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目　录

1. Manager sentiment and stock returns

Fuwei Jiang, Joshua Lee, Xiumin Martin, Guofu Zhou

background

Baker and Wurgler (2006) propose an investor sentiment index that has been widely used to explain asset prices. However, there is little research on corporate managers' sentiment. corporate managers are not immune from behavioral biases. so, they can be overly optimistic or pessimistic relative to fundamentals, leading to irrational market outcomes.

In this paper, we investigate the manager sentiment—asset pricing, focusing on its predictability for future U.S. stock market returns.

method

construct a manager sentiment index based on the aggregated textual tone in firm financial statements and conference calls（电话会议和公司年报中的平均文本语气）. Using the standard dictionary method and the Loughran and McDonald (2011) financial and accounting dictionaries, we measure textual tone as the difference between the number of positive and negative words in the disclosure scaled by the total word count of the disclosure.

However, our study has two major differences from these existing studies.
First, while these studies focus on firm-level measures for predicting, we provide an aggregate index综合指标to gauge the overall manager sentiment in the market.
Second, while other studies use firm disclosures at the quarterly or annual frequency, we compute a monthly index from both voluntary and mandatory firm disclosures filed within each month.

process

1.regressing excess market returns on the lagged manager sentiment index.——The manager sentiment index yields a large in-sample R^2 of 9.75%, and a one-standard deviation increase in manager sentiment is associated with a −1.26% decrease in the expected excess market return for the next month. In addition, the predictive power of manager sentiment continues to be robust out-of-sample

2. compare the return predictability of manager sentiment to various macroeconomic predictors. Specifically, we consider a set of 14 well-known macroeconomic variables：short-term interest rate 、 earnings-price ratio、 book-to-market ratio.——manager sentiment is greater than that of these other macroeconomic predictors.

3.examine the relationship between manager sentiment and subsequent aggregate earnings surprises.——manager sentiment negatively predicts subsequent aggregate earnings surprises in the next year.

4. examine the relationship between manager sentiment and future aggregate investment growth.——high manager sentiment —high aggregate investment growth in the short run up to three quarters, but low subsequent aggregate investment growth in the long run up to two years.

5. compare the manager sentiment index with existing measures of investor sentiment: the Baker and Wurgler (2006) investor sentiment index; the Huang et al. (2015) aligned investor sentiment index; ——find that the manager sentiment index correlates positively with all these existing investor sentiment measures. The largest correlation is with the Baker and Wurgler (2006) investor sentiment index at about 0.5. The other correlations are smaller, ranging from 0.1 to 0.2.

6. Examine whether that manager sentiment is significantly different from existing investor sentiment and it contains unique and incremental information
First, we show that the forecasting power of manager sentiment remains significant after controlling for these existing investor sentiment measures. Second, the predictive power of manager sentiment is stronger than existing investor sentiment measures.

Conclusion

manager sentiment is a strong negative predictor of future aggregate stock market returns, which is far greater than the predictive power of other previously studied macroeconomic variables；

Its predictive power is informationally complementary to existing measures of investor sentiment；

Higher manager sentiment precedes lower aggregate earnings surprises and greater investment growth；

manager sentiment negatively predicts cross-sectional stock returns, particularly for firms that are difficult to value and costly to arbitrage.

2.What a difference a birth month makes: The relative age effect and fund manager performance出生月份能带来多大差异：相对年龄效应与基金经理业绩

John (Jianqiu) Bai, Linlin Ma, Kevin A. Mullally, David H. Solomon

background

In understanding the drivers of firm outcomes, recent academic attention has turned toward the individual characteristics of firm managers. A trait is overconfidence. Overconfidence has been shown to have both “bright” and “dark” sides.

We study how month of birth affect the confidence and performance of mutual fund managers.

Most education systems have a single cutoff date for school eligibility. Because relatively older children are likely to be physically bigger and more cognitively developed, it is unsurprising that they display better performance on tasks at a young age.

method

Data and sample selection：
Morningstar Direct Mutual Fund database晨星直接共同基金数据库： fund names, manager names, returns, expense ratios, turnover ratios.
LexisNexis Public Records (LNPR) database律商联讯公共数据库：6222 managers，the birth month, year, and their social security numbers.

