This paper uses transaction-level data from a Chinese P2P lending platform to study the risk-taking channel of monetary policy. By employing a direct ex-ante measure of risk-taking and estimating the simultaneous equations of loan approval and loan amount, we are the first to provide quantitative evidence of the impact of monetary policy on non-bank financial institution's risk-taking. We find that the search for yield and risk-shifting mechanism co-exist, with the former being the main workhorse of the risk-taking effect. Monetary policy easing is associated with higher probability to approve loan applications and larger loan amount to risky borrowers, but it also weakens the increase in risk-taking from larger loanable funding in the liability side.

As transaction and data hubs, e-commerce platforms are uniquely positioned to extend

credit to users and have become leading players in FinTech. This paper provides the first

evidence on how platform credit shapes the e-commerce market structure. Using data

from Alibaba, we estimate the effects of platform credit on the allocation of customer

attention, and consequently, the sales distribution of e-commerce merchants. We explore

regression discontinuity and difference in difference settings for causal inference. We find

that platform credit amplifies the selection of merchants by customers, and thereby, can

contribute to platform prosperity especially through the cross-side externality.

This paper empirically investigates stock price drift after the release of analysts’ first recommendation in China. We use both event study and cross-sectional regression analyses to assess this anomaly. We first locate the post-recommendation drift in the Chinese stock market and then examine three hypotheses to explain the anomaly. First, the asymmetric market reaction found for the positive and non-positive recommendations rejects the price pressure hypothesis. Second, a complete reversal following the drift excludes the information hypothesis. Third, our empirical evidence, including the asymmetric market reaction, supports the attention grabbing hypothesis. Furthermore, institutional investors are found to adopt the “pump and dump” strategy to profit from individual investors’ limited attention. Finally, policy implications are provided.

This paper examines whether and how firms influence IPO approval regulatory decisions through capturing the media. We predict that (1) IPO firms capture the media through monetary bribes because collusion benefit dominates illegality costs (collusion view); (2) the negative media coverage puts pressure on the CSRC regulators and thus the captured media coverage influences regulatory decisions on the IPO approval (political career view). We find that the abnormal public relations fee which IPO firms have paid reduces negative media coverage related to IPO firms, and then increases the likelihood of receiving IPO approval from the regulators. However, we further find that firms with less negative media coverage before the IPO experience stronger operating performance reversal and lower cumulative abnormal returns after the IPO. Finally, we validate our path analysis by using a simultaneous equation model with instrumental variables. Our findings document that, in an emerging market such as China with an imperfect legal system and an immature media market, IPO firms bribe the media to hide bad news, and that the captured media reduces the IPO resource allocation efficiency.

We provide a dynamic asset-pricing model of cryptocurrencies/tokens on platforms and highlight their roles on endogenous user adoption. Tokens facilitate transactions among decentralized users and allows them to capitalize future growth of promising platforms. Tokens thus can accelerate adoption, reduce user-base volatility, and improve welfare. Token price increases non-linearly in platform productivity, users' heterogeneous transaction needs, and endogenous network size. The growth of user base starts slow, becomes explosive and volatile, and eventually tapers off. Our model can be extended to discuss platform token supply, cryptocurrency competition, and pricing assets under network externality.

Modern firms leverage on big, unstructured data, in particular texts, for originating

loans, predicting asset returns, improving customer service, etc. Moreover, interpretable

textual information sheds light on key economic mechanisms and explanatory

variables. We therefore develop a general framework for analyzing large-scale text-based

data, combining the strengths of neural network language models such as word

embedding and generative statistical modeling such as topic modeling. Our data-driven

approach captures complex linguistic structures while ensuring computational scalability

and economic interpretability. We also demonstrate potential applications of

our methodology to issues in finance and economics, such as forecasting asset returns

or macroeconomic outcomes, interpreting existing models, and creating new domain

knowledge to expand the frontier of analysis.

We study price formation around earnings announcements for S&P 1500 stocks from 2011 to 2015 to understand the relationship between liquidity and price efficiency. Earnings are announced in the after-hours market, an illiquid trading environment with low trading volume. Bid-ask spreads are wide before announcements and the narrowing of spreads post-announcement is asymmetric: ask (bid) prices update instantaneously after positive (negative) news, while the other side is slower to adjust. On average, pre-announcement spreads include the post-announcement mid-quote price, leaving no profits for liquidity-takers. Stock prices fully reflect earnings surprises before the opening of markets even when there are no trades.

Building on the Latent Dirichlet Allocation model, we propose a measure of textual trend.

We apply this measure to Item 1 (Business Description) in 10-K filings. We find strong

evidence that our measure captures a behavioral bias in asset pricing: Firms that score high

on our measure experience positive abnormal returns followed by negative abnormal returns.

We study the price pressure and price discovery effects in the U.S. Treasury market by using a term structure model. Our model decomposes yield curve shifts into two components: a virtually permanent change related to order and a transitory, price pressure effect due to dealer inventories. We find strong

evidence that net dealer Treasury inventories has impact on the yield curve. Cash Treasury securities in inventory have a larger impact on yields than Treasury futures, suggesting that cash and futures inventories are not perfect substitutes. Price discovery in the level of interest rates is most strongly linked to order in the 10-year futures contract, while price discovery in the slope of the curve is linked to order flow in the 10-year futures and the 5-year cash markets.

We study the introduction of a microwave link between Frankfurt and London and identify its effects by comparing German stocks to a control group of French stocks traded only in the London area. We find that arbitrage opportunities are reduced. Smaller stocks become more liquid whereas order flow in large caps becomes more toxic on the smaller exchange. The latter loses trading volume despite experiencing an overall improvement in market quality. Our results suggest characteristics of the instruments traded are an important determinant of the effects of differences in trading speed between market participants as fast traders employ differential strategies.

This paper assesses the impact of media sentiment on international equity prices

using a dataset of more than 4.5 million Reuters articles published across the globe between

1991 and 2015. Media sentiment robustly predicts daily returns in both advanced and

emerging markets, even after controlling for known determinants of stock prices. But not all

news sentiment is alike. A local (country-specific) increase in news optimism (pessimism)

predicts a small and transitory increase (decrease) in local returns. By contrast, changes in

global news sentiment have a larger impact on equity returns around the world, which does

not reverse in the short run. Media sentiment affects mainly foreign – rather than local –

investors: although local news optimism attracts international equity flows for a few days,

global news optimism generates a permanent foreign equity inflow. Our results confirm the

value of media content in capturing investor sentiment.

How does one hedge factor risks without knowing the identities of the factors? We first prove a

general theoretical result: even if the exact set of factors cannot be identified by the econometrician, any

risky asset can use some portfolio of other similar risky assets to insure against its own factor exposures.

