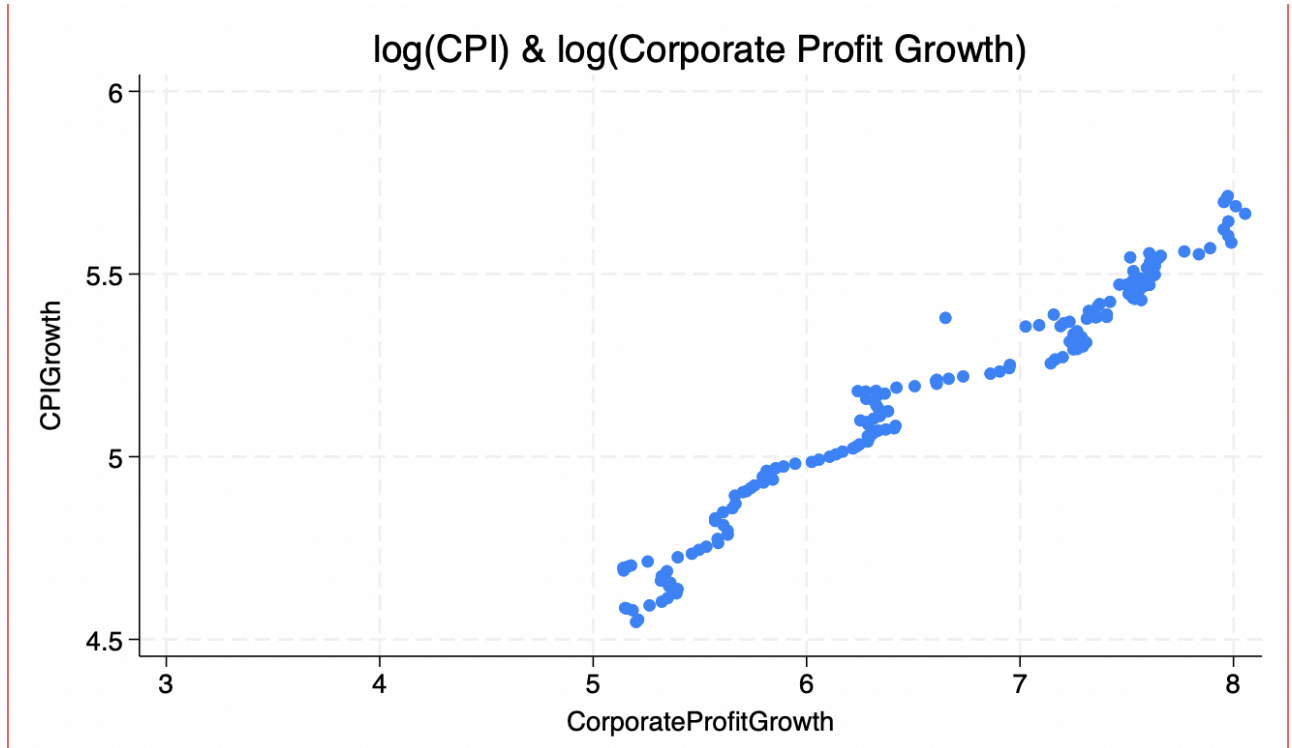
- *P-values in parentheses*
- **significant at 0.10 level*
- ***significant at 0.05 level*
- ****significant at 0.01 level*