被解释变量：Carhart（1997) four-factor计算每支基金每月度的超额收益，并对此进行年度平均化，获得每支基金的年度平均累计超额收益。Performance $_{i,t}$ is the fund's annual Four-factor alpha.

$$Performance_{i,t} = \alpha + \beta(RelAge_{i,t-1}) + \gamma'(FundChars_{i,t-1}) + \varphi'(MgrChars_{i,t-1}) + \varepsilon_{i,t}, \quad (2)$$

Our main variable of interest is a manager's RelAge 相对年龄差距.

$$RelativeAge = \left\{ \begin{array}{c} CutoffMonth - BirthMonth, \\ BirthMonth < CutoffMonth \\ 12 - (BirthMonth - CutoffMonth), \\ BirthMonth \geq CutoffMonth \end{array} \right\}.$$

older managers (i.e., those born just after the cutoff) make better stock selections, and their funds outperform their younger peers' funds by 0.48% per annum.

Alternative causes of return differences：

基金经理教育水平和基金管理技巧、基金团队管理基金的样本、研究范围限定在那些出生在6月至9月的样本（排除基金经理父母操纵基金经理出生日期）

3.Industry familiarity and trading: Evidence from the personal portfolios of industry insiders

Itzhak Ben-Davida, Justin Birru, Andrea Rossi

background

Although most analyses find that individuals lose on average from trading, a few studies show that some individuals consistently outperform the benchmarks. One potential source is familiarity with the stocks and industries they trade. Several studies attempt to examine this source, yet the results are mixed—Some earn negative returns，others positive returns. so, it is important to understand whether familiarity with an industry is related to skill.

we examine trades made by industry insiders.
In this setting, top corporate executives serve as retail traders.

process

data come from two matched data sets. The first :the trading records of 78,000 individual investors at a large discount broker (henceforth, the LDB data set) from January 1991 to November 1996. The second :the activity of all industry insiders, who are required by law to report their trading activity in their own firm.

1.examining the trade composition of insiders. show that insiders actually trade more in own-industry stocks relative to non-own-industry stocks.

2. test whether insiders exhibit skill with respect to their stock buy-and-sell decisions.——insiders exhibit skill only in their own-industry trades.——insider outperformance in own-industry stocks does not merely stem from an ability to time industry returns. Rather, insiders exhibit within-industry stock-picking ability.

3. examine the source of superior performance of industry insiders in expertise stocks. ——the industry insiders outperform due to an information advantage. In particular, superior performance of the insiders is concentrated in obscure stocks: small stocks, stocks with low analyst coverage, and those with high idiosyncratic risk.

Second，determine whether industry insiders trade ahead of specific news events,i.e. earnings announcements.——no evidence of that correlation about trading performance around traded firms' earnings announcements.

Third, test for a correlation between trading activity of industry insiders and their own earnings announcements. —— find no association between the returns of their earnings announcement and the propensity to trade another firm in the industry.

Fourth, examine whether insiders trade ahead of M&A announcements. —— find no evidence that insiders trade ahead of M&A activity in other firms.

Conclusion

1.insiders trade firms from their own industry more frequently；

2.they earn abnormal returns exclusively when trading own-industry stocks, especially obscure stocks (small, low analyst coverage, high volatility)；

3.no evidence of the use of private information；

4.industry familiarity is an advantage in stock trading.

4. Preference for dividends and return comovement

Allaudeen Hameeda, Jing Xie

background

Barberis and Shleifer (2003) and Barberis et al. (2005) present models where investors allocate capital at the level of asset categories rather than individual stocks. Their studies show that as investor capital flows in and out of specific categories， category investing of shareholder generate comovement in stock returns.

However, recent work in Chen et al. (2016) cast doubt on excess comovement stemming from index additions (Barberis et al., 2005) or stock splits (Green & Hwang, 2009), arguing that the changes in these comovement patterns are driven by prior stock return performance.

In this paper, we provide fresh evidence of return comovement driven by investor preference for dividends.

Using dividend initiations by firms trading on NYSE/Amex and Nasdaq over the 1981 to 2012 period, All accounting data are obtained from Compustat.