A long position of a given risky asset and a short position of this portfolio represents this asset's residual

factor risks. We coin the expected return of this long-short position as an asset insurance premium. To

empirically construct this portfolio, we regress a given stock's return onto the returns of thousands of all

other stocks using the elastic-net estimator, a machine learning method. We coin the regression R-squared

as asset synchronicity. Unique stocks earn a higher return than ubiquitous stocks: in the cross-section,

value-weighted stocks that are least (most) synchronized with all other stocks earn an asset insurance

premium of 0.976% (0.305%) per month. The unconditional value-weighted asset insurance premium is

positive and economically large at 0.575% per month. Asset synchronicity is countercyclical, where a

1% monthly change in macroeconomic consumption shocks is associated with a -1.725% change in the

cross-sectional asset insurance premium. The unconditional and cross-sectional existence of the asset

insurance premium is robust to equal and value portfolio weighting schemes, and to the effects of value,

size, idiosyncratic volatility and illiquidity measures.

We study empirically efficiency and stability trade off in the design of large value payment systems

using $500 trillion CAD of intraday transaction level data from Canadian Large Value Transfer System

(LVTS). We develop measures of systemic risk and apply these measures to millions of LVTS payments

during 2001-2014. LVTS showed stress during 2007-2009. The main source of fragility of the system are

binding collateral and credit constraints that cause delays and rejections of payments. Unprecedented

injection of liquidity by the Bank of Canada prevented a spillover of systemic risk to global systemically

important payment and settlement systems.

A central question in intellectual property (IP) literature is whether government intervention helps IP owners enjoy benefits of their trademarked brands, patented inventions or copyrighted works. We contribute to this debate by examining how the U.S. government’s anti-counterfeiting enforcement on foreign countries affects U.S. firms. We present evidence that firms significantly reduce capital and R&D investments when their products are protected from counterfeiting activities. Anti-counterfeiting enforcements are also associated with increases in profit margins and valuations. Using a unique dataset on brand perceptions, we present evidence that anti-counterfeiting enforcement significantly boosts brand perceptions of U.S. firms overseas. Customer loyalty to genuine U.S. products is particularly improved by anti-counterfeiting enforcement. Out-of-sample tests on non-U.S. brands confirm the benefits of anti-counterfeiting enforcement on brand perceptions.

By exploiting variation in nationalities of foreign victims in local terror attacks, we identify distortionary effects of terrorism on country reputations, trade relations and corporate sales to foreign countries. The effects of terrorism are economically and statistically significant, persistent, and more pronounced after attacks with casualties and high levels of foreign media coverage. “Guilty-by-association” firms, i.e., local country firms whose names resemble names from their countries of origin, are noticeably affected through greater deteriorations in foreign segment sales. Distortions driven by terrorist activities also influence overall firm value, asset growth, and profitability.

We study the accuracy and usefulness of automated (i.e, machine-generated) valuations

for illiquid and heterogeneous assets. We assemble a database of 1.2 million paintings that

were auctioned between 2008 and 2015. We use a popular machine-learning technique—

neural networks—to develop a price prediction algorithm based on both non-visual and

visual artwork characteristics. Our out-of-sample valuations predict auction prices dramatically

better than valuations based on a standard hedonic pricing model. Moreover, they

help explaining price levels and sale probabilities even after conditioning on auctioneers’

pre-sale estimates. Machine learning is particularly helpful for asset types that are more

difficult to value (e.g., because of illiquidity). Finally, we show that it can help overcome

human experts’ systematic biases in expectations formation.

In over-the-counter markets, dealers facilitate trading by becoming market makers.

The costs dealers face, including the cost of holding inventory on balance sheet, and the

ease, or difficulty, of reducing their positions, determine the degree of liquidity they provide.

We provide a stylized model to examine the implications of these costs on dealer

behavior and market liquidity. We use the model to guide an empirical study of the single name

credit default swap (CDS) market in order to detect the influence of regulatory

reforms following the 2007-09 financial crisis. We find that transaction prices between

dealers and clients have progressively become more dependent on the inventories of individual

dealers rather than on the aggregate inventory across all dealers. We also find that

the volume between clients and dealers decreases across all clients, with larger declines

for clients that are depository institutions. At the same time, the volume of interdealer

trades decreases, dealer inventories decline, and dealers with large inventories are more

likely to trade with clients. Our results are consistent with the view that the reforms

increased the cost of holding inventory for dealers, and the cost of interdealer trading.

Central counterparties (CCP) make financial markets more resilient through default water-falls that sequentially manage and allocate resources to cover defaults of clearing members and clients. However, the amount of resources collected and how resources are allocated along the default waterfall can create competing objectives for the CCP. In this paper, we develop a model to measure the resiliency of a default waterfall's design, accounting for the interconnected nature of payment obligations and the distribution of losses among \_rms. We use a unique and comprehensive dataset containing both bilateral and centrally cleared CDS transactions to address the impact of default waterfall design on a systemic loss. We show that the distribution of segregated and shared resources in the waterfall strongly influences CCP resiliency and the participation incentives of member \_rms. Our results indicate that real-world CCP waterfall resource allocations and sizes are currently built to limit member losses at the potential expense of greater systemic losses.

The computational cost of estimating option valuation models is very high, due to model

complexity and the abundance of available option data. We propose an approach that

addresses these computational constraints by filtering the state variables using particle

weights based on model-implied spot volatilities rather than model prices. We show

that this approach is reliable. We illustrate our method by estimating the workhorse

stochastic volatility and double-jump models using a big option data set. We obtain

more precise estimates of variance risk premia and more plausible implied preference

parameters, and we show that for these models moneyness and especially maturity restrictions

may result in identification problems. The composition of the option sample

affects parameter inference and the relative importance of options and returns in joint

estimation.

Theory predicts that a cryptocurrency may fail if blockchain congestion causes users to exit. I examine this prediction using congestion episodes caused by more than 9,000 triggers for ransomware attacks over a four-year period. Congestion leads to exit by some users due to increased blockchain transaction costs. Such users often migrate from the blockchain to crypto exchanges. Migration puts a constraint on mining rewards, potentially leading to a cryptocurrency failure in the long run.

Firm-level variables that predict cross-sectional stock returns, such as price-to-earnings and book-to-market, are often aggregated and used to predict time-series market returns. We extend this literature and limit the data-snooping bias by using a near-complete population of the literature’s cross-sectional return predictors. Our tests reject the null of no predictability at the annual horizon in-sample. Moreover, we find the literature has ignored several cross-sectional variables–such as change in asset turnover and co-skewness–that contain strong in-sample predictability. When we consider out-of-sample testing, however, we find little evidence that cross-sectional predictors make good market-level predictors.

We study the causal effect of dark trading on the incorporation of firm-specific fundamental information into stock prices. Theory suggests dark pools may facilitate or discourage price informativeness. Using a comprehensive sample of dark trading activity, we find that a higher level of dark trading is associated with greater firm-specific fundamentals in stock prices. To overcome endogeneity concerns we exploit the SEC’s Tick-Size Pilot Program that resulted in a large exogenous shock to dark pool trading. The results remain. The results cannot be explained by liquidity, price efficiency, or high frequency traders. In support of the information acquisition interpretation, we directly observe a shift in the information acquisition through SEC EDGAR searches for the treatment firms, among other evidence around the exogenous shock to dark trading. Overall, the evidence is consistent with dark trading improving the incorporation of firm-specific fundamentals into stock prices.

