Mergers and Acquisitions and Top Income Shares

Nicholas Short

Harvard University

December 15, 2017

Evolution of Top Income Shares

Figure 1: Annual estimate of the share of total fiscal income (including capital gains) accruing to the top 1 percent of the income distribution from 1970-2015. Gray shaded areas indicate economic recessions.

Why M&A? - Rising Financialization

- Theory: financialization $\rightarrow$ income inequality (Davis and Stout 1992; Davis and Thompson 1994; Lazonick and O'Sullivan 2000; Fligstein and Shin 2007)

- If true, M&A is a sensible place to look for evidence.

Transactions versus Market Power

- Many economists approach this question mostly through the classical framework, which emphasizes market power, concentration, and the ability to set price. This process should play out on a relatively long time frame.

- Let's temporarily set aside those concerns, and think about the transactional side of M&A. If it's possible to make money on the deals (which we know to be true), then M&A might have an immediate effect on economic inequality.

Hypothesis 1

- Large mergers and acquisitions create opportunities for certain classes of professionals who reside comfortably within the top 1 percent of the income distribution to increase their income share.
  - Investment bankers take a percentage (1-2%) of deal value
  - Lawyers bill hourly, but more/larger deal means more hours
  - M&A displaces management $\rightarrow$ renegotiate exec. comp.

Hypothesis 2

- Since most of these income sources—partnership profits, salaries, bonuses, stock options—are taxed as **labor** income in the United States, the association between M&A activity and inequality will be strongest for the labor income distribution.

- But because M&A also generates **capital** income—capital gains, dividends, some private equity income—it is possible that M&A activity is associated with rising inequality in the capital income distribution.

Focus: Post 1982

- The year 1982 witnessed two significant changes to the regulatory environment:
  - A major revision to the federal Merger Guidelines (the first since 1968) representing a new economic philosophy (Chicago School)
  - A Supreme Court case that invalidated many (and undermined many more) state anti-takeover laws.

Changes in M&A Activity

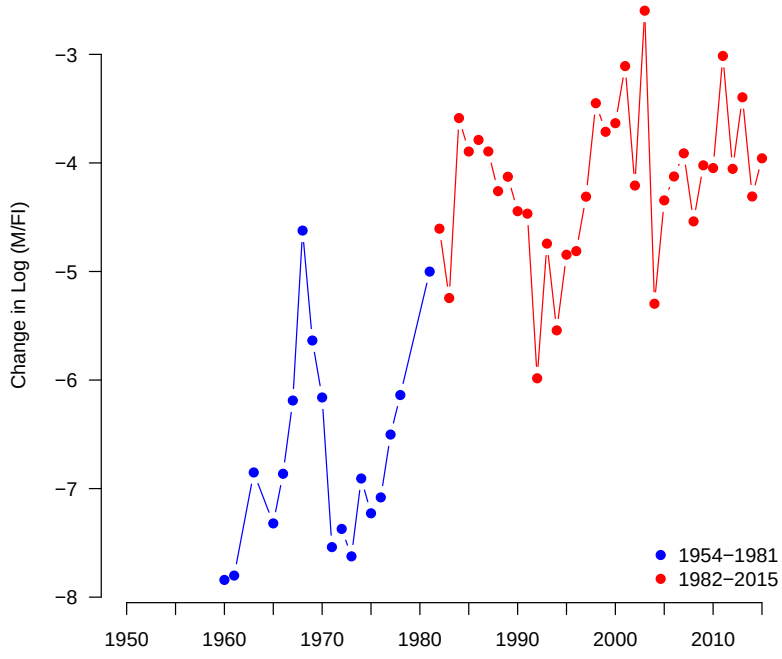

Figure 2: The vertical axis shows the logarithm of a measure of M&A volume (M) divided by total fiscal income (FI) for each year from 1954-2015. The measure of M&A volume is the aggregate transaction value in each year for target firms in mining or manufacturing with assets exceeding $100 million in 1950 dollars.