Each year, we identify dividend initiators as firms that pay dividends in the current year, but not in the previous years.

For each dividend initiator, we create a matched sample of control firms with similar propensity to pay dividends, but that do not experience a change in dividend policy

For each firm i that initiates dividends in year t, we examine the comovement of stock i's daily returns on two benchmark portfolios.

The first portfolio consists of stocks that pay regular dividends in the four years leading to year t (i.e., those that pay dividends from year t-3 to t), denoting the (equal-weighted) portfolio return on day d as $MKT_{D,d}$.

The second portfolio consists of stocks that did not distribute any dividends in the four years prior to t (i.e., zero dividends from year t-3 to t), with the corresponding daily (equal-weighted) portfolio return denoted as $MKT_{ND,d}$.

$$Ret_{i,d} = \alpha_i + \beta_i * MKT_{D_{RES,d}} + \gamma_i * MKT_{ND_{RES,d}} + \delta * X_d + \varepsilon_{i,d},$$

where $Ret_{i,d}$ is the return on dividend initiator i on day d; $MKT_{DRES,d}$ ($MKT_{NDRES,d}$) refer to residuals of benchmark portfolio returns when regressed on the Fama–French–Carhart four factor model. X refers to a vector of the same four risk factors.

1.Baseline results：
compare the changes in return comovement of the dividend initiators with the control firms drawn from non-dividend payers.
——obtain an increase in the comovement of dividend initiators with other dividend-paying stocks and a decrease in comovement with non-dividend paying stocks.

2.Dividend initiations and return comovement: 2003 tax cut evidence
The Jobs and Growth Tax Relief Reconciliation Act
the 2003 Tax Cut reduces the tax disadvantage of dividends for the taxable investors.
——strongly supports the notion of dividend clientele-induced return comovement.

3.Cash and stock classes of Citizens Utilities公用事业: a natural experiment
CU has two classes of common stock that are identical：One class of shares received stock dividends and the other class received cash dividends.
——the cash dividend share class of Citizens Utilities

5. Acquirer reference prices and acquisition performance

Qingzhong Ma, David A. Whidbee, Wei Zhang

background

Several studies find that a stock price's proximity to past peak prices affects investor behavior. Baker et al. (2012) find strong evidence that premia paid to publicly traded targets are significantly affected by the 52-week high prices of the targets, suggesting that reference prices play an important role in perceived valuation levels of targets in acquisitions.

this paper investigate whether 52-week high prices play a role in the perceived valuation levels of *acquirers at the M&A announcements.*

process

sample : acquisitions is drawn from the Securities Data Corporation (SDC). The deals are announced during the 1981–2014 period; the acquirers are publicly traded U.S. firms and have stock price data from CRSP and accounting data from Compustat. The final sample includes a total of 19,119 transactions.

the acquirer's cumulative abnormal return (CAR)
the acquirer's reference price ratio (RPR)

1.separate sample into acquisitions of publicly traded targets and private (private or subsidiary) targets and then sort each sample into two equal groups (by year) based on RPR.
The Low (High) RPR group includes acquisitions with acquirers' RPR below (above) the sample median.
——low RPR acquirers earn a higher CAR than high RPR acquirers .

2.Multiple regressions

presents four ordinary least squares (OLS) regressions examining the impact of acquirer RPR on acquirer CAR. All regressions control for Fama and French (1997) industry and year fixed effects

——the reference price effect is stronger among private deals, ——reference prices having a greater influence when there is less information available

Further, RPRs based on 39-, 26-, and 13-week highs yield similar.

3. The role of uncertainty

consider four proxies for information uncertainty: the volatility of acquirer stock returns, the number of analysts following the acquirer, the relative size of the acquisition, and non-cash methods of payment.

——The acquirer reference price effect is stronger in acquisitions of private targets, deals involving greater uncertainty

4. The role of investor sophistication

examine whether less sophisticated investors are more likely to be influenced by the acquirer's 52-week high price when estimating the valuation implications of an acquisition. Generally, empirical evidence suggests that institutional investors tend to be more sophisticated.

——a strong reference price effect for acquirers with average individual investor ownership

5. Long-run acquirer returns

examine the abnormal returns surrounding the earnings announcements over the subsequent one-year period

——their reactions to acquisition announcements are influenced by the 52-week highs in the short-term, but the influence is eventually corrected in the long-term.

