From July 2018 through June 2019, the Fama-Miller Center for Research in Finance provided funding for 17 research projects, five academic conferences, and two Fama-Miller Center Visitors.

Since July 2018, the Fama-Miller Center has renewed 20 data subscriptions and acquired eight new datasets.

Lubos Pastor, Charles P. McQuaid Professor of Finance and Robert King Steel Faculty Fellow, and Zhiguo He, professor of finance, served as codirectors of the Fama-Miller Center.

Thank you to our alumni and friends who supported the Fama-Miller Center during the period from July 1, 2018, to June 30, 2019—Mac and Leslie McQuown; Thomas H. Batten, ’12; John J. Binder, MBA ’79, PhD ’83, and Linda M. Binder; Larry Breitbarth, ’88; Frederick L. Burkhardt, ’01; Eugene F. Fama, MBA ’64, PhD ’64; Deborah Hilibrand, AB ’78, MBA ’79; W. Theodore Kuck, ’73; Marlena Lee, MBA ’08, PhD ’08; Peter J. Liubicich, ’19; Akhila Nandgopal, ’19; Nathaniel Pancost, PhD ’16; Aroon J. Patel, ’77; Christopher Ryan, ’07; Brian M. Weller, AM ’13, PhD ’13; and Andrew Younger Wong, SB ’96, MBA ’02, PhD ’02.

In the Summer Quarter 2018, Huan (Bianca) He, Dong Ryeol Lee, Tianshu Lyu, and Jun Xu joined the center’s research professional program to provide research support to University of Chicago Booth School of Business finance faculty. Two of the center’s current research professionals, Ammon Lam and Dongchen Zou, will enter PhD programs at New York University Stern School of Business (finance), and the Wharton School of the University of Pennsylvania (finance) in fall 2019.

The Fama-Miller Center staff and research professionals.
A call for proposals was sent to Chicago Booth faculty and PhD students in September 2018 and January 2019. The codirectors, Lubos Pastor and Zhiguo He, met with the members of the board of directors, Steven Neil Kaplan and Robert W. Vishny, to review the proposals and make recommendations for funding to the deputy dean for faculty, Pietro Veronesi. Dean Veronesi approved funding for 17 research projects, five conferences, and two Fama-Miller Center Visitors. Funding was awarded for the proposals listed in the tables on pages 4 and 5.

The charts on the facing page show a comparison of total funding requested versus total funding awarded; total funding requested by faculty and PhD students; and total funding awarded to faculty and PhD students for the period of July 2018 through June 2019.
These tables show the projects funded from July 2018 through June 2019. The names of the researchers working on the projects are also listed.

**November 2018**

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<tr>
<th>PROPOSAL</th>
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<tr>
<td>Predictable Downturns</td>
<td>• Carter Davis (Chicago Booth Finance PhD Student)</td>
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<td>Partisan Professionals: Evidence from Credit Rating Analysts</td>
<td>• Elisabeth Kempf (Chicago Booth)</td>
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<td>• Margarita Tsoutsoura (Cornell University)</td>
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<td>The Commercial Real Estate Ecosystem</td>
<td>• Ralph Koijen (Chicago Booth)</td>
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<td>• Stijn Van Nieuwerburgh (Columbia Business School)</td>
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<td>Data Purchase: S&amp;P Leveraged Commentary &amp; Data (LCD) and Capital IQ Access through Wharton Research Data Services</td>
<td>• Yueran Ma (Chicago Booth)</td>
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<td>Fama-Miller Center Visitor Proposal: Daniel Greenwald, MIT Sloan School of Management</td>
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<td>Determinants of Foreign Currency Reserve Accumulation: Importance of Financial Sector Stability and Expansion</td>
<td>• Rayhan Momin (Chicago Booth Finance PhD Student)</td>
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<td>Why Do Borrowers Default on Mortgages? Evidence from High-Frequency Data</td>
<td>• Pascal Noel (Chicago Booth)</td>
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<td>• Peter Ganong (University of Chicago Harris School of Public Policy)</td>
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<td>Trade Credit and Supplier Networks as a Disciplining Mechanism</td>
<td>• Rimmy Tomy (Chicago Booth)</td>
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<td>• Regina Wittenberg-Moerman (USC Marshall School of Business)</td>
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<td>Equity and Incentives in Human Capital Investment: Evidence from a Randomized Experiment</td>
<td>• Constantine Yannelis (Chicago Booth)</td>
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<td>• Daniel Herbst (University of Arizona Eller College of Management)</td>
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<td>• Miguel Palacios (University of Calgary Haskayne School of Business)</td>
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## Midcycle 2019