*Can an algorithm assist firms in their nominating decisions of corporate directors? We construct algorithms tasked with making out-of-sample predictions of director performance. We run tests of the quality of these predictions and show that directors predicted to do poorly indeed do poorly compared to a realistic pool of candidates. Predictably unpopular directors are more likely to be male, have held more directorships, have fewer qualifications, and larger networks than the directors the algorithm recommends. Machine learning holds promise for understanding the process by which governance structures are chosen, and has potential to help firms improve their governance.*

We dissect return dynamics in the foreign exchange market into high-frequency components over the 24-hour day. Using twenty-four years of data on G10 currencies we unveil a distinct `W' intraday pattern of returns to the dollar portfolio. We show that positive average returns for going long foreign currencies are almost entirely generated during U.S. main trading hours, whereas currencies collectively depreciate against the U.S. dollar overnight. Moreover, we document that 75% of the HML portfolio returns from a standard carry trade strategy and almost 80% of dollar carry returns are generated during the U.S. trading day. Finally, we show that our main result may be exploitable by investors that are able to benefit from lower-than-average transaction costs.

Using billions of observations on the locations of bank branches and firms in China, we measure lender-borrower distance by geographic information system (GIS) and find a non-trivial amount of distant lending. Distant borrowers are more likely to be connected to banks’ local borrowers. We use novel data of monthly internal loan rating changes to directly measure soft information by tracing whether banks downgrade ratings before delinquency. For connected borrowers, banks have better soft information and predict delinquent events more accurately. This effect is more pronounced for distant borrowers. Consequently, connected borrowers’ delinquent rate is lower. Our findings show that the inter-firm network facilitates banks to collect soft information and manage risks, especially for distant borrowers.

We conjecture that an increase in investors' information demand about an asset signals that their perceived uncertainty about the value of this asset has increased. One implication is that an increase in investors' demand for information should be predictive of a stronger role of news (relative to trades) in price discovery. Consistent with this hypothesis, we find that the price response of U.S. Treasury note futures to non-farm payroll announcements doubles when information demand (measured by clicks on news headlines related to non-farm payrolls) is abnormally high before these announcements.

Based on automated credit lines to more than a million vendors trading on Alibaba’s ecommerce

platform, we show that FinTech credit mitigates local credit supply frictions

in China’s segmented credit market. We use a discontinuity in the credit decision

algorithm to document that a firm’s credit approval and first-time online credit use

boosts a vendor’s sales and transaction growth. Entrepreneurial growth after FinTech

credit access is larger in locations with credit supply frictions.

We construct an empirical measure of expected network spillovers that arise through default cascades for the US financial system for the period 2002-2016. Compared to existing studies, we include a much larger cross-section of US financial firms that comprise all bank holding companies, all broker-dealers and all insurance companies, and consider their entire empirical balance sheet exposures instead of relying on simulations or on exposures arising just through one specific market (like the Fed Funds market) or one specific financial instrument (like credit default swaps). We find negligible expected spillovers from 2002 to 2007 and from 2013 to 2016. However, between 2008 and 2012, we find that default spillovers can amplify expected losses by up to 25%, a significantly higher estimate than previously found in the literature.

We study the impact that two trading rules changes in the interdealer spot foreign exchange

market, a reduction in the “tick size” and a subsequent increase, had on the trading behavior of

various types of market participants. We find that the most notable impact of the tick size reduction

was a substantial increase in the liquidity demand of high-frequency traders (HFTs), not the decrease

in their liquidity provision predicted by recent literature. We show that this change in behavior

is linked to the richer information environment that arose after the tick size reduction and to the

ability of faster traders to exploit it. Following the tick-size decrease in the spot market, the role of

the spot market in price discovery dropped relative to that of the futures market, owing importantly

to the increase in liquidity consumption by HFTs. This points to the need for a balanced market

ecology in financial markets where fast and slow traders coexist.

*Does deleveraging affects financial institutions’ funding market liquidity and funding constraints? We use the forced deleveraging of structured mutual funds during the 2015 Chinese stock market crash as a natural experiment to study the causal impact of deleveraging on market liquidity, funding constraint and performance. Our regression-discontinuity-design analysis shows that deleveraging has a large and negative impact on fund equity unit market liquidity. Our difference-in-differences analysis further shows that deleveraging results in large decreases in fund flows, stock and cash holdings, and fund performance in subsequent quarters, with the impact being channeled through the deterioration of equity unit market liquidity*

We show that daily stock price movements affect the mood, effort level, and decision making of employees. Positive current-day stock returns are accompanied by greater reported economic confidence and job satisfaction, shorter working hours, more optimistically biased beliefs about firm performance, tougher grading of innovative ideas, and tougher evaluation of interviewees. These effects are very short lived, lasting one or two business days. The effects on mood and many types of behavior are larger for employees with larger prior stock and option grants. We show that the short-term effects of (plausibly exogenous) shock to moods is the opposite sign of cross-sectional correlations. Whereas happier employees in the cross section perform better and are more lenient evaluators, shocks that increase happiness longitudinally are accompanied by lower work effort and tougher evaluation.

This paper examines the computational feasibility of the standard model of learning in economic theory. Surprisingly, we find that the Bayesian update formula at the heart of this model is impossible to compute in all but the simplest scenarios. Using the Bayesian update formula when it is computationally infeasible carries risks, and some of these are explored in the second part of the paper. We show that especially in rich environments, using the formula implies potentially discarding a lot of useful information. This can lead to paradoxical outcomes in standard economic settings. This is illustrated in a trading example where market prices can never reflect an informed trader’s information, no matter how many rounds of trade.

Using a pan-European data set of 8.5 million firms, we find that firms with high debt overhang invest relatively more than otherwise similar firms if they are operating in sectors facing good global growth opportunities. At the same time, the positive impact of a marginal increase in debt on investment efficiency disappears if firm debt is already excessive, if it is dominated by short maturities, and during systemic banking crises. Our results are consistent with theories of the disciplining role of debt, as well as with models highlighting the negative link between agency problems at firms and banks and investment efficiency.

The academic literature contains literally hundreds of statistically significant cross-sectional

predictors. And, this so-called “anomaly zoo” has caused many to question

whether researchers are using the right tests of statistical significance. But, here’s the

thing: even if a researcher does use the right tests, he might still draw the wrong

conclusions from his analysis if he starts out with the wrong priors—i.e., if he starts out

with incorrect beliefs about the ex-ante probability of discovering an anomaly.

So. . . which priors should a researcher use? What is the anomaly base rate?

We propose a new statistical approach to answer this question. The key insight is

that, under certain conditions, there’s a one-to-one mapping between the best-fit tuning

parameter in a penalized regression and the prior probability of discovering a tradable

anomaly. When we apply our approach to the cross-section of monthly returns, we find

that the anomaly base rate has fluctuated substantially since the start of our sample in

June 1973. The likelihood of discovering a tradable anomaly was much higher in 2000

than in 1987 or 2013. Finally, as a proof of concept, we construct a trading strategy

that invests in all previously discovered anomalies and show that adjusting this strategy

to account for the prevailing anomaly base rate boosts its out-of-sample performance.

