Isil Erel

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Academic Employment:

Ohio State University, Fisher College of Business

David A. Rismiller Chair in Finance, June 2018 – *present*

Academic Director, Risk Institute, January 2016 – *present*

Fisher College of Business Distinguished Professor of Finance, July 2016 – May 2018

Associate Professor of Finance with Tenure, September 2013 – June 2016

Assistant Professor of Finance, June 2006 – August 2013

MIT Sloan School of Management, February 2006 – May 2006

Post-Doctoral Associate

Board of Governors of the Federal Reserve System, June 2004 - September 2004

Dissertation Intern

Education:

MIT Sloan School of Management, September 2000 – February 2006
PhD in Financial Economics
<u>Thesis Title:</u> Essays on Banking
<u>Thesis Committee:</u> Stewart C. Myers (Co-chair), Stephen A. Ross (Co-chair), and Antoinette Schoar.

Koc University, Istanbul/Turkey, September 1995 - May 2000
B.A. in Economics & Business Administration
(Double Major; GPA: 4.00/4.00)

Research Interests:

Corporate Finance; Banking; Mergers and Acquisitions; Corporate Governance; Risk

Academic Fellowships and Awards:

- David A. Rismiller Chair in Finance, 2018
- Fisher College of Business Distinguished Professorship, 2016
- Fisher College of Business Distinguished Faculty Award, 2015
- Fisher Research Fellow, 2011-2015
- Research Fellow, GE Capital-Fisher National Center for the Middle Market, 2012-2015
  Projects granted funding:
    - "Hedge Fund Lending to Middle Market Firms" (joint with Sergey Chernenko)
    - "Financing-motivated Acquisitions" (joint with Michael Weisbach)
    - "Multinational Firms and International Transmission of Financial Crisis" (joint with Serdar Dinc and Jan Bena)
    - "How the Two Sides of Liquidity Affect Acquisition Behavior" (joint with with Yeejin Jang, Bernadette Minton and Michael Weisbach)
- Review of Financial Studies Distinguished Referee Award (Sponsored by Cornerstone Research), 2012
- Recipient of the Pace Setters Faculty Research Award, 2010
- Recipient of the 2010 China International Conference in Finance Best Paper Award
    - Paper Title: Does Governance Travel around the World? Evidence from Institutional Investors
- Recipient of the Institute for Quantitative Research in Finance (Q-Group) Research Grant, 2007
- Dean's Summer Research Fellowship, Ohio State University, 2006-2010
- Nominated as the First Runner Up for the Best Paper Award in Financial Markets and Institutions by Financial Management Association, October 2005.
    - Paper Title: The Effect of Bank Mergers on Loan Prices: Evidence from the U.S.
- Recipient of MIT Sloan School of Management Henry B. Dupont Fellowship, September 2000-May 2005.
- Valedictorian of Koc University, Istanbul/Turkey, Class of 2000.
- Recipient of the Werner-von-Siemens Excellence Award, Koc University, June 2000.
- Recipient of Vehbi Koc Fellowship for full-tuition & Vehbi Koc Scholarship for outstanding academic performance, Koc University, September 1995-May 2000.
- Named in the high honour list of Koc University, September 1995-May 2000.
- Ranked 7th among approximately one million high school graduates in the 1995 Nationwide University Entrance Examination of the Turkish Republic Higher Education Council.

Research Papers:

Differences in Governance Practice between U.S. and Foreign Firms: Measurement, Causes, and Consequences (with Reena Aggarwal, René Stulz, and Rohan Williamson)

Review of Financial Studies, 2009, 22/8, pg. 3131-3169.

We construct a firm-level governance index that increases with minority shareholder protection. Compared to U.S. matching firms, only 12.68% of foreign firms have a higher index. The value of foreign firms falls as their index decreases relative to the index of matching U.S. firms. Our results suggest that lower country-level investor protection and other country characteristics make it suboptimal for foreign firms to invest as much in governance as U.S. firms do. Overall, we find that minority shareholders benefit from governance improvements and do so partly at the expense of controlling shareholders.

The Effect of Bank Mergers on Loan Prices: Evidence from the United States

Review of Financial Studies, 2011, 24/4, pg. 1068-1101.