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<tr>
<th>PROPOSAL</th>
<th>RESEARCHERS</th>
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<tr>
<td>Financing in the Gig Economy</td>
<td>• Gregory Buchak (Chicago Booth Joint Program PhD Student)</td>
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<tr>
<td>First Annual Conference in Behavioral Finance and Decision-Making, March 2019</td>
<td>• Samuel Hartzmark (Chicago Booth) • Abigail Sussman (Chicago Booth) • Alex Imas (Carnegie Mellon University)</td>
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<tr>
<td>Revolving Door in Insurance Regulators</td>
<td>• Ana-Maria Tenekedjieva (Chicago Booth Finance PhD Student)</td>
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<td>OptionMetrics IvyDB Europe and Asia Data</td>
<td>• Pietro Veronesi (Chicago Booth)</td>
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## March 2019

<table>
<thead>
<tr>
<th>PROPOSAL</th>
<th>RESEARCHERS</th>
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<tr>
<td>Two Full-Time Research Assistants for Two Projects 1. Quantifying the High-Frequency Trading Arms Race: A Simple New Method and Estimates 2. The Economic Limits of Bitcoin and the Blockchain</td>
<td>• Eric Budish (Chicago Booth)</td>
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<tr>
<td>Asset Pricing Conference, October 2019</td>
<td>• Niels Gormsen (Chicago Booth) • Samuel Hartzmark (Chicago Booth) • Michael Weber (Chicago Booth)</td>
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<tr>
<td>Second Annual Conference in Behavioral Finance and Decision-Making, March 2020</td>
<td>• Samuel Hartzmark (Chicago Booth) • Abigail Sussman (Chicago Booth) • Alex Imas (Carnegie Mellon University)</td>
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<td>Probation Monitoring and Household Financial Health</td>
<td>• John Heilbron (Chicago Booth Finance PhD Student)</td>
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<td>Securitization and Credit Card Closings in the Aftermath of the Great Recession</td>
<td>• Agustin Hurtado (Chicago Booth Finance PhD Student)</td>
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<td>Fama-Miller Center Visitor: Alex Chinco, University of Illinois at Urbana-Champaign</td>
<td>• Samuel Hartzmark (Chicago Booth) • Ralph Koijen (Chicago Booth) • Michael Weber (Chicago Booth)</td>
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<td>Incentives of CLO Managers in Screening and Monitoring: Evidence from Chapter 11 Bankruptcies</td>
<td>• Shohini Kundu (Chicago Booth Finance PhD Student)</td>
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<td>European Midwest Micro/Macro Conference (EM3C), October 2019</td>
<td>• Yueran Ma (Chicago Booth) • Michael Weber (Chicago Booth) • Kurt Mitman (Stockholm University)</td>
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<tr>
<td>Global Risk Factor Channel for Sovereign Risk</td>
<td>• Rayhan Momin (Chicago Booth Finance PhD Student)</td>
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<tr>
<td>Matching Planned Consumption to Earnings: The Mental Accounting of Income Volatility</td>
<td>• Shannon White (Chicago Booth Behavioral Science PhD Student)</td>
</tr>
<tr>
<td>Labor and Finance Group Conference, September 2019</td>
<td>• Constantine Yannelis (Chicago Booth)</td>
</tr>
</tbody>
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Will the Market Fix the Market?
A Theory of Stock Exchange Competition and Innovation

Will the market adopt new market designs that address the negative aspects of high-frequency trading? This paper builds a theoretical model of stock exchange competition, shaped by institutional and regulatory details of the US equities market. We (Budish and coauthors Robin S. Lee and John J. Shim) show that under the status quo market design: (i) trading behavior across the many distinct exchanges is as if there is just a single “synthesized” exchange; (ii) as a result, trading fees are perfectly competitive; but (iii) exchanges capture and maintain significant economic rents from the sale of “speed technology” (i.e., proprietary data feeds and colocation)—arms for the high-frequency trading arms race. Using a variety of data, we document seven stylized empirical facts that suggest that the model captures the essential economics of how US stock exchanges compete and make money in the modern era. We then use the model to examine the private and social incentives for market design innovation. We find that while the social returns to market design innovation are large, the private returns are much smaller and may be negative, especially for incumbents that derive rents in the status quo from selling speed technology.
The Supply and Demand of S&P 500 Put Options

We (Constantinides and coauthor Lei Lian) model the supply of at-the-money (ATM) and out-of-the-money (OTM) S&P 500 index put options by risk-averse market makers and their demand by risk-averse customers who hold the index and a risk-free asset and buy puts as downside-risk protection. In equilibrium, market makers are net sellers and customers are net buyers of index puts. Consistent with the data, the model-implied net buy of puts by customers is decreasing in the risk and put prices because the shift to the left of the supply curve dominates the shift to the right of the demand curve. The observed time series of the net buy of ATM and OTM puts are consistent with their model-implied counterparts.