Using unsupervised machine learning, I introduce interpretable and economically

relevant risk factors that characterize the cross-section of returns better than the leading

factor models, furthermore, I do not use any information from the past returns to

select the risk factors. I exploit natural language processing techniques to identify from

the firms' risk disclosures the types of risks that firms face, quantify how much each

firm is exposed to each type of risk, and employ the firms' exposure to each type of

risk to construct a 4-factor model. The risk factors roughly correspond to Technology

and Innovation Risk, Demand Risk, Production Risk and International Risk.

We examine when anomaly returns occur. Using a new database to identify the

exact date on which accounting information is first made public, we find that, once

timing is considered, anomalies still exist in the data. Anomaly returns are heavily

concentrated in the first 30 days after information announcements and all of the return

occurs within the first 120 days. In the recent part of our sample period, anomaly

returns are more concentrated in the first five days after the announcement date.

Moreover, we find that hedge funds’ reaction speed predicts their future performance.

These results suggest that anomalies are real yet they are rapidly arbitraged away.

Using proprietary data from a major fund data provider, we analyze the screening

activity of investment consultants (ICs) who advise institutional investors with trillions

of dollars in assets. We find that ICs frequently shortlist funds using threshold screens

clustered at round, base 10 numbers: $500MM for AUM, 0% for the return net of

a benchmark, and quartiles for return percentile rank screens. A fund's probability

of being eliminated by a screen is significantly negatively related to its future fund

attention and flows, with funds just above the $500MM AUM threshold, getting 20%

more page views and 5%-9% greater flows over the next year compared to similar

funds just below the threshold. Our results are consistent with ICs using a two-stage,

consider-then-choose decision making process, and cognitive reference numbers in selecting screening thresholds.

We propose new methodology to estimate arbitrage portfolios by utilizing information contained in \_rm characteristics for both abnormal returns and factor loadings. The methodology gives maximal weight to risk-based interpretations of characteristic predictive power before any attribution to abnormal returns. We apply the methodology in simulated factor economies and on a large panel of U.S. stock returns from 1965{2014. The methodology works well in simulation and in out-of-sample portfolios of U.S. stocks. Empirically, we find the arbitrage portfolio has (statistically and economically) significant alphas relative to several popular asset pricing models and annualized Sharpe ratios ranging from 0.67 to 1.12. Data-mining-driven alphas imply that performance of the strategy should decline after the discovery of pricing anomalies. However, we find that the abnormal returns on the arbitrage portfolio do not decrease significantly over time.

We model dynamic information acquisition and entry by a strategic trader. Instead of restricting the trader to make her choices before the market opens, we allow her to optimally choose when to enter in response to public news. We show that there exists a unique equilibrium in which optimal entry exhibits delay. The model provides novel implications for how the likelihood and timing of entry, and choice of precision, depend on news volatility and the trading horizon. Our results shed light on why institutional investors delay entry into new trading opportunities.

We propose a new approach to determine which firm characteristics provide independent

information about the cross section of expected returns. Our Bayesian method jointly estimates which characteristics are independently informative thereby circumventing the problems associated with multiple testing. An unknown number of structural breaks allow the true set of characteristics to vary through time. We find considerable evidence of time-variation and uncertainty surrounding which characteristics should be selected. Our method generates substantial and significant out-of-sample Sharpe ratio improvements, 40% of which derives from model uncertainty and the

remainder from time-variation.

We model the competition in liquidity provision between high-frequency traders (HFTs) and the relatively slow execution algorithms initiated by buy-side institutions (BATs). Because BATs have to trade, their opportunity cost of supplying liquidity is lower, and we show that they always provide liquidity at better prices than HFTs when price is continuous. When tick size (minimum price variation) is large, or when the probability of being adversely selected is low, the break-even bid-ask spread is lower than one tick. The binding tick size constrains price competition and encourages fast traders to provide liquidity through time priority. We show that transaction costs can be perfectly negatively correlated with the bid-ask spread when all traders are able to provide liquidity. Our model shows that a large tick size increases transaction costs, which brings into question a recent policy initiative to increase the tick size from one cent to five cents. Flash crashes arise at an equilibrium under certain parameter values.

To understand the implications of blockchains for financial reporting and auditing,

we analyze auditor competition, audit quality, client misstatements, and regulatory

policy all in a unified framework. We demonstrate how collaborative auditing using a

federated blockchain can improve auditing efficiency for not only transactions recorded

on proprietary databases, but also cross-auditor transactions through zero-knowledge

protocols that preserve data privacy. Consequently, the technology disrupts conventional

audit pricing and effort focus: Auditors charge competitive fees based on clients’

counter-parties’ auditor association and corresponding transaction volume instead of

client size. Blockchains also reduces clients’ incentives to misreport and auditors’ sampling

costs, allowing auditors to reallocate effort from transaction-based auditing to

discretionary account auditing. Importantly, auditors’ technology adoption is costly

and exhibits strategic complementarity, hence a regulator can help select an equilibrium

with lower endogenous misstatements, audit sampling, and regulatory costs.

Ethnic discrimination in lending can materialize in face-to-face decisions or in algorithmic scoring. The GSE’s model for pricing credit risk provides us with an identified setting to estimate the incidence of discrimination for FinTech and face-to-face lenders, as well as to offer a workable enforcement interpretation of U.S. fair lending laws using the court’s justification of legitimate business necessity. We find that face-to-face and FinTech lenders charge Latinx/ African-American borrowers 6-9 basis points higher interest rates, consistent with the extraction of monopoly rents in weaker competitive environments and from profiling borrowers on shopping behavior. In aggregate, Latinx/ African-American pay $250-$500M per year in extra mortgage interest. FinTech algorithms have not removed discrimination, but may have shifted the mode. However, two silver linings emerge. Algorithmic lending seems to have increased competition or encouraged more shopping with the ease of applications. Also, whereas face-to-face lenders act in negative welfare manner toward minorities in application accepts/rejects, FinTechs do not discriminate in application rejections.

Most financial security trading venues prioritize competing liquidity providers with price-time priority; entities displaying the best priced limit order earliest trade with the next opposite-sided liquidity-demanding order. The New York Stock Exchange (NYSE) rule putting floor traders “on parity” with the electronic public limit order book is a vestige of the traditional floor-based trading model. Parity requires that orders from floor brokers, the designated market maker, and the top of the electronic limit order book trade together. That is, floor trading interests can trade ahead of equally priced, previously arriving orders in the limit order book. The NYSE posits that floor traders provide valuable services to the investing public and choose to remunerate them for these services by granting them special trading privileges. Thus, the cost of the alleged benefits of the NYSE’s business model is not transparent and is paid by non-floor investors. Our research is an initial attempt to quantify the cost of one of these trading advantages.

Theoretical models on group decision-making suggest that sub-group usage can affect

communication among members and decision quality. To examine the trade-offs from

forming sub-groups, we assemble a detailed dataset on corporate boards (groups) and

committees (sub-groups). Boards have increasingly used committees staffed entirely by

outside directors. Twenty percent of all director meetings occurred in such committees

in 1996; this increased to over forty percent by 2010. We find evidence that committee

usage can erect barriers to communication and impair decision-making. Sub-groups are

relatively understudied, but our results suggest that they play an important role in group

functioning.

