Payout policy

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1 Disappearing dividends

Disappearing dividends Fama and French (2001) is one of the most influential paper about dividends. Their idea is that the fraction of firms that pay out cash dividends has decreased substantially from 66.5% in 1978 to 20.8% in 1999. Some possible reasons could be structural shift in:

- Shift arises toward small firms with low profitability but strong asset growth (i.e., growth opportunity), characteristics typical for firms that never paid dividends
- New lists from 3,638 in 1978 to 5,670 in 1997, with low profitability and small firms

Splitting sample into: former payers, payers, and never paid firms, they find some interesting stories. Former payers tend to be distressed with low earning and low investments. Never-paid firms tend to be more profitable than former payers and have strong growth opportunities. Dividend payers are, in turn, more profitable than never-paid firms but less investment.

Next, they use logit regression to estimate *the propensity to payout cash dividends*, after controlling for a set of controls: profitability, asset growth, MB, size. They find that, regardless of firm characteristics, the lower propensity to payout (25%) could explain half of declines in the fraction of public dividend payouts (50%).

Substitution hypothesis and dividend concentration Grullon and Michaely (2002) propose the substitution hypothesis that firms substitute cash dividends with share repurchases as the dominant form of corporate payout. Overall, we do not see a drop in total payout but a 22.7% increase in real dollar amount of dividend payout among industrial firms from 1978 to 2000.

DeAngelo et al. (2004) further expand this idea by find out the dividend concentration effect. They find that the large reduction in number of public dividend payers happens among firms that pay relatively small dividends, while there is a simultaneous substantially increase in cash dividend among largest dividend payers.

For example, firms in NYSE pay the majority of industrial dividends. This suggests that old and stable firms in NYSE tend to pay regular dividends. In contrast, young and risky firms less likely pay dividends and list their shares in AMEX and Nasdaq. Dividend concentration appears along with the concentration of corporate income supply. The top 25 dividend payers distribute more than 55% of aggregate cash dividends. DeAngelo et al. (2004), thus, explain partly the disappearing puzzle raised by Fama and French (2001).

2 Dividend announcement

Ikenberry et al. (1995) find that repurchasers tend to get positive abnormal returns around the announcements and later have positive long-term perfornance. The 4-year post-announcement buy-hold-returns is 12%, and up to 45.3% for value stocks but insignificant for glamour stocks (low BM). This paper seems to support the *signaling hypothesis* that firms repurchase stock when price is undervalued.

Grullon and Michaely (2004) again study the information content of share repurchases. They find surprising results that repurchase announcement does not suggest an improvement in operating performance. However, share repurchasers experience a drop in systematic risk and cost of capital compared to non-repurchasers. The story of Grullon and Michaely (2004) is not supportive to signaling hypothesis but supportive for *cash flow hypothesis* of Jensen (1986). They find that the positive market reaction concentrates more in firms that have high propensity to overinvest (i.e., so share repurchase will reduce overinvestment problem).

3 Dividends motives

3.1 Market timing

Firms will repurchase when the market price is low. Dittmar and Field (2015) ask that whether managers can time the market? They propose a measure of market timing:

$$Relative\,repurchase\,price(RRP) = \frac{(REP)Average\,Paid\,Repurchase\,Price}{(CP)CRSP\,ClosePrice_{\,in\,\pm t\,months}} - 1$$

- If they repurchase at low price (i.e., time market successfully), we should see the RRP should be negative. They find that in general, average (median) RRP is negative, meaning that managers tend to time the market. Around 2007-2008 (crisis), firms pay at positive RRP or repurchase at significant premium (up to 8.4%). In years they repurchase more, the RRP is more negative (time market more).
- In addition, *frequent repurchasers* pay higher prices than infrequent repurchasers. Frequent repurchasers are firms repurchase *9 or more months* in a given year, while infrequent repurchasers undertake *4 or fewer months* in a given years. Why? Infrequent repurchasers time the market, while frequent repurchasers have alternative motives to repurchase other than misvaluation.
- Because if they can time the market, they do so on their own account. RRP will be more negative in quartile with highest $Net\,Insider\,Buying = (InsiderBuy - Sell)/Outstanding$ (insiders also net buy, meaning that stocks are underpriced).
- Holding the repurchase portfolio (at underpriced value) could earn abnormal returns in long-term.

