Depositing Corporate Payout

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Motivation

Corporate payout in the U.S. and many developed countries has increased sharply over the last two decades.

- $141 billion per year from 1987 to 2003. $525 billion from 2004 to 2019.

Many people have raised concerns about whether corporations are paying out "too much" at the expense of workers and long-term growth of firms and the economy.

- Senator Schumer and Sanders said they would propose legislation that "will prohibit a corporation from buying back its own stock unless it invests in workers and communities first. . . ", and "also seriously consider policies to limit the payout of dividends, perhaps through the tax code." (NYT, Feb 3, 2019)
- The Inflation Reduction Act of 2022 imposes a new 1% share repurchase excise tax on corporate buybacks, which the administration believes "corporate executives too often use to enrich themselves rather than investing in workers and growing their businesses."

Not everyone thinks restricting payout is a great idea.

- Kevin Hassett: buybacks are "a natural way our economy recycles cash from old successful firms to new entrepreneurial firms."

This paper

Provide some evidence on the flow of payout money in the financial system.

- Emphasizes market interdependence and flow identities in the tradition of Brainard and Tobin (1968).

Key result is that a significant amount flows into the banking sector as deposits (and then to bank borrowers as loans).

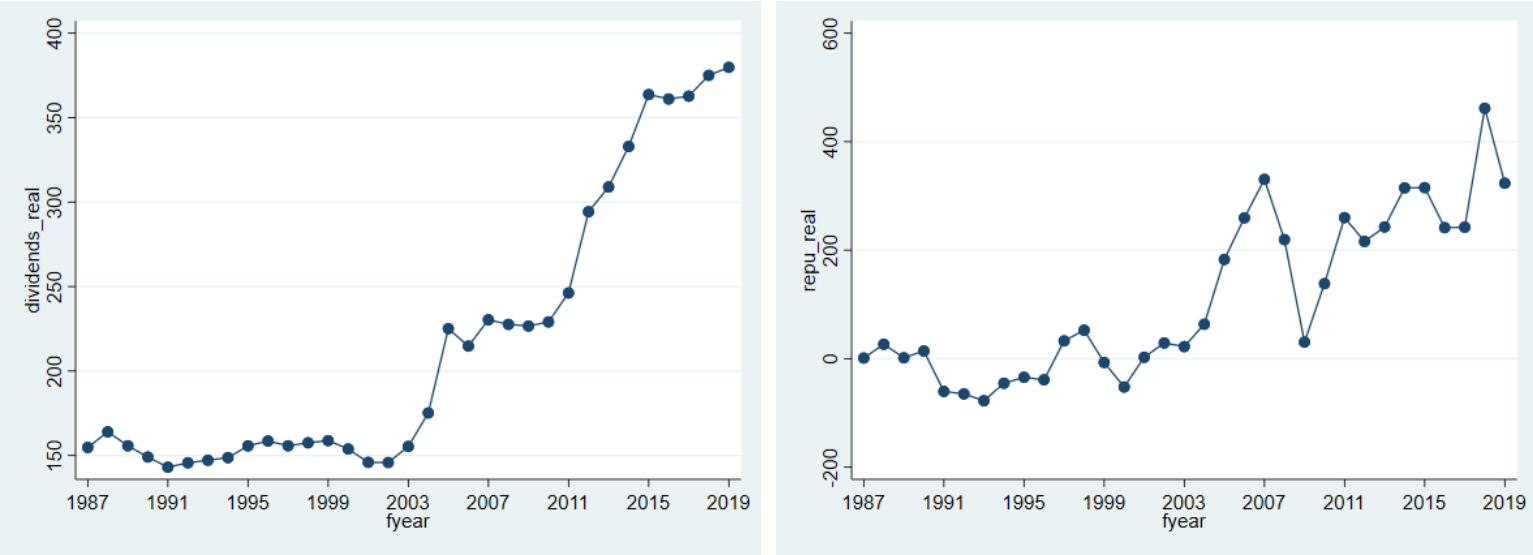
- Evidence from aggregate as well as county and bank level data.

Useful for understanding the consequences of policies restricting payout and the linkages and propagation of flow shocks across financial sectors.