We apply computational linguistic models to Australian listed firms’ reports to a

gender-equality statutory agency to construct the first systematic measures of

‘corporate gender culture’. While different workplace practices are associated with

female representation at different corporate levels, open-access human capital

formation opportunities are the only practice robustly associated with firm

performance. We use a unique experiment that shaped gender norms in Australia to

establish that the relationship between gender culture and firm performance is causal.

The introduction of government-funded parental leave in 2011 allows us to shed light

on how policy shapes firms’ gender diversity and corporate gender culture.

It is common practice to decompose levels and variation in prices into expected future returns and fundamentals. However, it is unclear what information investors use for prices to be informative and how important different investors are for incorporating information into prices. We show that a small set of characteristics explains the majority of the variation in a panel of firm-level valuation ratios across countries. To measure how investors' demands respond to the characteristics and prices, we estimate a demand system in Great Britain and in the United States. The demand system allows us to quantify the importance of different institutional types (e.g., mutual funds, broker dealers) in the price formation process by computing counterfactual prices if a particular type were to follow a passive market indexing strategy.

We examine if there is a rational explanation for the sustained underrepresentation of women in the mutual fund industry in South Africa. We are investigating whether the current industry trend of female manager underrepresentation is justified through the lens of performance. Our findings show that networking effects, selection bias and career choice have a strong explanatory power in justifying the remarkably lower proportion of females in the industry. After several tests, we are able to reject the hypothesis that performance has been the key driver of woeful representation of women in mutual funds management. Our results confirm a self-selection bias by women. In particular, females self-select themselves into other industries and away from the asset management industry. This may be motivated by the outdated bias which views the finance industry as a predominantly men’s territory and a perception that the industry has a more aggressive culture, which we are able to reject.

Which markets do institutions use to change exposure to credit risk? Using a unique dataset

of transactions in corporate bonds and CDS by large financial institutions, we show that simultaneous

transactions in both markets are rare, with an average institution having an eleven

percent probability of transacting in both the CDS and the bond market in the same entity in

an average week. When institutions do transact in both markets simultaneously, they increase

their speculative positions in CDS by 13 cents per dollar of bond transactions, and their hedging

positions by 13 cents per dollar of bond transactions. We find evidence that, during the

post-crisis rule implementation period, the incentive to use paired transactions is reduced but

so is the incentive to take naked positions in the CDS market. When single name contracts

become eligible for central clearing, globally systemically important institutions become more

likely to use single name CDS contracts. Finally, we show that, in the aggregate, U. S. globally

systemically important institutions reduce their exposure to corporate credit risk in the rule

implementation period, primarily through reducing the amount of credit protection sold in the

index CDS market.

This paper investigates the impact of the presence of exchange-traded funds (ETFs) on the liquidity of their underlying stockholdings. Using a difference-in-differences methodology for large changes in the portfolio weights of stocks in the S&P 500 and NASDAQ 100 indexes, we find that increases in ETF ownership decrease the transaction costs of stocks. Moreover, we find evidence suggesting that high ETF ownership stocks have high price resilience. However, ETFs are linked to a higher cost of liquidation during the 2011 U.S. debt-ceiling crisis, suggesting that stocks having high-ETF ownership may experience impaired liquidity during major market stress events.

This paper shows that a data-based screening technology can increase the cost of financial intermediation. The use of data in the screening process reduces the acquisition of soft information by traditional lenders, which harms constrained borrowers further. Additionally, groups in which fewer borrowers were financed in the past are under-represented in the data, leading to a cross-sectional difference in screening efficiency. Screening is more efficient for borrowers with greater historical lending data. When traditional and technological lenders coexist, the borrowers about whom data can provide precise information raise funds from technological lenders while those with less informative historical data choose traditional lenders who can make up for the lack of hard data-based information by acquiring soft information. The intermediation cost is increased by the existence of technological lenders. I identify conditions under which traditional lenders benefit from restricting their own access to data-processing technology when competing against the technological lender.

High Frequency Traders are not beneficial to the liquidity and efficiency of the stock market during flash crashes. Actually, and especially when crashes affect several stocks simultaneously, they consume the liquidity they should provide and originate a transient price impact which is not related to fundamentals. This is true even in a market where market makers are compensated for liquidity provision. The policy implication of our findings is that such a compensation scheme is not sufficient to prevent flash crashes from happening. These facts are uncovered by the analysis of a “big” dataset composed of all orders and transactions on stocks with categorized information about execution.

Before intervening in corporate governance, hedge fund activists usually acquire a large stake in a firm, and this information is private until they file Schedule 13D. We analyze their choice between the lit exchange and the dark pool. Our model predicts that the market share of the dark pool increases when an activist trades, and it increases more when the value of information is higher. Our evidence indicates that the market share of the dark pool increases 11% when an activist trades, and a one standard deviation increase in the value of information increases the dark pool share by 17%.

“Big data” financial technology raises concerns about market inefficiency. A common concern is that the technology might induce traders to extract others' information, rather than produce information themselves. We allow agents to choose how much to learn about future asset values or about others' demands, and explore how improvements in data processing shape these information choices, trading strategies and market outcomes. Our main insight is that unbiased technological change can explain a market-wide shift in data collection and trading strategies. However, in the long run, as data processing technology becomes more and more advanced, both types of data continue to be processed. What keeps the data economy in balance is two competing forces: Data resolves investment risk, but future data creates risk. The efficiency results that follow from these competing forces upend common wisdom. They offer a new take on what makes prices informative and whether trades typically deemed liquidity providing actually make markets more resilient.

This paper proposes a new market-level investor sentiment index (Photo Sentiment) constructed

from the sentiment of photos. We apply a machine learning technique to classify perceived

sentiment from a large sample of photos in three columns of financial news from The Economist

from 1997 to 2017. Photo Sentiment is measured as the average probability the photos have

negative sentiment minus the average probability the photos have positive sentiment. Photo

Sentiment is found to predict short-term return reversal, trading volume and market volatility,

and explain flows between equity and money market funds. A trading strategy based on Photo

Sentiment outperforms the market index by 2.6% on an annual basis while assuming less risk.

In a multiperiod investment framework, firms with high expected growth earn higher expected returns than firms with low expected growth, holding investment and expected profitability constant. This paper forms cross-sectional growth forecasts and constructs an expected growth factor that yields an average premium of 0.82% per month (t = 9.81). The q5 model, which adds the expected growth factor to the Hou-Xue-Zhang (2015) q-factor model, shows strong explanatory power in the cross section, and outperforms the recently proposed Fama-French (2018) 6-factor model.

Using minute-by-minute television advertising data covering approximately 326000 ads, 301 firms, and $20 billion in ad spending, we study the real-time effects of TV advertising on investor search for online financial information. Our identification strategy exploits the fact that viewers in different U.S. time zones are exposed to the same programming and national advertising at different times, allowing us to control for contemporaneous confounding events. We find that an average TV ad leads to a 3% increase in SEC EDGAR queries and 8% increase in Google searches for financial information within 15 minutes of the airing of that ad. Such advertising effects spill over through horizontal and vertical product market links to financial information searches on closest rivals and suppliers. The ad-induced queries on advertising firm and its key rival are linked to higher trading volumes of their respective stocks. For large advertisers, 0.8% of average daily trading volume can directly be attributed to advertising. This suggests a sizeable product market advertising effect on financial markets.