- *N = 17*

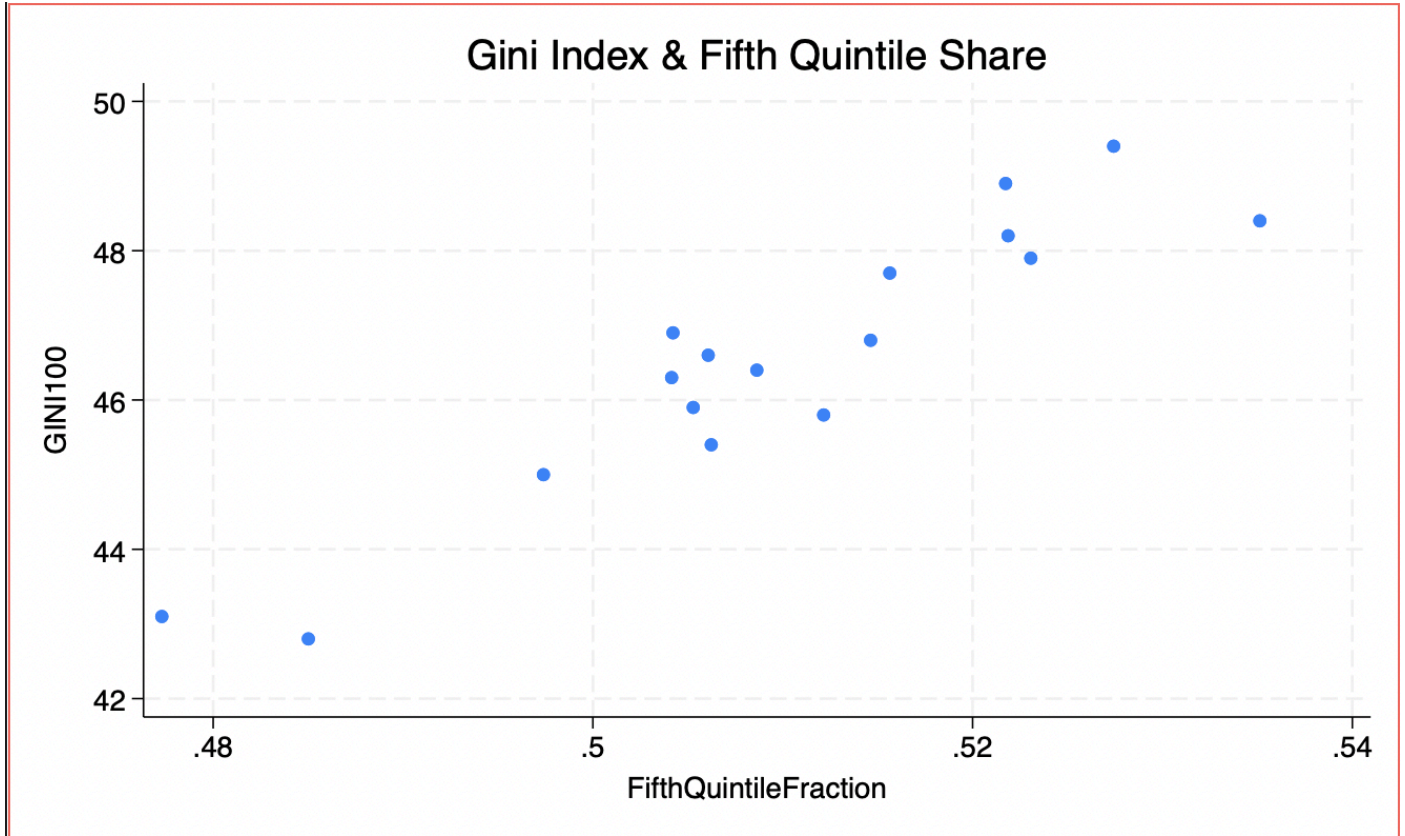
Separate Regression of Disbursements
and Economic Metrics

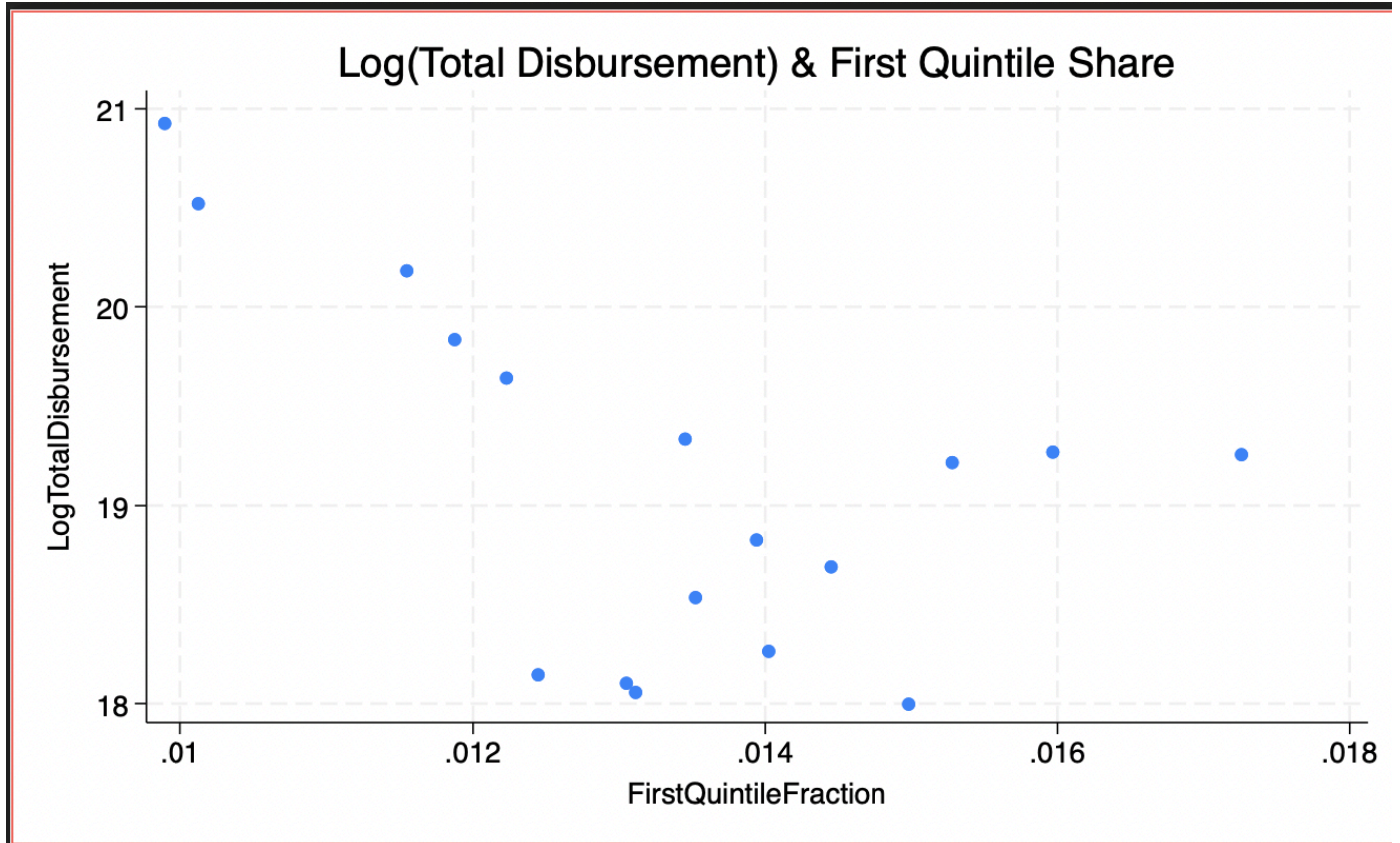
	Coefficients	