Duration-Driven Returns

We (Gormsen and coauthor Eben Lazarus) propose a duration-based explanation for the return to major equity risk factors, including value, profitability, investment, low risk, and payout factors. Both in the United States and globally, firms with high expected returns predicted by these factors also have a short cash-flow duration, meaning that these firms are expected to earn most of their cash flows in the near future. The returns to the factors can thus be explained by a simple model where near-future cash flows have high risk-adjusted returns, which is consistent with the evidence on the equity term structure. We find evidence for such a model using a novel dataset of single-stock dividend futures that allow us to study fixed-maturity equity claims for a cross section of firms.
Reconsidering Returns

Investors’ perception of performance is biased because the relevant measure, returns, is rarely displayed. Major indices ignore dividends, inducing mechanical underperformance on ex-dividend days. Newspapers are more pessimistic on these days, consistent with mistaking the index for a return. Market betas should track returns, but track prices more than dividends, creating predictable market returns. Mutual funds receive inflows for “beating the S&P 500,” comparing the price-only index with the fund’s net asset value change (also not a return). Displaying returns by default would ameliorate these issues, which arise despite high attention and little ambiguity regarding the appropriate measure (with coauthor David. H. Solomon).

Contracts with Benefits: The Implementation of Impact Investing

Impact investing adds a social-benefit goal to the usual financial goal of investing. The additional goal complicates the alignment of incentives through layers of agency, and raises the question of how contracting practices should adapt. We (Jeffers and coauthors Christopher Geczy, David K. Musto, and Anne M. Tucker) draw on legal documents from impact funds to address this adaptation empirically, and relate it to contract theory. We find that the contracts with both portfolio companies and investors use new terms to directly operationalize impact, and also adjust the use of existing terms on governance and compensation. Moreover, funds’ direct contracting on impact with investors passes through to their contracting with portfolio companies.
Pledgeability and Asset Prices: Evidence from the Chinese Corporate Bond Markets

We (He and coauthors Hui Chen, Zhuo Chen, Jinyu Liu, and Rengming Xie) provide causal evidence for the value of asset pledgeability. Our empirical strategy is based on a unique feature of the Chinese corporate bond markets, where bonds with identical fundamentals are simultaneously traded on two segmented markets that feature different rules for repo transactions. We utilize a policy shock on December 8, 2014, which rendered a class of AA+ and AA bonds ineligible for repo on one of the two markets. By comparing how bond prices changed across markets and rating classes around this event, we estimate that an increase in haircut from 0 to 100 percent would result in an increase in bond yields in the range of 40 to 83 bps. These estimates help us infer the magnitude of the shadow cost of capital in China.

Leverage Dynamics without Commitment

We (He with coauthor Peter DeMarzo) develop a general methodology to characterize equilibrium leverage dynamics in a trade-off model when the firm can continuously adjust leverage and cannot commit to a policy ex ante. While the leverage ratchet effect leads shareholders to increase debt gradually over time, asset growth and debt maturity cause leverage to mean-revert slowly toward a target. Because investors anticipate future debt issuance, credit spreads are increased, offsetting fully the tax benefits of future debt issuance. Finally, although the target leverage and speed of adjustment depend critically on debt maturity, shareholders are indifferent toward the debt maturity structure.
Financial Stability Considerations and Monetary Policy?

The Federal Reserve faces a dilemma with respect to financial stability. On the one hand, the simplest interpretation of its mandate gives the Federal Reserve a limited role in addressing financial stability risks. On the other, the fact that the Fed now publishes a detailed financial stability report suggests that it sees financial stability to be of critical importance, and there is no part of the US government that can mitigate all of the threats identified by the Fed. Furthermore, unconventional monetary policy tools can interact with financial stability considerations. Hence, the Federal Reserve has strong incentives to ensure that risks are not only identified but also addressed. We (Kashyap and coauthor Caspar Siegert) argue that Congress should evaluate the effectiveness of the postcrisis regulatory reforms, including whether authorities have sufficient flexibility to react to new vulnerabilities.

Would Macroprudential Regulation Have Prevented the Last Crisis?

How well equipped are today’s macroprudential regimes to deal with a rerun of the factors that led to the Global Financial Crisis? We (Kashyap and coauthors David Aikman, Jonathan Bridges, and Caspar Siegert) argue that a large proportion of the fall in US GDP associated with the crisis can be explained by two factors: the fragility of financial sector—represented by the increase in leverage and reliance on short-term funding at nonbank financial intermediaries—and the buildup in indebtedness in the household sector. We describe and calibrate the policy interventions a macroprudential regulator would wish to make to address these vulnerabilities. And we compare and contrast how well placed two prominent macroprudential regulators—the US Financial Stability Oversight Council and the United Kingdom’s Financial Policy Committee—are to implement these policy actions.
Partisan Professionals: Evidence from Credit Rating Analysts

Partisan perception affects the actions of professionals in the financial sector. Using a novel dataset linking credit rating analysts to party affiliations from voter records, we (Kempf and coauthor Margarita Tsoutsoura) show that analysts who are not affiliated with the US president’s party downward-adjust corporate credit ratings more frequently. By comparing analysts with different party affiliations covering the same firm in the same quarter, we ensure that differences in firm fundamentals cannot explain the results. We also find a sharp divergence in the rating actions of Democratic and Republican analysts around the 2016 presidential election. Our results suggest partisan perception has implications for firms’ cost of capital.