Fintech has been playing an increasing role in shaping financial and banking landscapes. There have been concerns about the use of alternative data sources by Fintech lenders and the impact on financial inclusion. We compare loans made by a large Fintech lender and similar loans that were originated through traditional banking channels. Specifically, we use account-level data from LendingClub and Y-14M data reported by bank holding companies with total assets of $50 billion or more. We find a high correlation with interest rate spreads, LendingClub rating grades, and loan performance. Interestingly, the correlations between the rating grades and FICO scores have declined from about 80 percent (for loans that were originated in 2007) to only about 35 percent for recent vintages (originated in 2014–2015), indicating that nontraditional alternative data have been increasingly used by Fintech lenders. Furthermore, we find that the rating grades (assigned based on alternative data) perform well in predicting loan performance during the two years after origination. The use of alternative data has allowed some borrowers who would have been classified as subprime by traditional criteria to be slotted into “better” loan grades, which allowed them to get lower priced credit. In addition, for the same risk of default, consumers pay smaller spreads on loans from LendingClub than from credit card borrowing.

Recent advances in machine learning methodologies have improved the usefulness of the technology. This paper examines whether machine learning using only past prices as the input can detect mispricings. Generally searching for mispricings is a slow process and can easily suffer from data-snooping. This paper provides a machine learning algorithm to search for mispricings while controlling for data-snooping. The process generates significant out-of-sample alpha. Overall, the results show that mispricings still exist, but have decreased over time, implying that markets have recently become more efficient.

This paper studies the value of employees’ expectations to stock markets, using a novel dataset of one million employee reviews. Employee beliefs about their employers’ business prospects predict future returns at one- to five-month horizons, delivering an annualized abnormal return of 7% to 9%. Employee reviews are related to firms’ fundamentals because they predict cash flow news. In addition, the reviews predict future trading activity by hedge funds, suggesting some sophisticated investors exploit this information or its underlying sources. Overall, this paper highlights the importance of online information about firms’ fundamentals, which complements to traditional sources such as analyst forecasts.

Using daily account-level data that track hundreds of thousands of margin investors' leverage ratios and trading activities, we examine the effect of margin-induced trading on stock return dynamics during the recent market turmoil in China. We start by providing direct evidence of deleverging-induced sales the tendency to scale down levered positions after experiencing negative portfolio returns. Aggregating this behavior across all margin investors, we document a strong return spillover effect a stock's return can be forecasted by a portfolio of stocks with which it shares common margin-investor ownership. This return pattern is subsequently reversed, and is present only in market downturns. Further, deleveraging-induced selling can explain a large portion of the well-known asymmetry in stock return comovement between market booms and busts. Finally, exploiting three bailout waves carried out by the Chinese government, we provide additional evidence for a) the shock transmission role of the leverage network, and b) the systematic importance of stocks that are central in the network.

The General Data Protection Regulation (GDPR) came into effect in the European Union in May 2018. We study its short-run impact on investment in new and emerging technology firms. Our findings indicate negative post-GDPR effects on EU ventures, relative to their US counterparts. The negative effects manifest in the overall dollar amounts raised across funding deals, the number of deals, and the dollar amount raised per individual deal.

We quantify the impact of index investing on asset prices and trading behavior. Using a new research design based on post-2007 Russell index reconstitutions, we find that index investing introduces noise into stock prices, but does not affect long-term price efficiency or trading by arbitrageurs. Stocks with more index investors have prices that deviate more from a random walk and exhibit higher correlations with index price movements. However, these stocks have no difference in turnover, price impact, short interest, or return anomalies. In other words, index investing introduces noise into prices, but it does not affect the ability of arbitrageurs to trade.

A rising fraction of trading volume is being executed away from the national stock exchanges. Hundreds of dealers and more than 30 alternative trading systems compete with exchanges for order flow. This paper models the decision to route off-exchange, and the choice between OTC and ATS executions. Using weekly data from FINRA, we can accurately compute a time series of market shares for all the major trading centers. We develop a symbol level panel model for the time series of OTC and ATS market shares. Consistent with theoretical models, we find that off-exchange routing increases with bid-ask spreads and decreases with volatility. Exchange market liquidity, measured as either the number of exchanges at the inside quote or trade size, decreases the likelihood of off-exchange execution.

We study the structure and pricing of idiosyncratic jumps, i.e., jumps in asset prices that occur outside market-wide jump events. Using options on individual stocks and the market index that are close to expiration as well as local estimates of market betas from returns, we develop non-parametric estimators of the risk-neutral expected idiosyncratic variation and the asymmetry in it, i.e., the difference in variation due to negative and positive returns which asymptotically is solely attributed to jump risk. We derive a feasible Central Limit Theorem which allows to

quantify precision in the estimation and depends on the observation error in the cross-section of options as well as the high-frequency return data in a local window around the time of observing the options. We find strong empirical evidence for aggregate asymmetry in idiosyncratic risk which shows that such risk clusters cross-sectionally. Our results reveal the existence and non-trivial pricing of aggregate downside tail risk in stocks during market-neutral systematic events as well as a negative skew in the cross-sectional return distribution during such events.

A fundamental idea in modern asset pricing is that risk aversion may be time varying and countercyclical (Campbell and Cochrane 1999). Existing evidence is scant and based on experimental or survey data. We aim to test this key assumption using a large panel of real-world transaction data. Risk aversion is imputed from Chinese auto insurance policies and in a pilot study, proves to be indeed time varying and counter-cyclical. The final sample will include 10 million transactions between 2011 and 2018, representing the entire population of 200 million auto insurance policies in China.

We measure the extent to which consolidated liquidity in modern fragmented equity markets

overstates true liquidity due to a phenomenon that we call Ghost Liquidity (GL). GL exists when

traders place duplicate limit orders on competing venues, intending for only one of the orders to

execute, and when one does execute, duplicates are cancelled. We employ data from 2013,

covering 91 stocks trading on their primary exchanges and three alternative platforms and where

order submitters are identified consistently across venues, to measure the incidence of GL and to

investigate its determinants. On average, for every 100 shares passively traded by a multi-market

liquidity supplier on a given venue, slightly more than 19 shares are immediately cancelled by the

same liquidity supplier on a different venue. This percentage is significantly greater for HFTs than

for non-HFTs and for those trading as principal. GL is larger on alternative platforms than on

primary exchanges. Overall, GL implies that simply measured consolidated liquidity exceeds true

consolidated liquidity but its average weight in total consolidated depth, i.e., slightly more than

4%, does not challenge the liquidity benefits of fragmentation.

