Supplemental Information for: Partisan Politics, Financial Deregulation, and the New Gilded Age

Eric Keller & Nathan J. Kelly
Department of Political Science
University of Tennessee

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Time Series Properties and Descriptive Statistics

Table 1: Stationarity Tests for All Variables

	Test		
Variable	KPSS	Dickey-Fuller	Conclusion
Federal Deregulation	1.90^{***}	-1.48	Integrated
Top Marginal Income Tax Rate	1.67^{***}	-2.23	Integrated
Top Capital Gains Rate	0.19^{**}	-3.47^{**}	Near-Integrated
Democratic President	0.16^{**}	-3.31^{**}	Near-Integrated
Democratic Senate	0.40^{***}	-3.79^{**}	Near-Integrated
Democratic House	0.83^{***}	-3.13^{**}	Near-Integrated
Unified Democrat	0.42^{***}	-3.69^{***}	Near-Integrated
Total Loans Per Capita	1.27^{***}	21.6	Integrated
Finance Sector Contributions	0.23^{***}	-2.62^{*}	Near-Integrated
Union Membership	2.18^{***}	-1.29	Integrated
Trade Openness	1.91^{***}	-0.02	Integrated
DJIA, Deflated to 2005	0.96^{***}	-0.44	Integrated
Top .01% Share	1.75^{***}	-1.82	Integrated

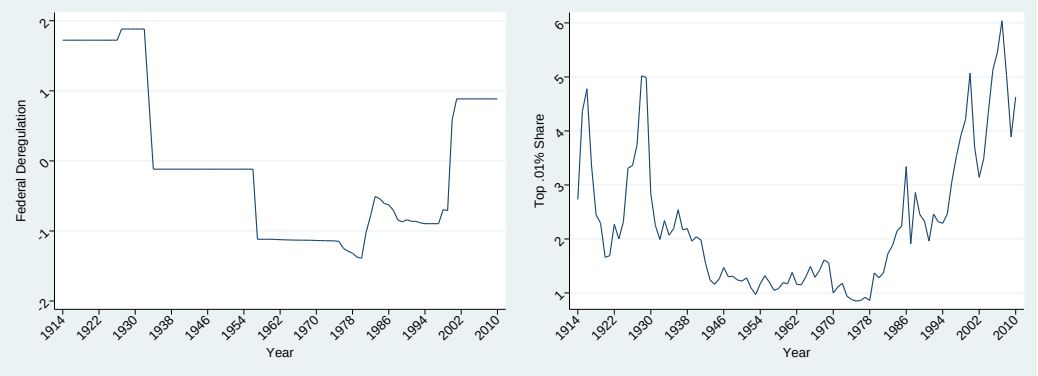
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Significant KPSS test indicates non-stationary series. Non-significant Dickey-Fuller indicates unit root.

Table 2: Descriptive Statistics for All Variables

Variable	Mean	Standard Deviation	Min	Max
Federal Deregulation	-0.02	1.09	-1.39	1.88
Top .01% Share	2.29	1.27	0.85	6.04
Democratic President	0.51	0.50	0	1
Democratic Senate	0.62	0.49	0	1
Democratic House	0.67	0.47	0	1
Unified	0.19	0.74	-1	1
Total Loans per Capita	9863	11745	255	45572
Finance Contributions	0.84	0.10	0.61	0.99
Union Membership	16.9	7.0	6.4	28.3
Trade Openness	14.1	6.6	5.2	30.6
DJIA, Deflated to 2005	3909	3067	801	12413
Top Marginal Income Tax Rate	59.8	24.3	7	94
Top Capital Gains Rate	26.7	13.‘	12.5	77