Changes in Regulation of M&A Activity

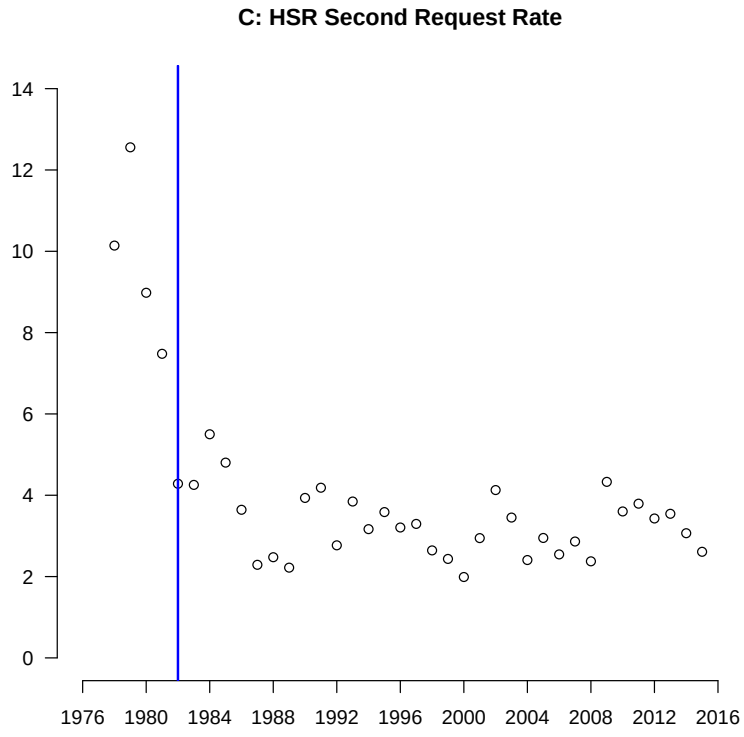

Figure 3: Around 1982, the Department of Justice began filing fewer requests for more information ("second requests") on transactions that exceeded reporting thresholds. This suggests that the new guidelines led to substantial changes in administrative priorities.

OLS Specification

$$\Delta Is_t = \beta_1 + \beta_2 \Delta log(\frac{M_t}{I_t}) + \Delta X_{t-1} + \Delta \epsilon_t \quad (1)$$

Δ - differencing between time periods
Is_t - the top 1 percent's share of income (fiscal, labor, or capital) in year t
M_t - annual dollar value of M&A activity in year t
I_t - total income (fiscal, labor, or capital) in year t
X_{t-1} - lagged controls for interest rates, aggregate corporate cash and debt, and stock market volatility in year $t-1$

Interpretation

- The main predictor captures differences in the rates at which M&A activity and total income grow/decline:

$$\Delta log(\frac{M_t}{I_t}) = log(\frac{M_t}{I_t}) - log(\frac{M_{t-1}}{I_{t-1}})$$
$$= log(\frac{M_t/M_{t-1}}{I_t/I_{t-1}})$$

- It will be positive (negative) when the growth rate of M&A activity is faster (slower) than the growth of total income

- A one-unit change represents a year in which M&A activity grew 2.7 times faster than total income

OLS Results

Table 1: OLS regression results for Equation (1) using US aggregate data from 1982-2015 excluding acquisitions of foreign targets. The coefficients on all controls are not statistically significant and are omitted from the table.

	Fiscal Income Share	Labor Income Share	Capital Income Share
	(1)	(2)	(3)
Relative Merger Value (FI)	2.649***		
	(0.840)		
Relative Merger Value (LI)		0.581**	
		(0.256)	
Relative Merger Value (KI)			0.336
			(0.450)
N	31	31	31
R^2	0.297	0.277	0.063
Adjusted R^2	0.156	0.132	−0.124
Residual Std. Error (df = 25)	1.689	0.597	1.036
F Statistic (df = 5; 25)	2.113*	1.911	0.338