Related literature

- The rise of corporate savings and payout
  - E.g., Chen, Karabarbounis, and Neiman (2017), Kahle and Stulz (2020)
  - The rise in payout is accompanied by an increase in corporate profits (e.g., Greenwald, Lettau, and Ludvigson, 2021) and Q (e.g., Corhay, Kung, and Schmid, 2020) and a decline in investment (e.g., Gutierrez and Philippon, 2017).
- Capital flows
  - Across financial sectors: e.g., Brainard and Tobin (1968), Parlour, Stanton, Walden (2012), Lin (2020)
  - Flow shocks: e.g., Koijen and Yogo (2019), Gabaix and Koijen (2021)
- Specialness of banks and bank deposit funding
  - E.g., Kashyap, Rajan, and Stein (2002), Drechsler, Savov, and Schnabl (2017)
- Consumption effects of dividend income and capital gains
  - E.g., Baker, Nagel, and Wurgler (2007), Di Maggio, Kermani, and Majlesi (2020)
- Policy impact on corporate payout and investment
  - E.g., Poterba (1987, 2004), Dharmapala, Foley, Forbes (2011), Faulkender and Petersen (2012), Becker, Jacob, Jacob (2013), Yagan (2015)

The rise in aggregate equity payout



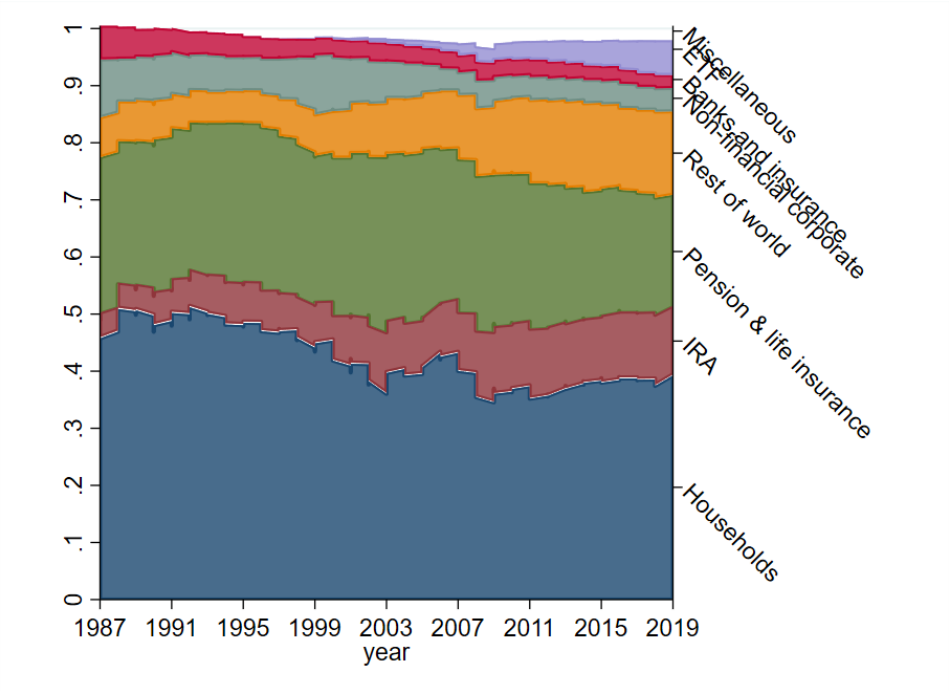
(a) Dividends

(b) Net share repurchases

Figure: Annual dividend payment and net share repurchases by non-financial publicly traded firms in the U.S. from 1987 to 2019. Data source: Compustat.

Who receive the payout money?

When corporations raise net equity payout, shareholders as a whole are at the receiving end of it. Ownership of U.S. equities:



If different types of equity owners have the same propensity to reinvest the payout money, a \$1 payout flows to each type equal to their ownership share.

Any reinvestment in stocks flows back to shareholders, if not absorbed by net corporate equity issuance.