Bank mergers can increase or decrease loan spreads, depending on whether the increased market power outweighs efficiency gains. Using proprietary loan-level data for U.S. commercial banks, I find that, on average, mergers reduce loan spreads, with the magnitude of the reduction being larger when post-merger cost savings increase. My results suggest that the relation between spreads and the extent of market overlap between merging banks is non-monotonic. Market overlap increases cost savings and consequently lowers spreads, but when the overlap is sufficiently large, spreads increase, potentially due to the market-power effect dominating the cost savings. Furthermore, the average reduction in spreads is significant for small businesses.

Does Governance Travel Around the World? Evidence from Institutional Investors (with Reena Aggarwal, Miguel Ferreira and Pedro Matos),

Journal of Financial Economics, 2011, 100/1, pg. 154-181.

We examine whether institutional investors affect corporate governance by analyzing portfolio holdings of institutions in companies from 23 countries during the period 2003–2008. We find that firm-level governance is positively associated with international institutional investment. Changes in institutional ownership over time positively affect subsequent changes in firm-level governance, but the opposite is not true. Foreign institutions and institutions from countries with strong shareholder protection play a role in promoting governance improvements outside of the U.S. Institutional investors affect not only which corporate governance mechanisms are in place, but also outcomes. Firms with higher institutional ownership are more likely to terminate poorly performing Chief Executive Officers (CEOs) and exhibit improvements in valuation over time. Our results suggest that international portfolio investment by institutional investors promotes good corporate governance practices around the world.

Determinants of Cross-Border Mergers and Acquisitions (with Rose Liao and Michael Weisbach)

Journal of Finance, 2012, 67, pg. 1045-1082.

Despite the fact that one-third of worldwide mergers involve firms from different countries, the vast majority of the academic literature on mergers studies domestic mergers. What little has been written about cross-border mergers has focused on public firms, usually from the United States. Yet, the vast majority of cross-border mergers involve private firms that are not from the United States. We provide an analysis of a sample of 56,978 cross-border mergers occurring between 1990 and 2007. In addition to the factors that motivate domestic mergers, national borders provide an additional set of factors that affect the likelihood that two firms choose to merge. Geography, the quality of accounting disclosure, and bilateral trade increase the likelihood of mergers between two countries. In addition, valuation appears to play a role in motivating mergers; firms in countries whose stock market has increased in value, whose currency has recently appreciated, and who have a relatively high market to book value tend to be purchasers and firms from weaker-performing economies tend to be targets.

Macroeconomic Conditions and Capital Raising (with Brandon Julio, Woojin Kim, and Michael Weisbach)

Review of Financial Studies, 2012, 25/2, pg. 341-376.

Do macroeconomic conditions affect firms' abilities to raise capital? If so, how do they affect the manner in which the capital is raised? We address these questions using a large sample of publicly-traded debt issues, seasoned equity offers, bank loans and private placements of equity and debt. Our results suggest that a borrower's credit quality significantly affects its ability to raise capital during macroeconomic downturns. For noninvestment-grade borrowers, capital raising tends to be procyclical while for investment-grade borrowers, it is countercyclical. Moreover, proceeds raised by investment grade firms are more likely to be held in cash in recessions than in expansions. Poor market conditions also affect the structure of securities offered, shifting them towards shorter maturities and more security. Overall, our results suggest that macroeconomic conditions influence the securities that firms issue to raise capital, the way in which these securities are structured and indeed firms' ability to raise capital at all.

Economic Nationalism in Mergers and Acquisitions (with Serdar Dinc)

Journal of Finance, 2013, 68/6, pages 2471-2514**.**

This paper studies government reactions to large corporate merger attempts in the European Union during 1997 to 2006 using hand-collected data. We document widespread economic nationalism in which the government prefers that target companies remain domestically owned rather than foreign-owned. This preference is stronger in times and countries with strong far-right parties and weak governments. Nationalist government reactions have both direct and indirect economic impacts on mergers. In particular, these reactions not only affect the outcome of the mergers that they target but also deter foreign companies from bidding for other companies in that country in the future.