Vizualizing the Path of Financial Deregulation and Top Income Shares Over Time



(a) Federal Financial Deregulation (b) Top Income Share

Figure 1: Federal Financial Deregulation and Top Income Shares, 1914-2010

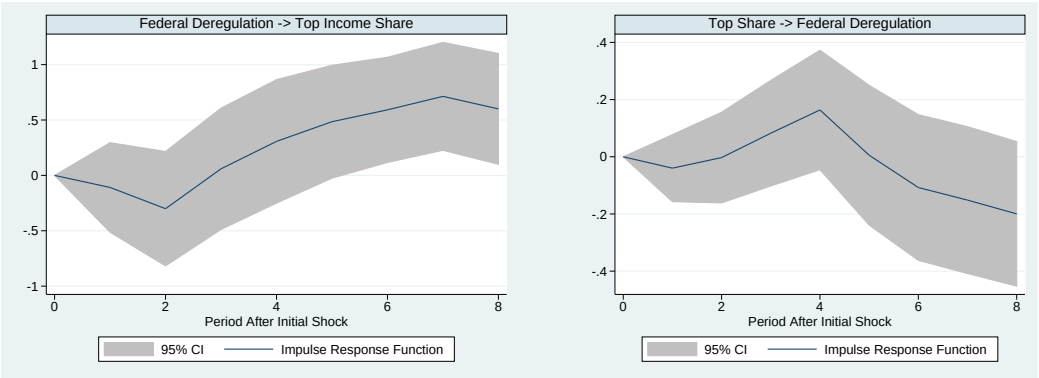
Direction of Causality: Financial Deregulation and Income Inequality

One of our core results is that financial deregulation genereates higher levels of income inequality. It is easy to imagine a scenario in which income inequality is a cause, rather than a consequence, of top income shares. This is an extremely important point, since reverse causation between one of our dependent variables (economic inequality) and one of our core explanatory variables (financial deregulation) would have the potential to generate spurious association between financial deregulation and income inequality. This, of course, would undermine one of our key findings—that financial deregulation is one factor that shapes the path of economic inequality over time.

There are at least two ways that this reverse causation could work. First, a traditional rent-seeking perspective would suggest that regulations are put in place for the benefit of the regulated industry. If this is the case, it could be argued that firms seek out regulation precisely when they are less profitable in order to protect themselves from competition. If this view is correct and can be applied to the contribution of the financial sector to income inequality, regulations would be put in place at times of relatively low inequality. Second, it might be the case that rising levels of economic inequality make wealthy interests (such as the financial sector) more politically powerful and thus

more able to procure favorable deregulatory policies. Under either of these scenarios, any negative association between regulation and levels of income inequality could actually be completely spurious. (Note that this is precisely the form of association we find in our paper—we find a positive association between deregulation and inequality, which is identical to finding a negative association between regulation and inequality.)

Fortunately, there are empirical tests that we can deploy to shed light on the question of endogeneity, specifically reverse causation running from income inequality to financial deregulation. We first estimate a Vector Autoregression (VAR), including four lags of all the variables included in our ECMs of top income shares: Top .01 Income Share, Financial Deregulation, Union Density, Stock Market Valuation, Trade Openness, and Top Marginal Tax Rate. Unlike ECMs, VARs do not assume that explanatory variables are exogenous. Rather, this approach assumes that all variables in the model are endogenous, and the results from a VAR can be used to determine whether causation flows in one direction, the other direction, or in both directions simultaneously. The coefficients produced by a VAR model are not interpretable in and of themselves, but they can be used to produce impulse response functions (IRFs) that shows the effects of a shift in one variable on another variable over several time periods.



(a) Effect of Deregulation on Top Income Share

(b) Effect of Top Income Share on Deregulation

Figure 2: Sorting Out the Direction of Causation Between Top Income Share and Financial Deregulation

In Figure 2 we present the two IRFs produced by the VAR analysis that are relevant to exploring how effects flow between financial deregulation and top income share. In the left panel of the figure, we see that the effect of financial deregulation on top income share is positive and significant for

Table 3: Granger Causality Test of Federal Deregulation and Top Income Share

Null Hypothesis	χ^2	p-value
Federal Deregulation Does Not Granger Cause Top Income Share	18.04	0.0003
Top Income Share Does Not Granger Cause Federal Deregulation	6.38	0.27