We develop a dynamic, infinite horizon, microstructure model to study how priority rules applied within and across trading venues determine market quality and investor welfare. We compare order preferencing, modeled as price-broker-time priority (PBT), to price-time priority (PT). Priority rules impact investors' choice between limit and market orders. When the tick is tight relative to the dispersion in traders' valuations, trading rates are higher with PBT whereas investor welfare is higher with PT. The opposite holds for a wide tick. PBT endogenously results when brokers individually choose between PT or PBT. Our model has testable implications regarding systematic patterns in order flow, market depth, trade composition, and market fragmentation.

Recent regulatory initiatives such as the European Deposit Insurance Scheme propose a change in the coverage and backing of deposit insurances. An assessment of these proposals requires a thorough understanding of what drives depositors' withdrawal decisions. We show that Google searches for 'deposit insurance' and related strings reflect depositors' fears and help to predict deposit shifts in the German banking sector from private banks to fully guaranteed public banks. After the introduction of blanket state guarantees for all deposits in the German banking system this fear driven reallocation of deposits stopped. Our findings highlight that a heterogeneous insurance of deposits can lead to a sudden, fear induced reallocation of deposits endangering the stability of the banking sector even in absence of redenomination risks.

We study the leverage of U.S. firms over their life-cycle and implications for firm growth

and responses to shocks. We use a new dataset that matches private firms’ balance sheets

to U.S. Census Bureau’s Longitudinal Business Database (LBD) for the period 2005–2012. A

number of stylized facts emerge. First, firm size and leverage are strongly positively correlated

for private firms, both in the cross section of firms and over time for a given firm. For

public firms, there is a weak negative relation between leverage and size. Second, young

private firms borrow more, but firm age has no relation to public firms’ leverage. Third,

while private firms switch from debt to equity financing as they age, public firms slightly

reduce equity financing as they age. Building on this “normal times” benchmark and using

the “Great Recession” as a shock to financial conditions, we show that, for private firms,

firm size can serve as a good predictor of financial constraints. During the Great Recession,

leverage declines for private firms, but not for public firms. We also provide evidence that

private firms’ growth is positively related to leverage, as they finance their growth during

normal times with short-term borrowing, whereas the relationship between leverage and

firm growth is negative for public firms. These results suggest that public firms are not

financially constrained during normal times or during crisis, but private firms are.

Market-wide events such as financial crises and regulatory changes, empirically impact firm outcomes heterogenously. Inappropriate modelling of the heterogeneity by existing methods such as time-fixed effect (assumes a homogenous response to shocks) and interacted fixed effect (assumes heterogenous responses to shocks based on a category, e.g. industry) is likely to result in biased estimates. We demonstrate theoretically and empirically that ignoring time-varying unobserved heterogeneity, which is correlated with regressors, in current empirical practices leads to biased estimates and standard errors. To overcome the heterogeneity bias, we propose the use of the “group fixed effect, GFE" class of models, which produces consistent estimates even under the two-way fixed effect and interacted fixed effect DGP. We extend the GFE class of models to accommodate generalized method of moments and two-stage least square estimators. We demonstrate the economic importance of GFE through a simulation and two empirical applications. Finally, we provide researchers with guidance and user-written functions in statistical packages to overcome the limitations of existing approaches.

Passively managed index funds now own more than 25% of U.S. mutual fund and ETF assets. Using a new regression discontinuity design, we study the governance implications of passive investing by directly examining the voice and exit mechanisms. We find that index funds are more likely to vote with a firm's management. Moreover, while they do regularly exit positions and omit holdings in their target benchmark, they do not use the exit mechanism to enforce good governance. Our results show that passive investing shifts power from investors to firm managers.

Market liquidity is expected to facilitate arbitrage, which in turn should affect the liquidity of the assets traded by arbitrageurs. We study this relationship using a unique dataset of equity and bond ETFs compiled from big trade-level data. We find that liquidity is an important determinant of the efficacy of the ETF arbitrage. For less liquid bond ETFs, Granger-causality tests and impulse responses suggest that

this relationship is stronger and more persistent, and liquidity spillovers are observed from portfolio constituents to ETF shares. Our results inform the design of synthetic securities, especially when derived from less liquid instruments.

Understanding modern market microstructure phenomena requires large amounts of data and advanced mathematical tools. In this paper, we demonstrate how machine learning algorithms can be applied to microstructure research. We find that microstructural features with apparent high explanatory power can exhibit low predictive power, and vice versa. We also find that some microstructure-based measures are useful for out-of-sample prediction of various market statistics, leading to questions about the efficiency of markets. Our results are derived using 87 of the most liquid futures contracts across all asset classes.

Despite the availability of low-cost exchanges, over-the-counter (OTC) trading is pervasive for most assets. We explain the prevalence of OTC trading using a model of adverse selection, in which informed and uninformed investors choose to trade over-the-counter or on an exchange. OTC dealers’ ability to price discriminate allows them to imperfectly cream-skim the uninformed investors from the exchange. Assets with wider bid-ask spreads on exchanges are predicted to have a higher proportion of total volume that is traded on exchanges, as supported by evidence from US stocks. Having an OTC market can reduce welfare while increasing total trade volume and decreasing average bid-ask spread. Specifically, for assets that are mostly traded over-the-counter (such as swaps and bonds), having the OTC market actually harms welfare. Our results justify recent policies that seek to end OTC trading for such assets.

For the first time in the literature, we develop a quantitative indicator of the Chinese government’s policy priorities over a long period of time, which we call the Policy Change Index (PCI) for China. The PCI is a leading indicator of policy changes that covers the period from 1951 to the third quarter of 2018, and it can be updated in the future. It is designed with two building blocks: the full text of the People’s Daily — the official newspaper of the Communist Party of China — as input data and a set of machine learning techniques to detect changes in how this newspaper prioritizes policy issues. Due to the unique role of the People’s Daily in China’s propaganda system, detecting changes in this newspaper allows us to predict changes in China’s policies. The construction of the PCI does not require the understanding of the Chinese text, which suggests a wide range of applications in other settings, such as predicting changes in other (ex-)Communist regimes’ policies, measuring decentralization in central-local government relations, quantifying media bias in democratic countries, and predicting changes in lawmakers’ voting behavior and in judges’ ideological leaning.

We investigate the role of low interest rates on firms' risk taking by using a large supervisory dataset from FR-Y 14 filings of the U.S. banks. We define risk taking by three different measures at the firm-level: default risk, leverage, and earnings' volatility. We have 3+ million observations on firms' loan obligations together with their other financial exposures on the balance sheets. Our preliminary results show that small private firms' earnings volatility has increased at a faster pace than that of public firms and their leverage has increased over 40 percent since 2014. This was a period where Federal Funds Rate was between 0 and 1.25 percent. Our preliminary analysis shows that the channel behind the increase in risk-taking by private firms is the fact that they borrow at lower borrowing costs and post less collateral relative to the public firms. We argue that the disproportionate focus in the literature on the volatility and

leverage patterns of the large publicly listed firms, whose data is readily available from Compustat, will overlook this risk build-up in the corporate sector that is driven by small private firms.

The effective spread measured relative to the spread midpoint overstates the true effective spread

in markets with discrete prices and elastic liquidity demand. The average bias is 18% for S&P

500 stocks in general, and up to 96% for low-priced stocks where the relative tick size is high.