Conclusion

This reference price effect is stronger in acquisitions of private targets, deals involving greater uncertainty, and acquirers with greater individual investor ownership, and it is reversed in the subsequent year.

Further, acquirer reference prices affect bid premia and target announcement-period returns.

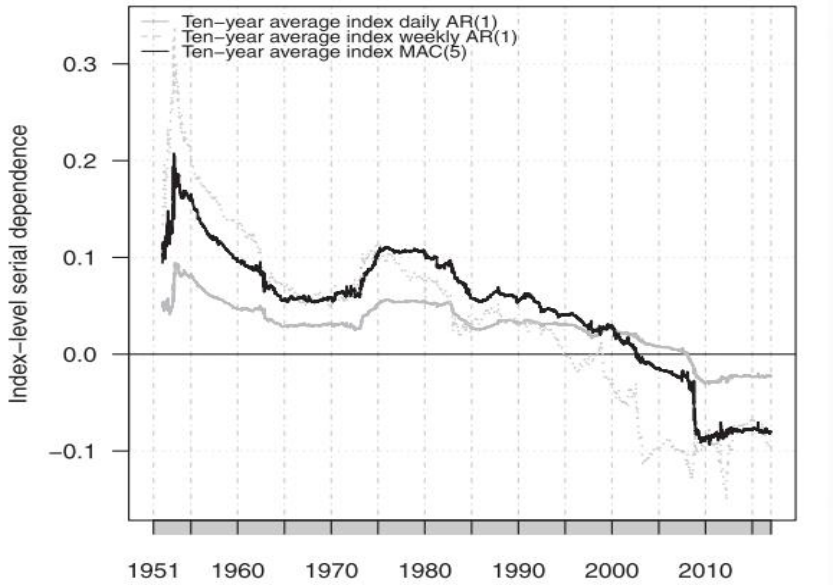
investors irrationally using 52-week high prices as a measure of acquirer valuation.

6.Indexing and stock market serial dependence around the world

Guido Baltussen, Sjoerd van Bekkum , Zhi Da

background

Since the 1980s, many studies have examined the martingale property of asset prices and shown positive serial dependence in stock index returns.
In this paper, we provide novel evidence that serial dependence in index returns has turned significantly negative more recently across a broad sample of 20 major market indexes covering 15 countries in North America, Europe, and the Asia-Pacific.
first-order autocorrelation from index returns at the daily frequency ["daily AR(1)"]
multi-period autocorrelation in index returns with *q equal to five ["index MAC(5)"].*



Data： the world's largest, best traded, and most important stock indexes in developed markets around the world, as well as for their corresponding futures and ETFs（开放式指数基金）

1.using AR(1) coefficients to proxy for serial dependence.

2. multiperiod autocorrelation (with linearly or exponentially declining weights指数递减权重) as a more comprehensive way to measure serial dependence.

3.We present evidence that the large negative changes in index serial dependence are associated with the increased popularity of index products. Index MAC(5) is positive up to the introduction of the futures and becomes significantly negative thereafter.

7.Probability of price crashes, rational speculative bubbles, and the cross-section of stock returns

Jeewon Jang, Jangkoo Kang

background

To explain a variety of anomalies in association with overpricing, two central questions arise：what drives stocks in the short-leg portfolios to be overpriced ； why their abnormally low returns are not arbitraged away没有因为套利而消失.

our paper constructs an ex ante measure of potential overpricing for individual stocks and investigates the cross-sectional relation between our measure of overpricing and future stock returns.

Data：the monthly and daily stock files from the Center for Research in Security Prices (CRSP) database over the period January 1926 through December 2015.

Definition of price crashes：the event that a stock price bubble bursts. In other words, the event of log returns less than −70% over the next 12 months.