3.2 Local clienteles

Becker et al. (2011) propose that retail investors tend to buy local stocks and senior investors prefer the dividends. So firms in areas of a large fraction of seniors are more likely to pay dividends, initiate dividends, and have higher dividend yields. There are two competing hypotheses: Demand (from local clientele) and Supply (firms in this area have higher performance in terms of Investment and Net Income, so pay more dividends). The regression results support the Demand hypothesis, Local Seniors tend to positively relate to Dividend Payer, Dividend Initiation, and Dividend Yield. The effect holds for county fixed effects.

The results do not support the supply side because the $LocalSenior$ does not significant affect the $Investment$ and $NetIncome$ of firms (negative coeffcients). In addition, there is no relation between $LocalSenior$ and the $RepurchaseYield$ too.

Next, they consider the effect for subsamples:

- Interact with $SmallFirm$ is positive: stronger effect
- Interact with $HighLocalBiasCounty$: positive
- Interact with $Bank$: positive
- Interact with $InverseNumberOfFirms$ ("only-game-in-town" effect of Hong, Kubik, and Stein (2008)): positive

Next, they use an exogenous shock: corporate headquarter moves, then compare between dividend post-move minus pre-move. The model is $\Delta Dividend = (+)\Delta LocalSenior$, confirming the effect.

The potential benefits of satisfying the local investors are:

- Lower stock turnover: because local seniors tend to buy dividend-paying stocks in 2 weeks leading up to the ex-dividend day, and are more likely to buy stocks after they start to pay dividends. Then they hold stocks twice longer period than other investors.
- Ex-dividend day price reaction: the drop in ex-dividend day is related to the dividend amount, should be large when the dividend demand is high. The price drop reflects the relative value of dividends and capital gains to marginal stockholders, so *larger drop is a good thing*.
  - Dependent is *relative price drop*; the main independent is $Div/Price$, $LocalSenior$, and their interaction. Relative price drop is negative of Open Price of ex-dividend day minus Close Price of last cum-dividend day, divided by Close Price of last cum-dividend day.
  - $RelativePriceDrop = (+)Div/P + (-)(Div/P) \times SmallFirm + (+)Div/P \times Senior \times SmallFirms$
  - So, higher demand for dividends is associated with larger price drops in ex-dividend days, but only for small firms. In regions where people's income and tax rate is high, the price drop is smaller.

3.3 Public firms vs. Private firms

Michaely and Roberts (2012) use UK data to analyze how private firms are different from public firms in terms of paying dividends. There are three types of firms:

- Wholly owned: corresponds to privately held firms with few shareholders, often only one, that are intimately involved in the operations and management of the firm through positions on the board of directors, financing arrangements, and managerial positions
- Private Dispersed: consists of privately held firms with a dispersed shareholder base, often through employee ownership plans and extensive external financing arrangements
- Public: publicly held firms

Public firms tend to pay higher dividend (27% of profits) and smooth dividends (reluctant to cut/omit dividends) more significantly than private firms (wholly owned firms pay 13% profits as dividends). They also less likely to initiate dividends as well. Similarly, public frms' dividend policies should be *less sensitive to transitory earnings shocks* relative to private frms (in terms of speed of adjustment λ).

For wholly owned firms, it should look like the irrelevance proposition in MM (1961) where the payout decision is the residual decision after the investment and financing decisions. This suggests that wholly owned frms are *more likely to alter their dividend* stream and *less likely to smooth* dividends than private dispersed frms. They also tend to be more sensitive to changes in investment opportunities than other firms.

Ultimately, *ownership structure* and *incentives* play key roles in shaping dividend policies.

Methods

- Propensity score matching
- A sample of firms that transition from private firms to public status
- Lintner dividend model: speed of adjustment λ is in the range of 0.83, 0.63, and 0.41 for wholly owned private firms, private dispersed firms, and public firms. In term of time duration, a shocks in transitory earning, private wholly owned firms need aroud 2-3 years, private dispersed need 4 years, while public firms need 6-7 years so that the earning shock is effectively gone.