The Impact of Banking Regulation on Voluntary Disclosures: Evidence from the Dodd-Frank Act

We (Kleymenova and coauthor Li Zhang) investigate how the Dodd-Frank Act (DFA) affects voluntary disclosures of large bank holding companies (BHCs) relative to other banks and unregulated firms in the financial sector. Using a difference-in-differences research design, we find that following the introduction of the DFA, large banks become less likely to issue earnings forecasts containing bad news. They also reduce the frequency of issuing earnings forecasts but increase the frequency of providing forecasts for dividends and return on assets. In earnings-related conference calls, managers of large banks offer information with incrementally higher numerical and forward-looking intensity in both the prepared remarks and their answers to analysts’ questions. Finally, we find that large banks provide incrementally less information than other banks about certain regulated activities and instead focus more on commercial banking financial performance and market innovation. Our findings provide the first evidence of the unintended consequences of the DFA on changes in affected banks’ voluntary disclosures, an important component of the information environment.
Regulators’ Disclosure Decisions: Evidence from Bank Enforcement Actions

Regulatory disclosure requirements induce market discipline and facilitate efficient allocation of resources by increasing firm transparency. At the same time, disclosure increases the visibility of regulatory actions, which influences the behavior of regulators. In this paper, we study the impact of a change in the disclosure regime by using the setting of the 1989 Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA), which required bank regulators to disclose enforcement actions publicly. Using a novel sampling technique to identify enforcement actions in the nondisclosure regime, we find that regulators’ incentives change after the introduction of the act. In the disclosure regime, regulators are more likely to issue enforcement actions, as well as to rely on publicly observable signals to issue enforcement orders, suggesting a response to the increased public scrutiny of their actions. We also find that following an enforcement action, its disclosure leads to a decline in deposits and improves banks’ capital ratios and asset quality. Furthermore, enforcement actions are a stronger predictor of bank failure in the disclosure period.
Granular Instrumental Variables

In many settings, there is a dearth of instruments, which hampers economists’ ability to investigate causal relations. We (Koijen and coauthor Xavier Gabaix) propose a quite general way to construct instruments: “granular instrumental variables” (GIVs). In the economies we study, a few large firms or countries account for a large share of economic activity. As they are large, their idiosyncratic shocks affect aggregate outcomes. This makes those idiosyncratic shocks valid instruments for aggregate shocks. We provide a methodology to extract idiosyncratic shocks from the data, this way creating GIVs. Those GIVs allow us to then estimate parameters of interest, including causal elasticities.

We first illustrate the idea in a basic supply-and-demand framework: We achieve a novel identification of supply and demand elasticities, based on idiosyncratic shocks to supply or demand. We then show how the procedure can be adapted to handle many enrichments. We provide initial illustrations of the procedure with two applications. First, we measure how “sovereign yield shocks” spill over to other countries in the eurozone. Second, we estimate short-term supply and demand elasticities in the oil market. Our estimates match well existing estimates that use much more complex and labor-intensive (e.g., narrative) methods. We sketch how GIVs could be useful to estimate a host of other causal parameters in economics.

Do Survey Expectations of Stock Returns Reflect Risk-Adjustments?

To reconcile the disconnect between empirical survey expectations of stock returns and rational return expectations, researchers have hypothesized that survey participants may confound beliefs and preferences. We (Nagel and coauthors Klaus Adam and Dmitry Matveev) investigate the empirical plausibility of two confounding hypotheses: (i) survey respondents report risk-neutral forecasts of future returns; (ii) they report pessimistically tilted forecasts reflecting ambiguity aversion or robustness concerns. We find that these hypotheses are strongly rejected by the data, albeit for different reasons: Inconsistent with hypothesis (i), survey return forecasts are reliably much higher than risk-free interest rates, and survey expected excess returns are predictably time-varying. Inconsistent with (ii), agents are not always pessimistic about future returns, but often instead predictably optimistic and unconditionally unbiased.
RESEARCH PAPERS POSTED IN 2018–19

Liquidity vs. Wealth in Household Debt Obligations: Evidence from Housing Policy in the Great Recession

We (Noel and coauthor Peter Ganong) use variation in mortgage modifications to disentangle the impact of reducing long-term obligations with no change in short-term payments (“wealth”), and reducing short-term payments with approximately no change in long-term obligations (“liquidity”). Using regression discontinuity and difference-in-differences research designs with administrative data measuring default and consumption, we find that principal reductions that increase housing wealth without affecting liquidity have no effect, while maturity extensions that increase only liquidity have large effects. Our results suggest that liquidity drives borrower default and consumption decisions, and that distressed debt restructurings can be redesigned with substantial gains to borrowers, lenders, and taxpayers.