Furthermore, the bias makes venues that charge high fees to liquidity suppliers appear artificially

liquid in reports mandated by Rule 605 of the US Regulation National Market Systems. Order

routing decisions based on such data are thus potentially misdirected. The bias differs across

investor types, leading non-sophisticated investors to overpay for liquidity.

The London Whale episode involved the build-up of massive trading positions by a trader in the London office of a large U.S. bank. Both supervisors and a U.S. Senate report determined that this strategy reflected dangerous "risks and abuses." The bank similarly admitted its traders "acted recklessly" by "employing an aggressive trading strategy" during the incident. Through an analysis of the episode, this brief shows how financial counterparty data can yield key insights into the build-up and build-down of risk in markets. The data point to a swift concentration of exposure to the CDX.NA.IG.9 index among certain categories of counterparties as the Whale trades built up. They show the network of trades in CDX.NA.IG.9 across counterparties grew more complex at the same time. This is key because in an emergency liquidation, more complex trade networks can cost more and take more time to unwind. The data also point to a growing intermediary role played by non-dealers beginning in 2012. In the case of the London Whale, risk measures based on supervisory counterparty data spiked weeks before news and price data reflected unusual activity. Such measures of risk, even in anonymized form, could be key to early detection of certain types of risk in financial markets.

Supervisors increasingly have access to detailed data on contractual obligations among financial firms. These data describe the networks of obligations from many markets and counterparty \_rms. They offer new ways to measure key risks, changes, and exposures among those firms. Our ability to make full use of these new data depends on how well we can integrate them. We outline some key considerations in designing data collections and data models to support this.

Rank-and-file employees are becoming increasingly critical for many firms,

yet we know little about how their employment dynamics matter for stock

prices. We analyze a new dataset that describes the individual CV’s of public

company employees, and find that rank-and-file labor flows can be used to

predict abnormal stock returns. Our findings are driven by specific types of

workers, such as scientists, engineers, and middle managers. Higher employee

outflows also predict higher labor expenses and lower earnings per share.

Equity analysts, however, repeatedly fail to forecast these outcomes. The

evidence is consistent with a model of job search in which employees’ labor

market decisions reflect dispersed information about the firm’s productive

capabilities.

This paper asks how monetary policy shocks impact variance risk premia, and

thus investor risk aversion, across bond and equity markets. I document the following

results: First, contractionary monetary policy shocks increase variance risk premia in

bond and equity markets. This implies an overall increase in investor risk aversion.

Second, the increase in variance risk premia is driven primarily by an increase in option

implied volatility, while realized volatility is relatively less affected. Thus, there is a

substantial increase in the price of risk, but little increase in actual risk. Third, bond

markets experience a positive return following a contractionary shock, while equity

markets experience a negative return. This occurs because higher levels of risk aversion

increase the attractiveness of safe assets, relative to riskier assets.

The Law of One Price is a bedrock of asset pricing theory and empirics. Yet real-world

frictions can violate the Law by generating unequal compensation across assets

for the same risk exposures. We develop new methods for cross-sectional asset pricing

with unobserved heterogeneity in compensation for risk. We extend k-means clustering

to group assets by risk prices and introduce a formal test for whether differences in

risk premia across market segments are too large to occur by chance. Using portfolios

of US stocks, international stocks, and assets from multiple classes, we find significant

evidence of cross-sectional variation in risk prices for all 135 combinations of test assets,

factor models, and time periods. Variation in risk prices is as important as variation in

risk exposures for explaining the cross-section of expected returns.

Using detailed order handling data over the life of 330 million institutional orders, we study

whether order routing by brokers to Alternative Trading Systems (ATSs) that they own affects

execution quality. In a multivariate regression specification that controls for stock attributes, order characteristics and market conditions, orders handled by brokers with high affiliated ATS routing are associated with lower fill rates. Trading costs based on the implementation shortfall approach are higher when clients select a broker with high affiliated ATS routing. Broker outcomes are highly persistent suggesting that improved disclosures on order handling could help institutional clients with broker selection.

This paper investigates whether there is significant investment value in consumer opinion spam-ming. Using nearly 45 million reviews from Amazon.com, I measure the likelihood of a review being spam (“spamicity”) via machine learning and find that spamming is prevalent across time and products. I show evidence that spamming is typically conducted to conceal unfavorable opinions and thus contains hidden information on product quality. The positive association between stock returns and abnormal review scores disappears when such reviews are subject to high spamicity. Furthermore, I examine the investment value of spam detection by demonstrating that a portfolio that goes long stocks with high abnormal review scores and low spamicity and short stocks with low abnormal review scores and high spamicity earns abnormal returns of 1.17% to 1.23% per month. Finally, I show evidence that there are sophisticated investors who exploit the information reflected in spamicity. I interpret these results on the costs of processing consumer opinions in the context of theories on information signaling.

In 2016, the Securities and Exchange Commission increased tick size (the minimum price variation) for 1,200 randomly selected firms, and imposed restrictions on dark-pool trading on 400 of them. We find that firms reduce share repurchases by 70% and total payout by 52% once they face binding tick-size constraints in both stock exchanges and dark pools. Surprisingly, firms with large increases in depth, especially on the bid side, reduce their payouts the most because regulations on share repurchases discourage the use of market orders, which turns a market with great depth into an illiquid market for repurchasing firms.

Economic activities such as crowdfunding often involve sequential interactions, observational learning, and project implementation contingent on achieving certain thresholds of support. We incorporate endogenous all-or-nothing thresholds in a classic model of information cascade. We find that early supporters tap the wisdom of a later “gate-keeper" and effectively delegate their decisions, leading to uni-directional cascades and preventing agents' herding on rejections. Consequently, entrepreneurs or project proposers can charge supporters higher fees, and proposal feasibility, project selection, and information production all improve, even when agents have the option to wait. Equilibrium outcomes depend on the crowd size, and in the limit, efficient project implementation and full information aggregation ensue| a novel result in models with information cascades.

I study the price/quantity effects of anticipated supply or demand shocks in a model of strategic trading, where imperfectly competitive traders share risk with price-takers. When there are at least two traders, anticipated shocks lead to the V-shaped pattern observed empirically: prices drift away from fundamentals before the shock, and slowly revert afterwards. How traders behave before the shock depends on whether they compete a la Cournot (i.e. submit market orders) or in demand schedules (using limit orders). Consistent with empirical evidence, Cournot traders act as contrarians, while demand schedule traders first trade against, then with the shock.

Order book and transactions data from the U.S. Treasury securities market are used to calculate daily measures of bid-ask spreads, depth, and price impact for a twenty-six-year sample period (1991-2017). From these measures, a daily index of Treasury market liquidity is constructed, reflecting the fact that the varying measures capture different aspects of market liquidity. The liquidity index is then correlated with various metrics of funding liquidity and volatility. The liquidity index points to poor liquidity during the 2007-09 financial crisis and around the near-failure of Long-Term Capital Management, and suggests that current liquidity is good by historical standards. Market liquidity tends to be strongly correlated with funding liquidity at times of market stress, but otherwise exhibits little correlation.