A seminal paper of Lintner (1956) propose that managers target a long-term payout ratio. They apply a Lintner dividend model:

$$\Delta Dividend_{it} = \alpha_i + \lambda_i(\beta_i Profit_{it} - Dividend_{it-1}) + \epsilon_{it}$$

Intuitively, Lintner's model implies that frms have a target payout ratio β_i measured as a fraction of their profits. Any difference between last period's dividends and the target level is reduced by a fraction λ_i each period. We can understand λ as the speed of adjustment or the response of firms to transitory earning shocks. Small values for λ suggest a smooth dividend policy, while a large λ implies a more sensitivity of dividends by a large changes driven by transitory shocks.

- Why public firms smooth their dividends more:
  - Market frictions such as agency conflicts and information asymmetry: In wholly owned firms with less agency, the adjustment is almost immediate.
  - Scrutiny from the public capital markets force public firms to smooth dividends.
- *Differential response of dividends* to negative and positive earnings shocks
  - Shocks is the residuals from frm-by-frm regressions of earnings on a constant and a time trend. A negative (positive) earning shocks is when residuals in the lower (upper) third of distribution.
  - Next, they compare the *dividend response*, measured by the growth in dividends, to negative and positive earnings shocks.
  - Wholly owned and private dispersed firms' dividends tend to *be more sensitive to earnings changes*, whether positive or negative, relative to public frms. For example, wholly owned firms increase dividends by 42% and public frms increase by 17%.
- Dividend ratio (over profit and over total assets):
  - Public frms distribute 27% of their operating profts in dividends (and 2% dividends-to-assets ratio), and private dispersed frms distribute 17.8% of operating profts (0.9% of assets). Wholly owned frms pay the lowest relative dividend: 13.4% of operating profts and 0.7% of assets.

- Regress $DividendRatio = \alpha + \beta SaleGrowth$, where Sale Growth is empirical proxy for investment opportunities. Coefficient of $SaleGrowth$ is largest in amgnitude for wholly owned firms, followed by public and private dispersed firms.

3.4 Institutional ownership

Method of Crane et al. (2016): After Russell 2000 re-index around May 31st each year, more IO for firms newly index in Russell 2000 and less IO in Russel 1000. So they use 2SLS to check:

- Stage 1: $IO = R2000 + (Rank^* - 1000) + R2000(Rank^* - 1000) + FloatAdjust$
- Stage 2: $Payout = (+)\widehat{IO} + R2000 + (Rank^* - 1000) + R2000(Rank^* - 1000) + FloatAdjust$

The first stage is sharp RDD, which different from fuzzy RDD in Fich et al. (2015). Crane et al. prove that the sharp RDD is more appropriate. $Payout$ have 5 variables: Ln(dividend), DivYiel, Pr(Dividend), Ln(TotalPayout), and Ln(Repurchase). $Rank^*$ is firm size rank on May 31, $FloatAdjust$ is actual rank by Russell in June minus size rank in May 31st.

- Result:
  - Positive relation between IO and Payout. So IO requires/leads to more dividend.
  - Reasons: Insititutional investors actively monitor firms to reduce agency problems so lead to higher dividends.
  - Evidence on voting: Russell 2000 firms have more shareholder-related and governance-related provisions/proposals. IO also affects the voting outcomes on management proposals. Russell 2000 firms vote againts more for management proposals and these proposals are less likely to pass. Together, IO are more active to monitor firms.
  - Six proxies for agency costs: CEO-chairman, CEO ownership, Board size, GIM-index, ROA, high CF/low MTB (Jensen 1986 idea). The interaction with IO show a higher dividends for high agency firms: Y is Ln(Dividend), main independent is IO*AgencyProxy. This supports that in firms with serious agency problems, the IO effect will be more positive for firms' payout policy.

3.5 Financial Crisis

Payout reduction as substitute form of corporate finance We have two papers relating to financial crisis: Bliss et al. (2015) and Floyd et al. (2015). During 2008-2009 crisis, when there is a shock to supply side, Bliss et al. (2015) report a significant reductions in both dividend payout and share buyback. But repurchase reductions prevail to a larger extent than dividend cuts. Payout reductions are more likely in firms with higher leverage, more valuable growth options, and lower cash balances. These types of firms seem to be suffer more negative consequences from the external financing shock.

Firms seem to use payout reduction and cash retention as a substitute form of corporate finance. Cash retention benefits will be higher during the financial crisis and firms could use proceeds from payout redution for financing future investment opportunities.

Their specific findings are:

- During crisis, percentage of firms reduce or eliminate dividends increase from 6% in 2006 to 25% in 2009
- In addition, percentage of firms reduce or eliminate repurchase increase from 52% in 2006 to 89% in 2009. Share repurchase, thus, seems to be more flexible.