Lubos Pastor
Charles P. McQuaid Professor of Finance
and Robert King Steel Faculty Fellow

Liquidity Risk after 20 Years

The Critical Finance Review commissioned Li, Novy-Marx, and Velikov (2017) and Pontiff and Singla (2019) to replicate the results in Pastor and Stambaugh (2003). Both studies successfully replicate our market-wide liquidity measure and find similar estimates of the liquidity risk premium. In the sample period after our study, the liquidity risk premium estimates are even larger, and the liquidity measure displays sharp drops during the 2008 financial crisis. We (Pastor and coauthor Robert F. Stambaugh) respond to both replication studies and offer some related thoughts, such as when to use our traded versus nontraded liquidity factors and how to improve the precision of liquidity beta estimates.
Inequality Aversion, Populism, and the Backlash against Globalization

Motivated by the recent rise of populism in Western democracies, we develop a model in which a populist backlash emerges endogenously in a growing economy. In the model, voters dislike inequality, especially the high consumption of “elites.” Economic growth exacerbates inequality due to heterogeneity in risk aversion. In response to rising inequality, rich-country voters optimally elect a populist promising to end globalization. Countries with more inequality, higher financial development, and current account deficits are more vulnerable to populism, both in the model and in the data. Evidence on who voted for Brexit and Trump in 2016 also supports the model.

Lubos Pastor
Charles P. McQuaid Professor of Finance and Robert King Steel Faculty Fellow

Pietro Veronesi
Deputy Dean for Faculty and Chicago Board of Trade Professor of Finance
Credit Supply and Housing Speculation

Speculation is a critical channel through which credit supply expansion affects the housing cycle. The surge in private label mortgage securitization in 2003 fueled a large expansion in mortgage credit supply by lenders financed with noncore deposits. Areas more exposed to these lenders experienced a large relative rise in transaction volume driven by a small group of speculators, and these areas simultaneously witnessed an amplified housing boom and bust. Consistent with the importance of belief heterogeneity, house price growth expectations of marginal buyers rose during the boom, while housing market pessimism among the general population increased (with coauthor Atif Mian).

Mortgage Prepayment and Path-Dependent Effects of Monetary Policy

How much ability does the Fed have to stimulate the economy by cutting interest rates? We (Vavra and coauthors David W. Berger, Konstantin Milbradt, and Fabrice Tourre) argue that the presence of substantial debt in fixed-rate, prepayable mortgages means that the ability to stimulate the economy by cutting interest rates depends not just on their current level but also on their previous path. Using a household model of mortgage prepayment matched to detailed loan level evidence on the relationship between prepayment and rate incentives, we argue that recent interest rate paths will generate substantial headwinds for future monetary stimulus.
Heterogeneous Households under Uncertainty

I characterize a dynamic economy under general distributions of households’ risk tolerance, endowments, and beliefs about long-term growth. As the economy expands and the stock market rises, (a) the fraction of households with declining consumption-share increases; (b) the wealth share of high risk-tolerant households increases; (c) richer households’ wealth display a higher CAPM beta; and (d) households’ portfolios change qualitatively. A log-utility investor, for instance, borrows in contractions but lends in expansions. Variations in uncertainty and expected growth generate trading volume due to risk sharing. Higher uncertainty increases stock prices, risk premiums, volatility, wealth inequality, and the dispersion of portfolio holdings, consistently with the events in the late 1990s.

Leverage

Many stylized facts of leverage, trading, and asset prices obtain in a frictionless general equilibrium model that features agents’ heterogeneity in endowments and time varying risk preferences. Our (Veronesi and coauthor Tano Santos) model predicts that aggregate debt increases in expansions when asset prices are high, volatility is low, and levered households enjoy a “consumption boom.” Our model is consistent with poorer households borrowing more and with intermediaries’ leverage being a priced factor. In crises, levered households strongly delever by “fire selling” their risky assets as asset prices drop. Yet, as empirically observed, their debt-to-wealth ratios increase as higher discount rates make their wealth decline faster.
Estimating the Anomaly Baserate

The academic literature contains literally hundreds of variables that seem to predict the cross section of expected returns. This so-called anomaly zoo has caused many to question whether researchers are using the right tests for statistical significance. But, here’s the thing: even if a researcher is using the right tests, he will still be drawing the wrong conclusions from his analysis if he is starting out with the wrong priors—i.e., if he is starting out with incorrect beliefs about the ex ante probability of discovering a tradable anomaly prior to seeing any test results.

So, what are the right priors to start out with? What is the correct anomaly baserate?