log(CPI)	.2489994 (0.000)***	0.9253
log(GDPI)	.4745288 (0.000)***	0.9141
log(Corporate Profit Growth)	.7500095 (0.000)***	0.9050
Relative Price of Investment Goods	-2.164159 (0.000)***	0.8885
log(Welfare Investment)	.5884578 (0.000)***	0.8596
Labor Share in GDP	-.0105064 (0.013)**	0.3680
<ul style="list-style-type: none"> ● <i>P-values in parentheses</i> ● <i>**significant at 0.05 level</i> ● <i>***significant at 0.01 level</i> ● <i>N = 18</i> 		

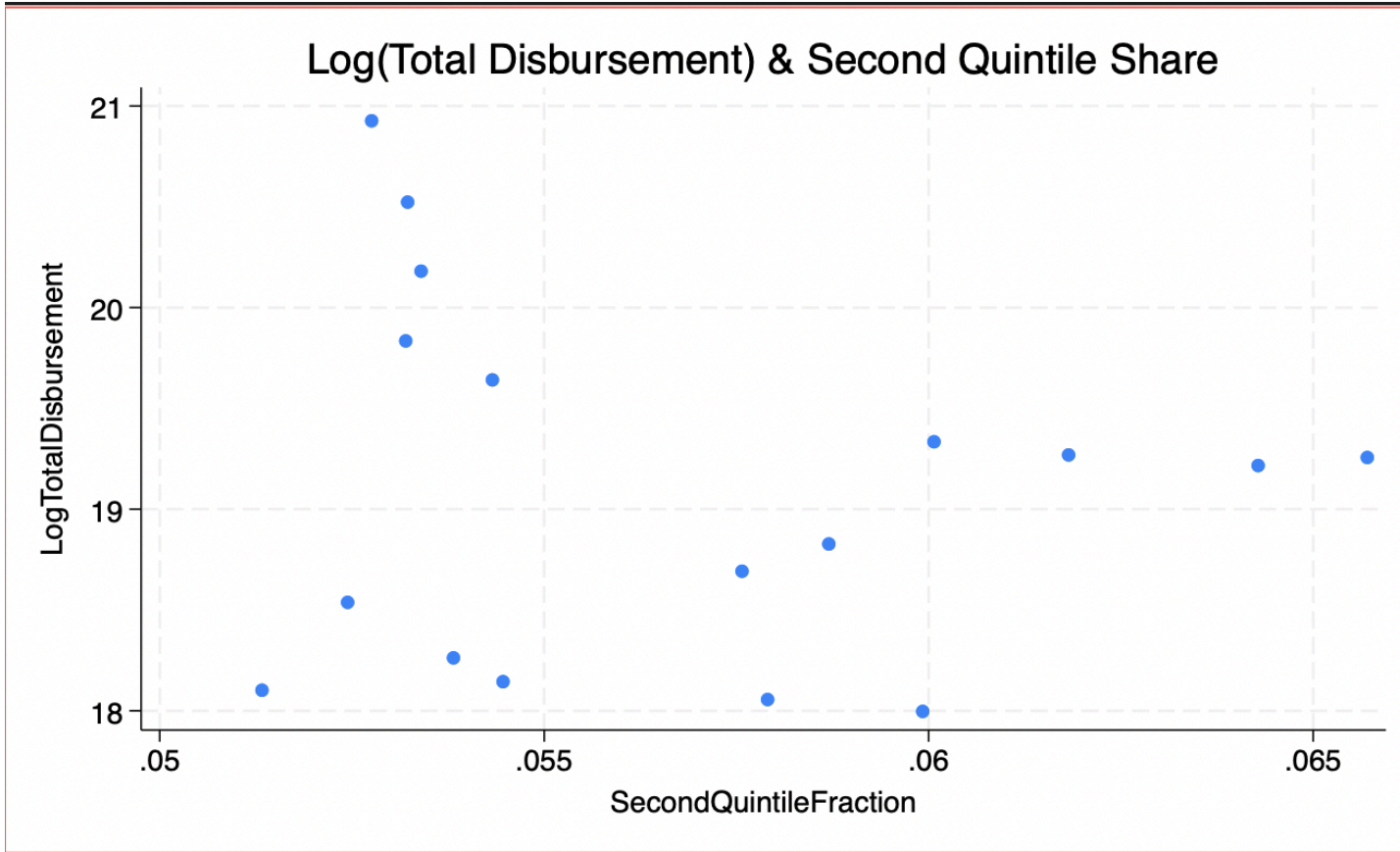