Prediction of price crashes with a generalized logit model：employ a generalized logit model to estimate crash probability.

probabilities of crashes over the next 12 months with the following distribution:

$$\Pr_t(Y_{i,t,t+12} = -1) = \frac{\exp(\alpha_{-1} + \beta_{-1}X_{i,t})}{1 + \exp(\alpha_{-1} + \beta_{-1}X_{i,t}) + \exp(\alpha_1 + \beta_1 X_{i,t})},$$

$$\Pr_t(Y_{i,t,t+12} = 1) = \frac{\exp(\alpha_1 + \beta_1 X_{i,t})}{1 + \exp(\alpha_{-1} + \beta_{-1}X_{i,t}) + \exp(\alpha_1 + \beta_1 X_{i,t})},$$

where $Y_{i,t,t+12}$ equals −1 if firm i's log return during months t + 1 to t + 12 is less than −70%, 1 if the same return is greater than 70%, and zero otherwise. $X_{i,t}$ denotes a vector of explanatory variables known at the end of month t. Eq. indicates that an increase in the value of $\alpha_{-1} + \beta_{-1}X_{i,t}$ or $\alpha_1 + \beta_1 X_{i,t}$ predicts a higher probability of a crash or jackpot, respectively.

explanatory variables：Past market return (RM12), past individual return in excess of the market return (EXRET12), total volatility (TVOL), total skewness (TSKEW), firm size (SIZE), detrended turnover (DTURN), firm age (AGE), tangible assets (TANG), and sales growth

Conclusion

stocks with a high probability of crashes earn abnormally low returns；

Stocks with high crash probability are overpriced regardless of the level of institutional ownership or variations in investor sentiment；

institutional investors who overweight high crash probability stocks outperform the others, indicating that they have skill in timing bubbles and crashes of individual stocks；

sophisticated investors may not always trade against mispricing but time the correction of overpricing.

8.Variance risk in aggregate stock returns and time-varying return predictability

Sungjune Pyun

background

Whether market returns are predictable using public information.

Although studies show that a number of variables can forecast future market returns, several problems have also been observed.

First, predictive relationships appear to change over time, with some variables being successful in certain periods (Fama and French, 1988a) or at specific periods of the business cycle (Dangl and Halling, 2012).

Second, predictors that perform well in sample often fail out of sample (Goyal and Welch, 2008; Campbell and Thompson, 2008).

Lastly, return predictions typically perform poorly at shorter horizons (Fama and French, 1988a).

method

This paper proposes a new out-of-sample approach to monthly return predictions using the VRP. VRP is the price of variance risk and is commonly interpreted as a proxy of time-varying aggregate risk aversion.

$$R_{m,t} = \beta_{v,0} + \beta_v(RV_t - \mathrm{E}_{t-1}[RV_t]) + \epsilon_{o,t}$$

$$RV_{\tau+k} = a_0 + a_d RV_\tau + a_w \sum_{j=0}^{4} RV_{\tau-j} + a_m \sum_{j=0}^{21} RV_{\tau-j} + e_{\tau+k}$$

use a variation of Corsi's model （2009）and forecast the RV. The market variance of day τ+ *k, for any k ≥1 can be forecasted on day τ.*

data :The high-frequency intraday trading data for the S&P 500 Index are obtained from Tickdata分笔股票数据.

This new methodology is potentially superior for several reasons.

First, the regression of returns on variance innovations has a much higher R^2 compared to that of the traditional predictive regressions. A higher R^2 implies that the coefficients used for the out-of sample predictions are estimated more accurately.

Second，the new approach predicts one-month market returns. the traditional approach is unable to produce accurate forecasts of one-month returns.

9. Are lemons sold first? Dynamic signaling in the mortgage Market

Manuel Adelino，Kristopher Gerardi，Barney Hartman-Glaser

background

One of the most widely studied market settings in economics is that of a seller with private information about the quality of an asset facing less-informed buyers.
In this kind of setting with adverse selection, sellers can take actions to reveal their private information.

This notion of signaling has been successfully applied in theoretical models of financial markets to explain a variety of phenomena. But there is little empirical evidence that agents actually engage in these activities to signal. The fundamental challenge is to observe agents' private information. We address this challenge by using unique features of the US mortgage market.

The Model

The model consists of a mortgage originator and a competitive market of mortgage investors.

This mortgage produces a cash flow of c dollars per unit of time until it defaults at some random time τ

The default time τ is an exponential random variable with parameter λ distributed on the compact interval $[\lambda_l, \lambda_h]$ according to the continuous density f(λ).