We (Weber and coauthors Alex Chinco and Andreas Neuhierl) 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 ex ante probability of discovering a tradable anomaly and the best-fit tuning parameter in a penalized regression. When we apply our new statistical approach to the cross section of monthly returns, we find that the anomaly baserate has fluctuated substantially since the start of our sample in May 1973. The ex ante probability of discovering a tradable anomaly was much higher in 2003 than in 1990. As a proof of concept, we construct a trading strategy that invests in previously discovered predictors and show that adjusting this strategy to account for the prevailing anomaly baserate boosts its performance.

Monetary Policy Communications and Their Effects on Household Inflation Expectations

We (Weber and coauthors Olivier Coibion and Yuriy Gorodnichenko) study how different forms of communication influence the inflation expectations of individuals in a randomized controlled trial. We first solicit individuals’ inflation expectations in the Nielsen Homescan panel and then provide eight different forms of information regarding inflation. Reading the actual Federal Open Market Committee (FOMC) statement has about the same average effect on expectations as simply being told about the Federal Reserve’s inflation target. Reading a news article about the most recent FOMC meetings results in a forecast revision which is smaller by half. Our results have implications for how central banks should communicate to the broader public.
Nonanswers during Conference Calls

We (Zakolyukina and coauthors Ian D. Gow and David F. Larcker) construct a novel measure of disclosure choice by firms. Our measure uses linguistic analysis of conference calls to flag a manager’s response as providing an explicit “nonanswer” to an analyst’s question. Using our measure, about 11 percent of questions elicit nonanswers, a rate that is stable over time and similar across industries. Consistent with extant theory, we find firms are less willing to disclose when competition is more intense but more willing to disclose prior to raising capital. An important feature of our measure is that it yields several observations for each firm-quarter, which allows us to examine disclosure choice within a call as a function of properties of the question. We find product-related questions are associated with nonanswers, and this association is stronger when competition is more intense, suggesting product-related information has higher proprietary cost. While firms are more forthcoming prior to raising capital, the within-call analyses for future-performance-related questions shows firms are less likely to answer future-performance-related questions shortly before equity or debt offerings when legal liability is higher.

Information versus Investment

Firms’ efficient long-term investment and accurate reporting of information about performance both serve crucial roles in the economy and capital markets. We (Zakolyukina and coauthors Stephen Terry and Toni M. Whited) argue quantitatively that the two goals are in direct conflict in the presence of realistic manager compensation contracts, which provide managers with incentives both to misreport financial statements and to distort their real investment choices. We build a dynamic structural model rich enough to capture a natural trade-off between investment and information. The model matches a range of observable moments constructed from data on firm investment and periods of detected misreporting by firms. Counterfactuals show that regulations preventing misreporting do in fact incentivize managers to distort real investment, whose volatility rises. This excess volatility lowers firm value, suggesting a quantitatively meaningfully trade-off.
When Investor Incentives and Consumer Interests Diverge: Private Equity in Higher Education

This paper studies how private equity buyouts create value in higher education, a sector with opaque product quality and intense government subsidy. With novel data on 88 private equity deals involving 994 schools, we (Yannelis and coauthors Charlie Eaton and Sabrina Howell) show that buyouts lead to higher tuition and per-student debt. Exploiting loan limit increases, we find that private equity-owned schools better capture government aid. After buyouts, we observe lower education inputs, graduation rates, loan repayment rates, and earnings among graduates. Neither school selection nor student body changes fully explain the results. The results indicate that in a subsidized industry, maximizing value may not improve consumer outcomes.

Financial Inclusion, Human Capital, and Wealth Accumulation: Evidence from the Freedman’s Savings Bank

This paper studies how access to financial services among a previously unbanked group affects human capital, labor market, and wealth outcomes. We (Yannelis and coauthor Luke Stein) use novel data from the Freedman’s Savings Bank—created following the American Civil War to serve free blacks—employing an instrumental variables strategy exploiting the staggered rollout of bank branches. Families with accounts are more likely to have children in school, be literate, work, and have higher occupational income, business ownership, and real estate wealth. Placebo effects are not present using planned but unbuilt branches, or for whites, suggesting significant positive effects of financial inclusion.