Note: Results from a Granger causality test estimated after a VAR four lags of Top .01 Income Share, Financial Deregulation, Union Density, Stock Market Valuation, Trade Openness, and Top Marginal Tax Rate.

periods five and later after an initial shock to deregulation. (This result is consistent with the ECM results reported in the paper as well.) In the second panel of the figure, by contrast, we see that top income share does not have a statistically significant effect on financial deregulation during the first eight years after a shock to top income shares. In fact, it appears that over the long term, the effect of top income shares on deregulation may be negative, which directly contradicts the concerns of R2. We also take one additional step, conducting a Granger causality test of top income share and financial deregulation. A causality test of this form formally assess whether one variable (controlling for previous lags of that variable) are affected by previous lags of another variable. When we conducted this Granger test for the two key variables of concern, we found that federal financial deregulation Granger-causes top income share, but that top income share does not Granger-cause deregulation (see Table 3). Again, this test helps to alleviate concerns that our results might be spuriously driven by causal feedback from income inequality to deregulation.

Identifying When Partisan Convergence Happened

We also hypothesized that the partisan effects on financial deregulation diminished sometime around 1980. We begin by conducting a series of Chow tests which helps to answer the question of whether there was a structural break (regime change) in how partisanship is associated with financial deregulation in the years around 1980. A Chow test is conducted by regressing

Table 4: Chow Tests of Change in Partisan Effects on Financial Deregulation

Break-Year	President and Senate, Separated	Unified Control Variable
1975	3.33**	2.85*
	(0.023)	(0.063)
1976	3.36**	2.88*
	(0.022)	(0.061)
1977	3.56**	3.15**
	(0.017)	(0.048)
1978	3.52**	2.93*
	(0.018)	(0.058)
1979	3.59**	3.03*
	(0.017)	(0.053)
1980	3.73**	3.21**
	(0.014)	(0.045)
1981	3.79**	3.29**
	(0.013)	(0.042)
1982	3.88**	3.00*
	(0.012)	(0.055)
1983	3.45**	2.48*
	(0.020)	(0.089)
1984	3.02**	1.97
	(0.034)	(0.145)
1985	3.09**	2.05
	(0.031)	(0.135)
1986	3.22**	2.21
	(0.026)	(0.116)

Table entries are Chow test statistic with p-values in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

financial deregulation on partisan variables, a dummy variable that is zero before the hypothesized regime change and one after, and interactions between the partisan variables and the regime-change dummy variable. A block F-test is then conducted on the interaction terms and the dummy variable and, if significant, the hypothesis of regime change is supported. We conduct Chow tests for possible regime changes for each year between 1975 and 1984 in order to determine when, if at all, the structural break most likely occurred. The results are presented in Table 4. These results suggest that a shift in how partisan politics is associated with financial deregulation happened sometime around 1980. For each of the years from 1975-1984, there is at least some evidence of a structural break. While we are hesitant to make a strong claim in favor of one particular break-point over another, the strongest results appear in 1981. Whether one examines the effects of partisanship in each of the three branches separately in the first column or collectively in column 2, there is strong evidence of a shift in the relationship beginning in 1981. The test statistic is at nearly its highest point for the separate branches measures (3.01), its highest point for the unified control measure (3.29), and its highest point if one adds the two test statistics (6.30).

Micro Level Analysis of Glass-Steagall Repeal Vote and Campaign Finance

Table 5: Micro Analysis of Campaign Finance and Partisan Convergence on Financial Deregulation

	Yea on Glass-Steagall Repeal
Finance Sector Contributions	−0.00
	(0.02)
Democrat	−2.02***
	(0.34)
Finance Sector Contributions*Democrat	0.12***
	(0.04)
Constant	2.01***
	(0.30)
Observations	430
Pseudo-R^2	0.23

Probit coefficients with standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In the time series analysis reported in the paper, we saw inconclusive but suggestive evidence that campaign finance contributed to partisan conver-

gence on financial deregulation. Given the short time frame of that analysis and the inconclusive nature of the evidence, we consider another type of evidence that provides insight into the role of campaign finance in partisan convergence. Here we report micro-level analysis of an important deregulatory policy decision in the House by examining the roll-call vote on final passage of the Glass-Steagall Act repeal in 1999 (See Table 5).