λ： annualized expected default rate for the mortgage； the seller's type
γ： seller discounts cash flows at rate
r < γ： the investors discount cash flows at rate

the lowest possible value of a mortgage to investors is

$$p_h = E\left[\int_t^{\infty} e^{-r(s-t)} \mathbb{1}(s \le \tau) c ds | \lambda_h\right] = \frac{c}{r+\lambda_h},$$

while the highest possible value is

$$p_\ell = E\left[\int_t^{\infty} e^{-r(s-t)} \mathbb{1}(s \le \tau) c ds | \lambda_\ell\right] = \frac{c}{r+\lambda_\ell};$$

thus, $P(t) \in [p_h, p_\ell]$.

the seller of an outcome of the game is then given by

$$\begin{aligned} U(\lambda, t, p) &= E\left[\int_0^t e^{-\gamma s} \mathbb{1}(s \le \tau) c ds + e^{-\gamma t} \mathbb{1}(t \le \tau) p \middle| \lambda\right] \\ &= \frac{c}{\gamma+\lambda}\left(1 - e^{-(\gamma+\lambda)t}\right) + e^{-(\gamma+\lambda)t} p. \end{aligned}$$

fixing a price p, it is less costly for better (lower default risk) sellers to delay trade. and thus, a trade delay can act as a signal of quality

conclusion

1.The expected default rate of the mortgage decreases with time to sale.

2. The price of the mortgage increases with time to sale.

3. The maximum time to sale for a mortgage is increasing in the difference in default risk between the safest and riskiest mortgage. This means that when the uncertainty about mortgage default risk is greater, leads to longer trade delays.

10.The present value relation over six centuries: The case of the Bazacle company

David le Bris, William N. Goetzmann, Sébastien Pouget

background

The present value relation is fundamental to economics and finance.

Testing the present value relation for financial securities has presented some challenges because of the role played by expectations and time-varying correction for risk.

In this paper, we use long-lived company as a laboratory to test the present value relation. This company, the Honor del Bazacle, was created in Toulouse, France, in 1372 to operate watermills水车.

examines whether expected future dividends are accurately reflected in share prices and the nature of the risk that was priced by investors.

The data extend from the firm's foundation in 1372 to its nationalization in 1946.
Our data set for key reasons.
First, it extends over a long period of time without major technological or governance changes.

Second, the long time period includes rare economic disasters of great magnitude.

Third, the real dividends and stock prices of the Bazacle company are stationary.
Stationarity allows us to explicitly study the link between the absolute level of stock prices and the absolute level of expected dividends.

the actual stock price and the present value of the subsequent realized dividends discounted at a fixed rate of 5%.

The Model

$P_t = \mathbb{E}_t[M_{t+1}(D_{t+1} + P_{t+1})]$. M_{t+1} is the stochastic discount factor （1）

$$D_{t+1} = \alpha + \beta D_t + \gamma \epsilon_t^D + \epsilon_{t+1}^D,$$

with $\mathbb{E}_t(\epsilon_{t+1}^D) = 0$.

$$M_{t+1} = \frac{1}{1+r}\left(1 + \epsilon_{t+1}^M\right).$$

Define the risk correction as $\pi_t = -\mathbb{C}ov_t(\epsilon_{t+1}^M, \epsilon_{t+1}^D)$. We assume that

$$\hat{\pi}_t = \pi_t - \mathbb{E}(\pi_t) = \delta \hat{\pi}_{t-1} + \epsilon_t^\pi, \qquad (4)$$

Pricing conjecture:

$$P_t = a + bD_t + c\epsilon_t^D - d\hat{\pi}_t.$$

plug the pricing conjecture taken at date t + 1 into Eq. (1) to obtain

$$P_t = \mathbb{E}_t\left[M_{t+1}\left(a + (b+1)D_{t+1} + c\epsilon^D_{t+1} - d\hat{\pi}_{t+1}\right)\right].$$

Rearranging yields：

$$P_t = \frac{a + (b+1)\alpha - (b+c+1)\mathbb{E}(\pi_t)}{1+r} + \frac{(b+1)\beta}{1+r}D_t + \frac{(b+1)\gamma}{1+r}\epsilon^D_t - \frac{(b+c+d\delta+1)}{1+r}\hat{\pi}_t.$$

Parameters α, β, γ，a,b,c clearly are directly identified.