*p < .1; **p < .05; ***p < .01

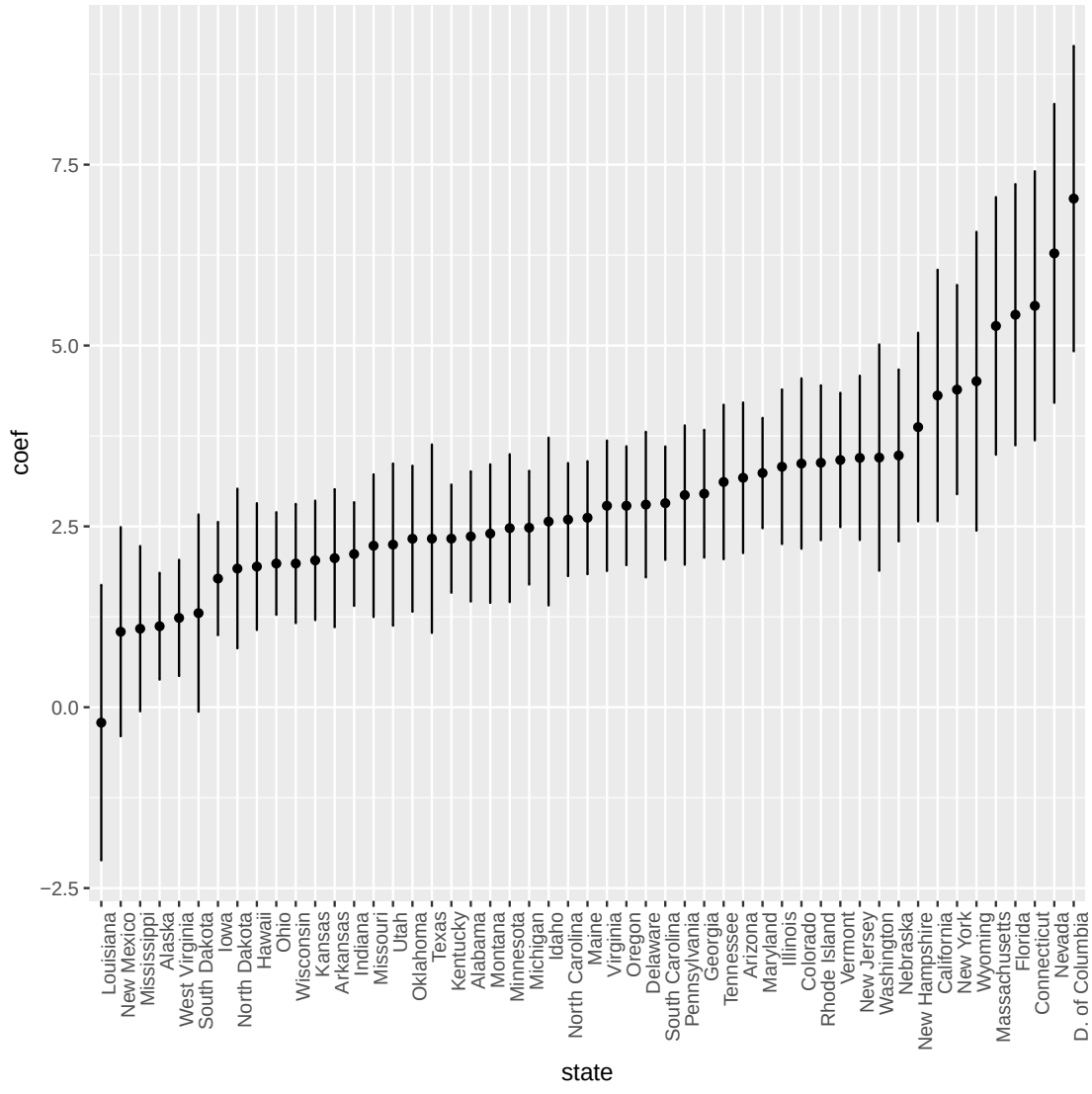

Figure 4: The extent to which M&A activity is associated with rising income inequality appears somewhat constant across a broad sample of states, except at the very top.