Loan Guarantees and Credit Supply

The efficiency of federal lending guarantees depends on whether guarantees increase lending supply, or simply act as a subsidy to lenders. We (Yannelis and coauthors Natalie Bachas and Olivia Kim) use notches in the guarantee rate schedule for loans backed by the Small Business Administration to estimate the elasticity of bank lending volume to loan guarantees. We document significant bunching in the loan distribution on the side of the size threshold that carries a more generous loan guarantee. The excess mass implies that increasing guarantee generosity by 1 percentage point of loan principal would increase per-loan lending volume by $19,000. Bank lending is responsive both in the cross section and in the time series—excess mass increases with the guarantee discontinuity, and placebo results indicate that the effect disappears when the guarantee notch is eliminated.
The Consequences of Student Loan Credit Expansions: Evidence from Three Decades of Default Cycles

This paper studies the link between credit availability and student loan repayment using administrative federal student loan data. We (Yannelis and coauthor Adam Looney) demonstrate that expansions and contractions in federal student loan credit to high-default-rate institutions explain most of the time series variation in student loan defaults between 1980 and 2010. Expansions in loan eligibility between 1981 and 1988 led to the entry of new, high-risk institutions, and default rates exceeding 30 percent in the late 1980s. Credit access was subsequently tightened through strict institutional and student accountability measures, contracting credit availability at the highest-default-rate institutions, causing an exodus of institutions with high default rates, and sending student default rates to historic lows. After 1992, the cycle was repeated, with credit access gradually loosened by unwinding many of the pre-1992 reforms and increasing loan limits. We confirm this time series narrative by examining discrete policy changes governing access to credit to show that tightening credit supply led to the closure of high-default schools and the relaxation of accountability rules led to their expansion. Our estimates imply that 85 percent of the increase in default between 1980 and 1990, and 95 percent of the decrease in default between 1990 and 2000, is driven by schools entering and exiting loan programs. One third of the recent increase in default is associated with the entry of online programs following the relaxation of rules for federal lending to online schools. Variation in other time-varying factors, including economic conditions, tuition and fees, repayment plan options, or debt burdens do not contribute to changing default rates.
The Equilibrium Effects of Information Deletion: Evidence from Consumer Credit Markets

This paper studies the equilibrium effects of information restrictions in credit markets using a large-scale natural experiment. In 2012, Chilean credit bureaus were forced to stop reporting defaults for 2.8 million individuals (21 percent of the adult population). Using panel data on the universe of bank borrowers in Chile combined with the deleted registry information, we (Zimmerman and coauthors Andres Liberman, Christopher Neilson, and Luis Opazo) implement machine learning techniques to measure changes in the predictions lenders can make about default rates following deletion. Deletion lowers (raises) predicted default the most for poorer defaulters (nondefaulters) with limited borrowing histories. Using a difference-in-differences design, we show that individuals exposed to increases in predicted default reduce borrowing by 6.4 percent following deletion, while those exposed to decreases raise borrowing by 11.8 percent. In aggregate, deletion reduces borrowing by 3.5 percent. Taking the difference-in-differences estimates as inputs into a model of borrowing under adverse selection, we find that deletion reduced consumer surplus under a variety of assumptions about lenders’ pricing strategies.
PUBLISHED AND FORTHCOMING PAPERS FROM FAMA-MILLER CENTER SUPPORT 2018–19

Published Papers


Forthcoming Papers


FAMA-MILLER CENTER VISITORS HOSTED IN 2018–19

The Fama-Miller Center hosted Hengjie Ai during Spring Quarter 2019. Ai’s research interests include topics in asset pricing, corporate finance, and macroeconomic theory. His research has been published in top economic journals such as Econometrica and top finance journals such as the *Journal of Finance*, *Journal of Financial Economics*, and *Review of Financial Studies*.

During his visit at Chicago Booth, Ai presented his paper titled “Identifying Preference for Early Resolution from Asset Prices” at the Finance Lunch Seminar.

The Fama-Miller Center hosted Daniel Greenwald during Winter Quarter 2019. Greenwald’s research is at the intersection of macroeconomics and finance, with special focus on housing and mortgage markets, the links between the stock market and the macroeconomy, and the structure of corporate debt.

During his visit at Chicago Booth, Greenwald presented his work titled “Financial Fragility with SAM?” at the Finance Workshop.

The Fama-Miller Center hosted Alex Chinco during Spring Quarter 2019. Chinco’s research interests are in asset pricing, behavioral finance, and real estate finance.

While at Chicago Booth, Chinco participated in the Conference in Behavioral Finance and Decision-Making that was held at Gleacher Center. He will return in the Autumn Quarter 2019 as a visiting assistant professor of finance and will present at the Finance Lunch Seminar.
LIEW FAMA-MILLER FELLOWS IN 2018–19

Students in the Chicago Booth finance program and the Joint Program in Financial Economics are eligible to apply for the Liew Fama-Miller Fellowship. For 2018–19, fellowships were awarded to Ehsan Azarmsa, Gursharan Bhue, Jian Li, Sangmin Oh, and Kelly Posenau.

FAMA-MILLER RESEARCH PROFESSIONAL DEVELOPMENT FELLOWSHIP, 2019–20

The Fama-Miller Research Professional Development Fellowship recognizes one outstanding entering third- or fourth-year Chicago Booth finance or Joint Program in Financial Economics PhD student per year. The Fama-Miller Research Professional Development Fellow is expected to lead the weekly Fama-Miller Center research professional seminar (held on Fridays from late September to early June), guiding the research professionals’ discussion during the seminar and providing feedback to the presenter afterward. The fellow is selected among applicants annually by the faculty directors of the Fama-Miller Center, based primarily on academic merit.