—— persistent dividends and a time-varying risk correction is not rejected by the data.

11. Dynamic corporate liquidity

Boris Nikolov, Lukas Schmid, Roberto Steri

background

corporate cash-to-asset ratios in the US more than doubled since 1980. Apart from holding cash, however, firms can draw on credit lines to cover liquidity needs. While a literature has emerged examining either cash holdings or credit line usage, there is little work connecting the two and identifying the mechanisms that shape their distinct role in firms' liquidity management

In this paper, we develop a dynamic model of corporate liquidity management by means of cash and credit lines.

After-tax operating profits：

$$\pi(k_{it}, z_{it}) = (1-\tau)(z_{it}k_{it}^{\alpha} - f),$$

where 0 < τ< 1 denotes the corporate tax rate, 0 < α< 1 is the capital share in production, and *f > 0 is a fixed cost.* The variable z it reflects shocks to demand, input prices, or productivity and follows a stochastic process with bounded support $Z = [\underline{z}, \bar{z}]$

$$k_{it+1} = k_{it}(1-\delta) + i_{it},$$

investment i_{it} . $0 < \delta < 1$ is the depreciation rate of capital.

the net worth of firm:

$$\begin{aligned} w_{it} \equiv\ & \pi(k_{it}, z_{it}) + (1 - \delta(1-\tau))k_{it} \\ & + (1 + r(1-\tau) - \gamma)c_{it} \\ & - (1 + r(1-\tau))l_{it} - (1 + r(1-\tau) + \xi)c_{it}^{L}(z_{it}). \end{aligned}$$

$$e_{it} = w_{it} + l_{it+1} + E_t[c^L_{it}(z_{it+1})] - c_{it+1} - k_{it+1} - \Psi(k_{it}, k_{it+1}).$$

$e_{it} < 0$ as a seasoned equity offering

Equity issuance costs are given by $(\lambda|e_{it}|)\mathbf{1}_{\{e_{it}<0\}}$.

The indicator function denotes that the firm faces these costs only in the region where the net payout is negative. Accordingly, distributions to shareholders d_{it} :

$$d_{it} = e_{it} - (\lambda|e_{it}|)\mathbf{1}_{\{e_{it}<0\}}.$$

w_{it} as a convenient state variable

$$w_{it} + E_t\left[c_{it}^L(z_{it+1})\right] + l_{it+1} = e_{it} + k_{it+1} + \Psi(k_{it}, k_{it+1}) + c_{it+1},$$

$$\begin{aligned} w_{it+1}(z_{it+1}) = {} & \pi(k_{it+1}, z_{it+1}) + k_{it+1}(1-\delta) \\ & - (1 + r(1-\tau))l_{it+1} \\ & + (1 + r(1-\tau) - \gamma)c_{it+1} + \tau\delta k_{it} \\ & - (1 + r(1-\tau) + \xi)c_{it-1}^L(z_{it-1}), \end{aligned}$$

firms' equity value

$$V(w_{it}, k_{it}, z_{it})$$

$$\equiv \max_{k_{it+1}, l_{it+1}, c_{it+1}^L(z_{it+1}), c_{it+1}} \left\{ d_{it} + \frac{1}{1+r} E_t[V(w_{it+1}, k_{it+1}, z_{it+1})] \right\}.$$

formally estimate the parameters of our model by means of a simulation-based estimator, namely the SMM.
data from the Compustat annual files and credit line data from Capital IQ.
then estimate nine parameters using the simulated method of moments.

Result:
our estimated model rationalizes well the levels and joint dynamics of cash, credit lines, leverage, equity financing, and investment，when firms can collateralize roughly one-third of their assets.

Our model thus highlights the importance of collateral as a determinant of corporate liquidity management.

modeling credit lines as contingent liquidity provides novel empirical predictions and rationalizes several stylized facts regarding credit line usage, covenant合同violations, and cash holdings将信贷额度作为或有流动性建模，提供了新的实证预测，并合理化了有关信贷额度使用、合同违约和现金持有的几个典型事实