A 50 State Panel Approach

$$ls_{it} = \alpha_i + \beta_t + \gamma log(\frac{M_{it}}{I_{it}}) + \epsilon_{it} \quad (2)$$

ls_{it} - the top income share in state i and year t
M_{it} - annual dollar value of M&A activity in it
I_{it} - total adjusted gross income in it
α_i and β_t - state and year fixed effects

M&A and Inequality in State Panel Data

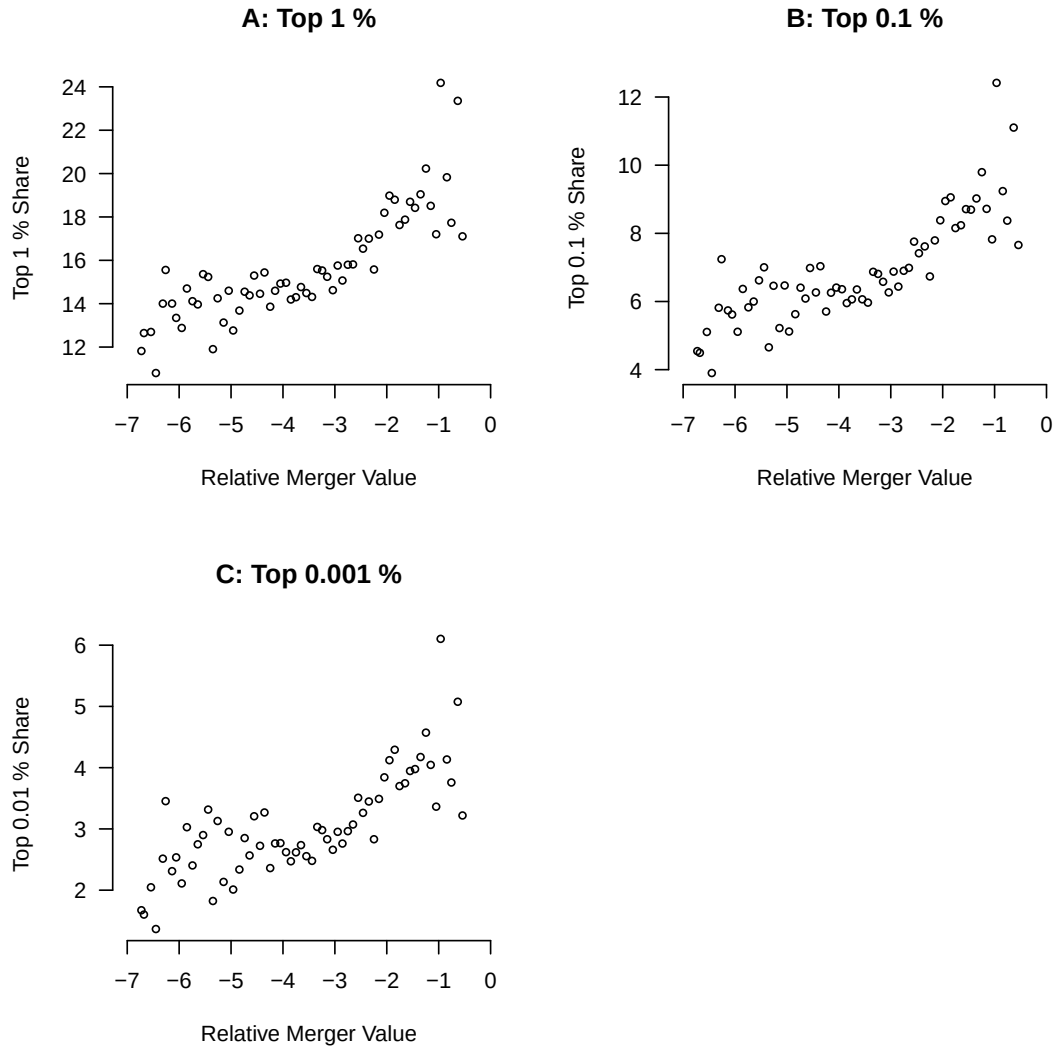

Figure 5: Binned scatterplots showing the relationship between relative merger value, $log(\frac{M_{it}}{I_{it}})$, and income inequality based on state panel data.

State Panel Results

Table 2: Two-way Fixed Effects Model of Equation (2)

	Top 1 Percent Share	Top 0.1 Percent Share	Top 0.01 Percent Share
	(1)	(2)	(3)
Relative Merger Value	0.150^{***}	0.108^{***}	0.062^{**}
	(0.049)	(0.037)	(0.025)
N	1,575	1,575	1,575
R^2	0.006	0.006	0.004
Adjusted R^2	-0.048	-0.049	-0.051
F Statistic (df = 1; 1492)	9.452^{***}	8.696^{***}	6.252^{**}

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Problems with State Income Shares?