Industrial firms and banks The second paper touches this feature is Floyd et al. (2015). They go further to compare payout policies between US banks and US industrial firms over past 30 years.

For industrial firms:

- The fraction of industrials that pay dividends declined from 57% in 1980 to 15% in 2002, consistent with Fama and French (2001). After 2002, they find a reverse in the propensity to pay dividends among industrial firms (in terms of fraction of dividend payer and aggregate real dividends) when dividends grow strongly. For these firms, ***repurchases now exceed dividends*** in most years, but dividends also increase. Before the crisis, increases in repurchases push payouts to historic levels, with total payouts peaking at $673 billion in 2007, well over twice the maximum for the 1990s (in real terms).
- The financial crisis of 2007–2008 has a *modest effect* on industrial dividends. The fraction of industrials that pay dividends declined to a low of 15% in 2002 but then rebounded, increasing to 28% by 2012, and was not greatly affected by the crisis. During crisis, their dividends declined by a total of 5% during 2008 and 2009, and then rebounded to levels above the 2007 peak.
- Repurchase in industrials is more volatile because it is less of a commitment. Firms begin to pay repurchase since 1983. The growth of repurchases over 2001 to 2007 is even more impressive. By 2007, repurchases were more than twice as large as dividends. In 2008 and 2009, *industrials cut repurchases sharply* but then increased repurchases to levels that again exceeded dividends. In recent years, industrials paid out historically high fractions of their earnings, with total payouts reaching 90% of aggregate earnings. It is likely that repurchase is procyclical.

In contrast, banks seem to have a ***higher and more stable*** propensity to pay dividends and resist cutting dividends as the 2007–2008 financial crisis begins.

- Interestingly, *banks rely on dividends more than industrials*. They do not find a declining propensity to pay dividends in banks (as in Fama and French (2001)). At least 80% of banks consistently paid dividends over the past 30 years, compared to a fraction of only 26.7% of industrials.

- Before crisis, for banks, payouts grew from $34 billion in 1998 to $71 billion in 2007 but were tilted ***more heavily toward dividends***. So banks increased dividends, both in *aggregate and per share*, more consistently than industrials.
- Banks also repurchase, but repurchases rarely represent more than one-third of bank payouts and never exceed dividends.
- During the crisis, most large banks reduced dividends *but many did so relatively slowly*, suggesting a reluctance to cut. Some banks maintained dividends while reporting losses (more than 20% payers reporting loss in crisis years, 10 times higher than normal ratio). Similar to industrials, they also *cut more repurchases quickly than dividends* because lacking of commitment.

Comparisons Thus, banks are different from industrials in several ways:

- Rely on dividends than repurchase. In contrast, firms rely more on repurchase.
- Before crisis, they increase in dividends more and stable (in aggregate and DPS) over time, while industrials mainly increase their repurchase.
- In crisis, they reduce payout more while the crisis does not affect industrials' payout too much. The reason banks reduce payout because their financial positions and requirements of two programs CPP and SCAP from US Treasury.

They then try to solve the underlying reasons to explain these difference in payout policy between industrial firms and banks. There are two possible reasons: (i) commitment to pay out cash help to reduce agency costs of free cash flows and (ii) dividends signals firm profitability and financial strength.

Banks create liquidity by taking deposits, highly levered, and hold short-term deposits and assets but lend in long-term. As a result, banks are more opaque. Thus, banks pay dividends to signal their financial strength. In contrast, repurchase does not signal anything and is hard to assess and track (need two-three years to finish repurchase program).

They suggest that banks use dividends as signaling of financial strength while dividends in firms are related to agency problem.

This paper also considers three regulation programs in US and how it could affect payout policy:

- Oct 2008, Capital Purchase Program (***CPP***) as part of TARP to bail out a total of 646 banks. Banks received funds under CPP *could not increase dividends* but did not have to reduce existing dividends.
- Feb 2009, Capital Assistance Plan (CAP) which includes ***SCAP*** mandate stress tests for 19 banks with assets larger than $100m: 10 banks need issue new equity capital to meet inadequate capital.