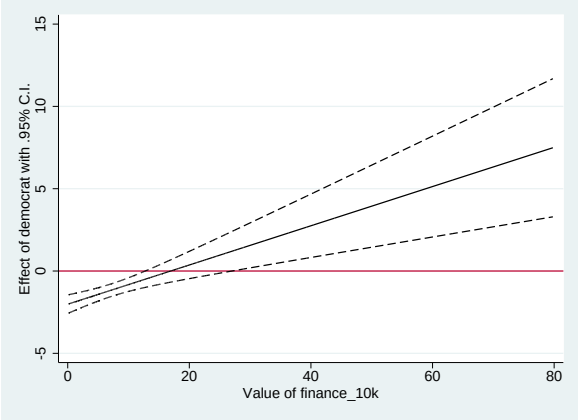


Figure 3: Micro Evidence of Finance Sector Contributions and Partisan Convergence

Since the key evidence related to our hypotheses is tested using interaction terms, it is most useful to chart the effect of partisanship across the range of the two variables that we interact with partisanship (see Figure 3). Here we see clear evidence that as a legislator's campaign funding comes increasingly from the finance sector, Democrats become more likely to support deregulation. At very low levels of finance sector campaign funding, there is a small negative relationship between partisanship and support for deregulation. However, at moderate to high levels of finance sector support, Democrats become *more* likely than Republicans to support repeal of Glass-Steagall. This lends credence to the view that increased campaign funding from the finance sector played a role in Democrats moving to the right on financial deregulation.

Alternative Specifications of Top Income Share Models

In Table 6 we report two additional specifications for the models with top income share as the dependent variable. The first model includes both capital

Table 6: Alternative Models of Top Income Shares

	Δ Top .01% Share	
	(1)	(2)
Top .01% Share$_{t-1}$	−0.49***	−0.42***
	(0.09)	(0.08)
Δ Federal Deregulation$_t$	0.41**	0.47**
	(0.19)	(0.21)
Federal Deregulation$_{t-1}$	0.23***	0.10
	(0.07)	(0.13)
Δ Union Membership$_t$	0.00	−0.07*
	(0.04)	(0.04)
Union Membership$_{t-1}$	−0.02	−0.02*
	(0.02)	(0.01)
Δ DJIA, Deflated to 2005$_t$	0.00***	0.00***
	(0.00)	(0.00)
DJIA, Deflated to 2005$_{t-1}$	0.00**	0.00
	(0.00)	(0.00)
Δ Trade Openness$_t$	0.08***	0.07**
	(0.03)	(0.03)
Trade Openness$_{t-1}$	0.01	−0.04
	(0.01)	(0.03)
Δ Top Capital Gains Tax Rate$_t$	−0.01*	
	(0.01)	
Top Capital Gains Tax Rate$_{t-1}$	−0.01**	
	(0.00)	
Δ Top Marginal Tax Rate$_t$	−0.00	
	(0.01)	
Top Marginal Tax Rate$_{t-1}$	−0.01	
	(0.00)	
T		22.31
		(45.00)
T^2		−0.01
		(0.02)
T^3		0.00
		(0.00)
Constant	1.55***	−13991.88
	(0.36)	(29452.64)
Observations	96	96
R^2	0.57	0.52

OLS regression coefficients with standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

gains tax rates and income tax rates as opposed to the more parsimonious models reported in the paper which include only income tax rates. The key result is that the effect of deregulation on top income shares is substantively similar to the results reported in the paper. In the second model we include both linear and non-linear time trends. Again, the effect of financial deregulation is robust to this alternative specification.