Quarterly aggregate payout and deposit flow

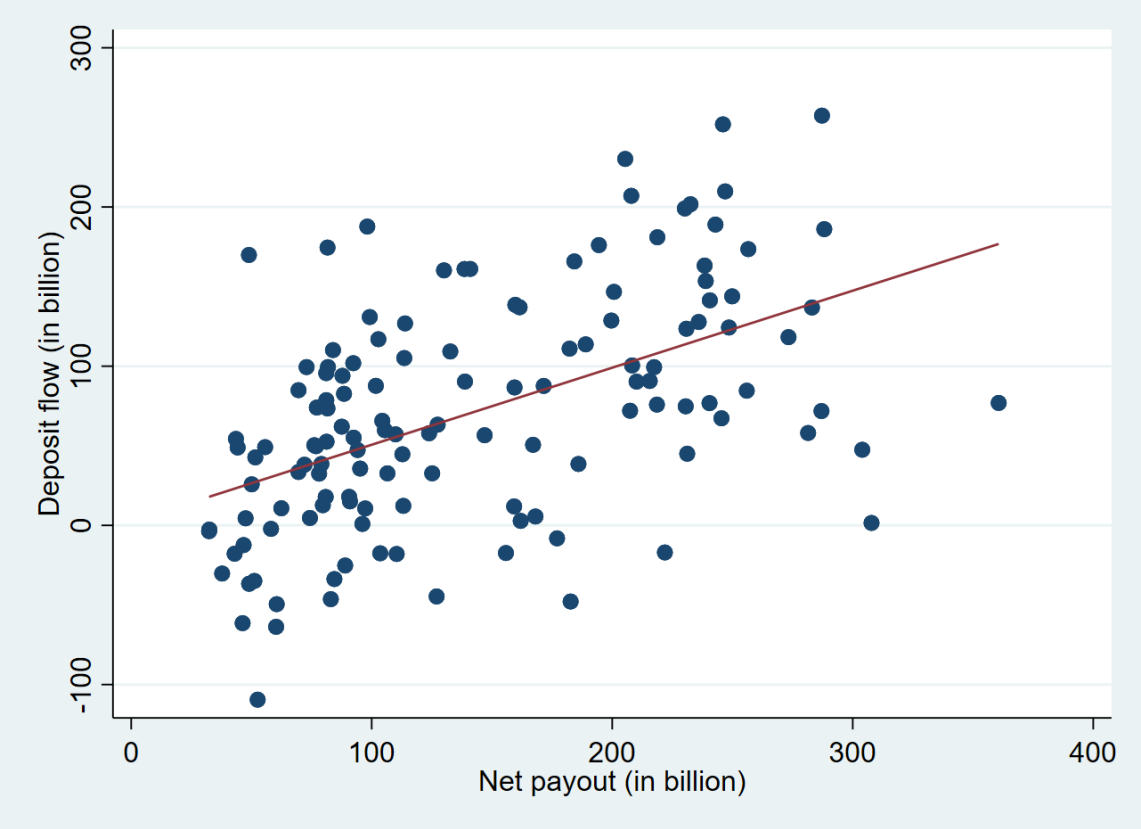


Figure: Quarterly net corporate equity payouts and deposit flow 1987–2019. Values are in 2010 dollars. Data source: Financial Accounts of the United States (FAUS).

Quarterly aggregate payout and deposit flow

	$\frac{\Delta Deposit_t}{GDP_{t-1}}$	$\frac{\Delta Deposit_t}{GDP_{t-1}}$
$Net\ payout_t / GDP_{t-1}$	0.50***	0.49***
	(0.10)	(0.10)
$\Delta Stock\ value_t / GDP_{t-1}$		-0.01
		(0.01)
GDP_t / GDP_{t-1}		-0.02
		(0.07)
$\Delta Fed\ funds\ rate_t$		-0.00
		(0.00)
$\Delta Credit\ spread_t$		0.00
		(0.00)
R-squared	0.175	0.193
N	132	132

Effect is concentrated in savings and time deposits.

IV based on large idiosyncratic dividend payment

In December 2004, Microsoft paid out $33.5 billion of dividend, of which $32 billion was a one-time special dividend.

- This is compared to the regular dividend of less than $1 billion paid out in September of the same year, and it accounted for more than 50% of all dividend paid out by CRSP firms in December 2004. The median firm maintained the same amount of dividend between September and December. The 75 percentile growth rate is merely 1%.

Exploit these large, idiosyncratic dividend payouts and use them to construct an IV in the spirit of the granular instrumental variable (GIV) of Gabaix and Koijen (2020).

Aggregate abnormal dividend payments of top payers every month and use it as an instrument for actual dividend payout in that month, where abnormal changes in dividend payments is measured as, $Div_{i,t} - Div_{i,t-3} \times Median(\frac{\Delta Div_{j,t}}{Div_{j,t-3}})_t$.