- In 2003, a tax program "Jobs and Growth Tax Relief Reconciliation Act of 2003 (***JGTRRA***)" lowers tax rate on dividends to 15%, reducing the long-standing tax disadvantage of dividends vis-à-vis repurchases. They do not find evidence that there is a substitution from repurchases to dividends, but both types of payout increase.

References

Bo Becker, Zoran Ivković, and Scott Weisbenner. Local Dividend Clienteles. *The Journal of Finance*, 66(2):655–683, April 2011. ISSN 1540-6261. doi: 10.1111/j.1540-6261.2010.01645.x. URL http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.2010.01645.x/abstract.

Barbara A. Bliss, Yingmei Cheng, and David J. Denis. Corporate payout, cash retention, and the supply of credit: Evidence from the 2008–2009 credit crisis. *Journal of Financial Economics*, 115 (3):521–540, March 2015. ISSN 0304-405X. doi: 10.1016/j.jfineco.2014.10.013. URL http://www.sciencedirect.com/science/article/pii/S0304405X14002359.

Alan D. Crane, Sébastien Michenaud, and James P. Weston. The Effect of Institutional Ownership on Payout Policy: Evidence from Index Thresholds. *The Review of Financial Studies*, 29(6):1377–1408, June 2016. ISSN 0893-9454. doi: 10.1093/rfs/hhw012. URL https://academic.oup.com/rfs/article/29/6/1377/2583671/The-Effect-of-Institutional-Ownership-on-Payout.

Harry DeAngelo, Linda DeAngelo, and Douglas J Skinner. Are dividends disappearing? Dividend concentration and the consolidation of earnings. *Journal of Financial Economics*, 72(3): 425–456, June 2004. ISSN 0304-405X. doi: 10.1016/S0304-405X(03)00186-7. URL http://www.sciencedirect.com/science/article/pii/S0304405X03001867.

Amy Dittmar and Laura Casares Field. Can managers time the market? Evidence using repurchase price data. *Journal of Financial Economics*, 115(2):261–282, February 2015. ISSN 0304-405X. doi: 10.1016/j.jfineco.2014.09.007. URL http://www.sciencedirect.com/science/article/pii/S0304405X14001913.

Eugene F Fama and Kenneth R French. Disappearing dividends: changing firm characteristics or lower propensity to pay? *Journal of Financial Economics*, 60(1):3–43, April 2001. ISSN 0304-405X. doi: 10.1016/S0304-405X(01)00038-1. URL http://www.sciencedirect.com/science/article/pii/S0304405X01000381.

Eric Floyd, Nan Li, and Douglas J. Skinner. Payout policy through the financial crisis: The growth of repurchases and the resilience of dividends. *Journal of Financial Economics*, 118 (2):299–316, November 2015. ISSN 0304-405X. doi: 10.1016/j.jfineco.2015.08.002. URL http://www.sciencedirect.com/science/article/pii/S0304405X15001415.

Gustavo Grullon and Roni Michaely. Dividends, Share Repurchases, and the Substitution Hypothesis. *The Journal of Finance*, 57(4):1649–1684, August 2002. ISSN 1540-6261. doi: 10.1111/1540-6261.00474. URL http://onlinelibrary.wiley.com/doi/10.1111/1540-6261.00474/abstract.

Gustavo Grullon and Roni Michaely. The Information Content of Share Repurchase Programs. *The Journal of Finance*, 59(2):651–680, April 2004. ISSN 1540-6261. doi: 10.1111/j.1540-6261.2004.00645.x. URL http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.2004.00645.x/abstract.

David Ikenberry, Josef Lakonishok, and Theo Vermaelen. Market underreaction to open market share repurchases. *Journal of Financial Economics*, 39(2):181–208, October 1995. ISSN 0304-405X. doi: 10.1016/0304-405X(95)00826-Z. URL http://www.sciencedirect.com/science/article/pii/0304405X9500826Z.

Michael C Jensen. Agency cost of free cash flow, corporate finance, and takeovers. *Corporate Finance, and Takeovers. American Economic Review*, 76(2), 1986.

Roni Michaely and Michael R. Roberts. Corporate Dividend Policies: Lessons from Private Firms. *The Review of Financial Studies*, 25(3):711–746, March 2012. ISSN 0893-9454. doi: 10.1093/rfs/hhr108. URL https://academic.oup.com/rfs/article/25/3/711/1615185/Corporate-Dividend-Policies-Lessons-from-Private.