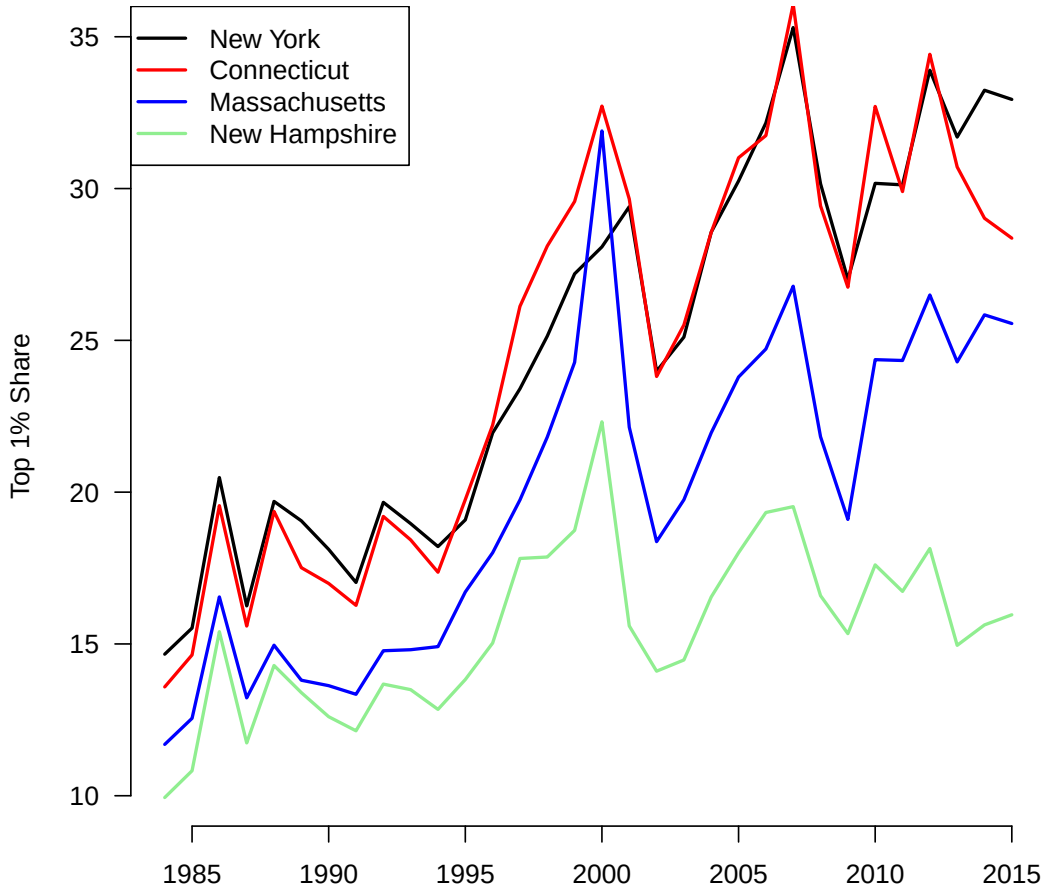

Figure 6: The annual share of income accruing to the top 1 percent of the state income distribution for four Eastern states from 1984-2015.

Conclusions

- In a basic OLS regression, changes in relative merger activity are strongly and positively associated with changes in national top 1 percent income shares.
- M&A appears to exacerbate fiscal and labor, but not capital, income inequality. This supports the hypothesis that professionals profit mostly from income sources technically classified as "labor income" (and the capital gains that accrue to those high earners).
- A 50-state two-way fixed effects model produces significant but small estimates, suggesting that the "local labor" effect (including executive compensation) is not substantively meaningful.

Next Steps

- Different variables?
  - Share of such professionals in top 1 percent
  - Aggregate executive compensation
  - Estimates of banking/advising fees (if possible to estimate)
  - Different socioeconomic variables (wealth inequality, labor share)

- Different identification strategies?
  - Better panel estimation techniques $\rightarrow$ industry/international panel
  - Move to firm-level data on focus on executive compensation