Aggregate deposit flow and payout: IV estimation

Panel A: Monthly dividend		
	OLS	IV
$Dividends_t / GDP_{t-1}$	0.56^{***}	0.98^{**}
	(0.14)	(0.48)
Controls	Yes	Yes
R-squared	0.149	0.130
N	395	395

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Panel B: Quarterly payout	
	IV
$Payout_t / GDP_{t-1}$	0.73^{**}
	(0.29)
Controls	Yes
R-squared	0.150
N	131

Evidence from county level data

Examine deposit growth across counties with varying dividend income.

Model specification:

$$\begin{aligned}\Delta Deposits_{i,t}/Deposits_{i,t-1} =& \alpha_i + \beta_1 Dividend_{i,t}/Deposits_{i,t-1} + \beta_2 Other\ income_{i,t}/Deposits_{i,t-1} \\ &+ \gamma X_{i,t} + \mu_t + \epsilon_{i,t},\end{aligned}$$

Controls for: Year fixed effects - account for common macro shocks; County fixed effects - account for average dividend income and deposit growth rates; Non-dividend income, population growth, dividend income ratio interacted with stock returns.

Deposit flow and dividend income at the county level

Dep. var: $\Delta Deposits_{i,t}/Deposits_{i,t-1}$

	(1)	(2)
$Dividends_t/Deposits_{t-1}$	0.32^{***}	0.69^{***}
	(0.07)	(0.16)
Controls	Yes	Yes
Year FE	Yes	Yes
County FE	Yes	Yes
Population weighted	No	Yes
R-squared	0.169	0.228
N	73442	73441

The positive relation between dividend income and deposits also holds when examining variation across branches of the same bank (bank×year fixed effects) or across zipcodes within the same county (county×year fixed effects). Help further rule out loan-demand related interpretations.

County deposit flow and dividend income: IV

One concern about the OLS estimation is that the dividend growth at the county level is correlated with omitted county economic shocks that affect deposit growth.

Adopt an IV estimation strategy (similar in spirit to a shift-share IV), where the instrument for actual dividend income is projected dividend income based on a county's lagged dividend income share and aggregate dividend income:

$$Dividend\_proj_{i,t} = \frac{Dividends_{i,t-2}}{\sum Dividends_{i,t-2}} \times \sum Dividends_{i,t} \quad (1)$$

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	First stage		Second stage	
	(1)	(2)	(3)	(4)
$Dividends\_Proj_t / Deposits_{t-1}$	0.54***	0.62***		
	(0.01)	(0.02)		
$Dividends_t / Deposits_{t-1}$			0.53***	0.86***
			(0.11)	(0.17)
Controls, county FE, year FE	Yes	Yes	Yes	Yes
Population weighted	No	Yes	No	Yes
R-squared	0.931	0.948	0.064	0.048
N	70349	70349	70347	70347

What do banks do with the deposit inflow?

Banks can use the deposits to extend more loans, invest in liquid assets such as treasury and agency securities, or reduce their reliance on other funding sources.

Construct a measure of bank level dividend income, defined as the sum of bank dividend at the county level across all counties where the bank has branches, where the bank dividend at the county level is the county's total dividend multiplied by the bank's share of deposits in that county.

- Dividend-driven deposit inflow is associated with a significant increase in the amount of bank loans (both real estate loans and C&I loans) but insignificant changes in bank holding of government securities.

Extensions

- Changes in corporate deposits.
  - Greater payout is associated with a small decline in corporate time and savings deposits. No robust association with total corporate deposits.
- Flows into other financial assets such as government and corporate bonds.
  - No robust evidence that an increase in net corporate equity payout is significantly associated with household holding of other types of fixed income assets.

Takeaways

The paper provides evidence on the flow of corporate equity payout into the banking sector.

- Results point to the flow of payout money from large and profitable corporations to bank dependent firms and households through the banking sector. Restrictions on payout could limit such flows. In the presence of market segmentation, flows across markets alter the supply of capital to different segments of the economy.
- More broadly, results also shed light on the interdependence of financial markets and the propagation of flow shocks across sectors and asset classes through market clearing and portfolio rebalancing (Brainard and Tobin, 1968).