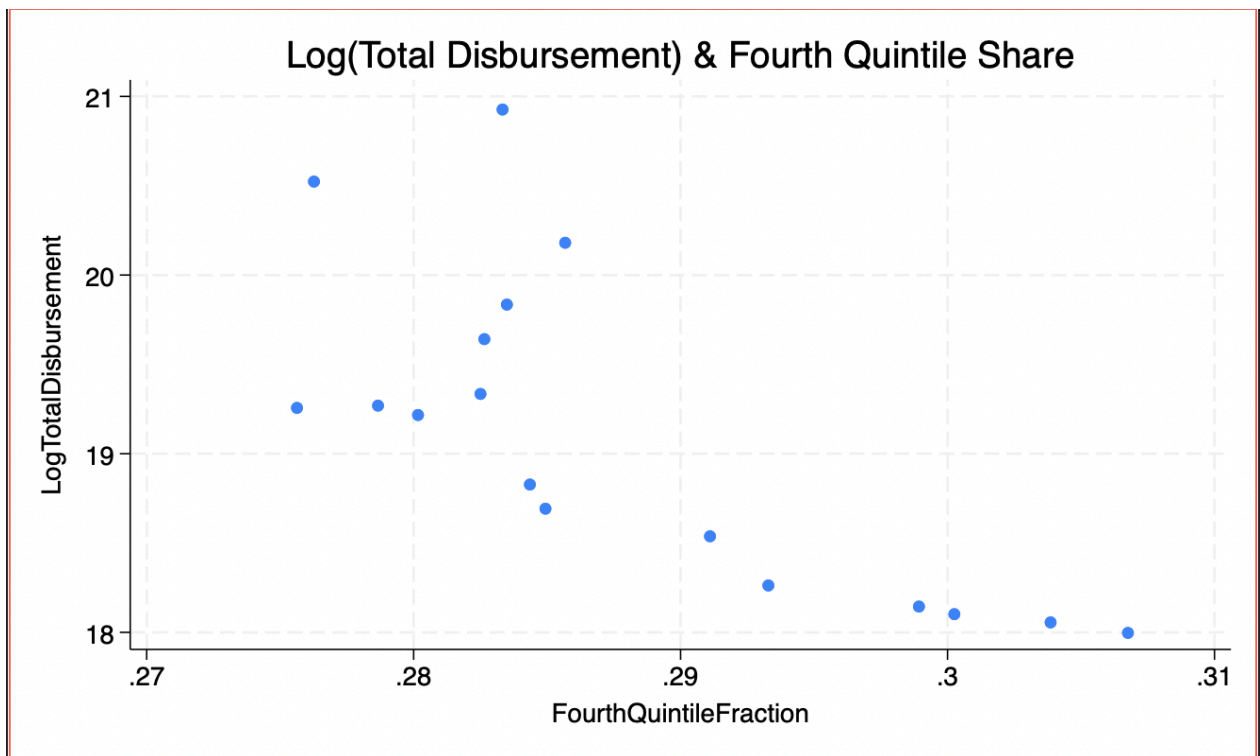
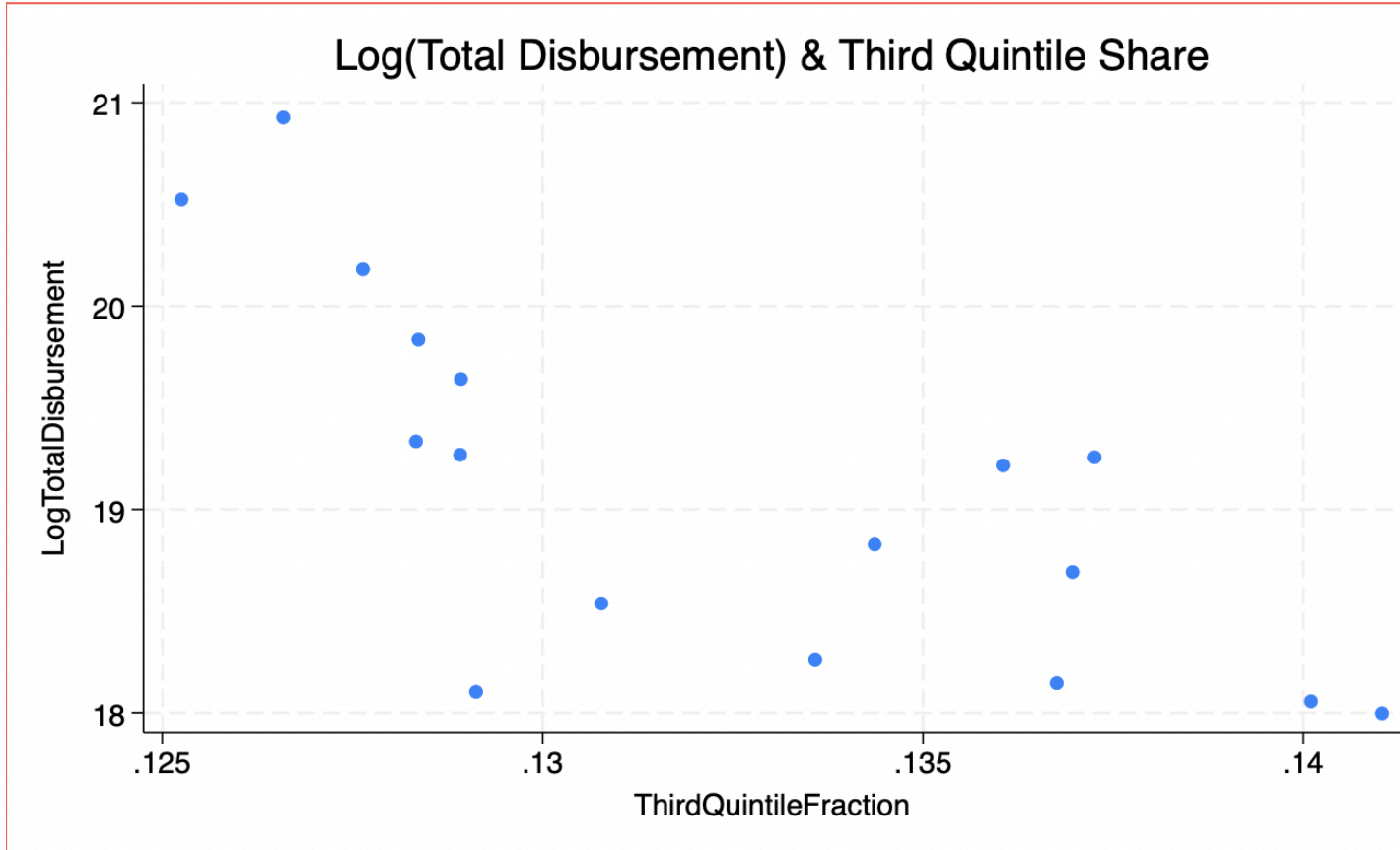


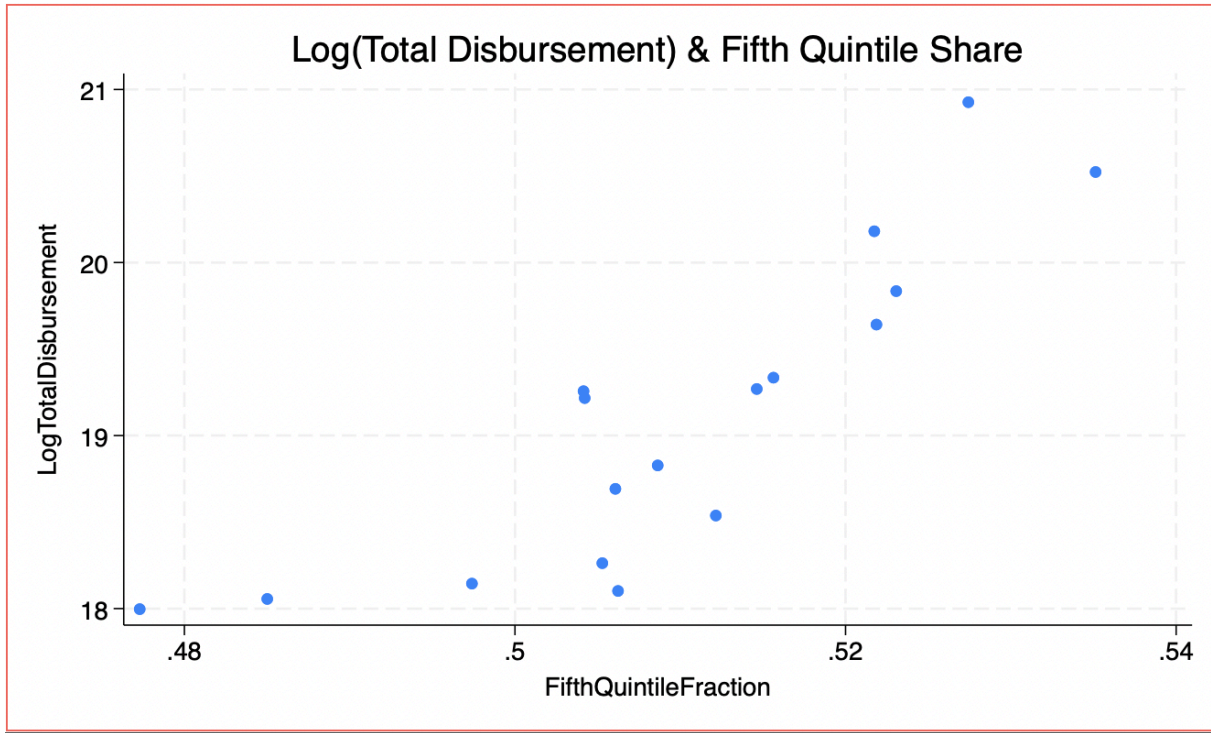












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