The fellowship was awarded to Agustin Hurtado, a rising fourth-year Chicago Booth finance PhD candidate. He will serve as a fellow during the academic year 2019–20. Agustin’s research focuses on corporate, entrepreneurial, and household finance. His research interests include securitization, private equity, credit algorithms, and the role borrower information plays in consumer credit markets. For example, he is working on a project that provides evidence on the trade-off between competition and financial inclusion when lenders share information about their borrowers. Agustin has also worked as a teaching assistant for Douglas W. Diamond, Amir Sufi, and Luigi Zingales.
RESEARCH EVENTS HOSTED IN 2018–19

Conference in Honor of Doug Diamond
September 7–8, 2018, Gleacher Center

The Fama-Miller Center for Research in Finance hosted an event to celebrate professor Douglas W. Diamond’s extremely productive and influential academic career. The conference took place over two half-days in Chicago and consisted of papers related to Professor Diamond’s research.

The conference organizers were Efraim Benmelech (Northwestern University Kellogg School of Management), Philip Bond (University of Washington Foster School of Business), Andrea Eisfeldt (UCLA Anderson School of Management), Zhiguo He (Chicago Booth), and David Musto (Wharton School of the University of Pennsylvania).

Distinguished Speaker Series—
Andrej Kiska, President of the Slovak Republic
September 27, 2018, Harper Center

Andrej Kiska, president of the Slovak Republic, spoke with professor Lubos Pastor in a fireside chat. President Kiska was an entrepreneur in the financial services industry before he turned into a global leader. He shared his views on his entrepreneur experience and on leadership, public service, and global affairs.
New Methods for the Cross Section of Returns Conference
September 28, 2018, Gleacher Center

The Fama-Miller Center for Research in Finance at Chicago Booth, EDHEC, and the Review of Financial Studies hosted the New Methods for the Cross Section of Returns Conference held at Gleacher Center. Keynote speaker John Cochrane (Hoover Institution) presented his work titled “Characteristics and Covariances.”

The conference organizers were Michael Weber (Chicago Booth) and Raman Uppal (EDHEC). Andrew Karolyi (Cornell SC Johnson Graduate School of Management) and Stijn van Nieuwerburgh (Columbia Business School) were the Review of Financial Studies sponsoring editors.

Asset Pricing Conference
December 6–7, 2018, Gleacher Center

In December, the Fama-Miller Center for Research in Finance at Chicago Booth and the Macro Financial Research Initiative within the Becker Friedman Institute at the University of Chicago welcomed attendees to the Chicago Booth Asset Pricing Conference held at Gleacher Center.

The conference is intended to assemble a small group of faculty working at the frontier of asset pricing to discuss early stage research in an informal setting. The conference organizers were Samuel Hartzmark, Michael Weber, and Lars Peter Hansen of Chicago Booth.

Conference in Behavioral Finance and Decision-Making
March 28–29, 2019, Gleacher Center

The University of Chicago Booth School of Business contains world-leading groups in financial decision-making. Groups as diverse as decision science, marketing, economics, and finance each bring their unique tool set to answering questions that are closely related, though often the divisions between fields makes dialogue across them difficult. The aim of the conference is to leverage Chicago Booth’s multidisciplinary strengths to draw leading scholars from economics, finance, decision science, and psychology together in a discussion addressing pressing questions related to how individuals make financial decisions. The conference brought together a small group of scholars from various fields.

The conference was sponsored by the Fama-Miller Center for Research in Finance and was organized by Samuel Hartzmark (Chicago Booth), Alex Imas (Carnegie Mellon University), and Abigail Sussman (Chicago Booth).
## LOOKING AHEAD

<table>
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| **September 2019** | • The Fama-Miller Center will host the Labor and Finance Group Conference.  
                     The conference will take place at Gleacher Center.  
                     • The Fama-Miller Center sends a call for proposals for research funding. |
| **October 2019**  | • The Fama-Miller Center will host the second European Midwest Micro/Macro Conference.  
                     • The Fama-Miller Center, along with the Macro Finance Research (MFR) Program of the Becker Friedman Institute, will host the Chicago Booth Asset Pricing Conference. |
| **November 2019** | The Fama-Miller Center awards research funding. |
| **March 2020**   | • The Fama-Miller Center will host the Second Annual Conference in Behavioral Finance and Decision-Making. |
| **April 2020**   | • The center sends its Fama-Miller Research Professional Development Fellowship application for 2020–21.  
                     • The Fama-Miller Center sends a call for proposals for research funding. |
| **May 2020**     | The Fama-Miller Center awards research funding. |