Why Did Holdings of Highly-Rated Securitization Tranches Differ So Much Across Banks? (with Taylor Nadauld and René M. Stulz)

Review of Financial Studies, 2014, 27/2, pages 404-453**.**

We provide estimates of holdings of highly rated securitization tranches of U.S. bank holding companies before the credit crisis and evaluate hypotheses that have been advanced to explain them. Whereas holdings exceeded Tier 1 capital for some large banks, they were economically trivial for the typical bank. Banks with high holdings were not riskier before the crisis using conventional measures, but they performed poorly during the crisis. We find that holdings of highly rated tranches were correlated with a bank's securitization activity. Theories unrelated to the securitization activity, such as "bad incentives" or "bad risk management," are not supported in the data.

Do Acquisitions Relieve Target Firms' Financial Constraints? (with Yeejin Jang and Michael Weisbach),

Journal of Finance, 2015, 70/1, 289-328**.**

Managers often claim that an important source of value in acquisitions is the acquiring firm's ability to finance investments for the target firm. This claim implies that targets are financially constrained prior to being acquired and that these constraints are eased following the acquisition. We evaluate these predictions on a sample of 5,187 European acquisitions occurring between 2001 and 2008, for which we can observe the target's financial policies both before and after the acquisition. We examine whether target firms' post-acquisition financial policies reflect improved access to capital. We find that the level of cash target firms hold, the sensitivity of cash to cash flow, and the sensitivity of investment to cash flow all decline significantly, while investment significantly increases following the acquisition. These effects are stronger in deals that are more likely to be associated with financing improvements. While the evidence does not speak to whether easing of financial frictions is a pervasive motive for acquisitions, it is consistent with the view that acquisitions ease financial frictions in target firms, especially when the target firm is relatively small.

A Theory of Risk Capital (with Stewart C. Myers and James A. Read, Jr.)

Journal of Financial Economics, 2015, 118/3, 620-635.

We present a theory of risk capital and of how tax and other costs of risk capital should be allocated in a financial firm. Risk capital is equity investment that backs obligations to creditors and other liability holders and maintains the firm's credit quality. Credit quality is measured by the ratio of the value of the firm's option to default to the default-free value of its liabilities. Marginal default values provide a full and unique allocation of risk capital. Efficient capital allocations maintain credit quality and preclude risk shifting. Our theory leads to an adjusted present value (APV) criterion for making investment and contracting decisions. We set out implications for risk management and corporate finance.

Fire Sale Discount: Evidence from the Sale of Minority Equity Stakes (with Serdar Dinc and Rose Liao)

Journal of Financial Economics, 2017, 125/3, 475-490.

Most of the existing empirical studies estimate the impact of fire sales either without the benefit of market prices from frequent trades, as with aircraft sales, or without observing the prices received by distressed sellers, as with the sales of equity securities by mutual funds facing outflows. We study transactions where the selling firm sells minority equity stakes it holds in publicly-listed third parties. In these transactions, market prices from frequent trades in the shares of those third parties are available and the transaction prices received by the sellers are reported. We estimate the industry-adjusted distressed sale discount based on the four-week window to be about 8% while controlling for the liquidity of the shares sold. This discount magnitude is higher than the 4% estimated for forced sales of stocks by mutual funds without the benefit of observing transaction prices. The discount we estimate becomes 13-14% if the stake sold is more than 5% of the firm or if the stake is sold as a block. Prices recover after the distressed sale.

Discussion: Financing Acquisitions with Earnouts

Journal of Accounting and Economics, forthcoming.

"Financing Acquisitions with Earnouts" by Thomas Bates, Jordan Neyland, and Yolanda Wang broadly focuses on an important topic: how firms finance their acquisitions. Specifically, authors study the role of earnout agreements in financing acquisitions and show that they could be substantial both for financially constrained firms and at times when external capital is more expensive. My discussion focuses on the economic significance of the results presented, questioning the importance of earnouts in the world of M&As and discussing the role of financing synergies in general.

Influence of Public Opinion on Investor Voting and Proxy Advisors (with Reena Aggarwal and Laura Starks)

We show a strong relation between public opinion and voting by institutional investors. Public opinion on corporate governance issues, as reflected in media coverage and surveys, is strongly associated with voting by mutual funds and other investors. We find that the proxy advisors' recommendations are also related to public opinion. Many institutional investors are stewards of capital for a wider public. Our results suggest that institutional investors pay attention to the changing opinions of their beneficiaries and shareholders, as reflected in their voting decisions, and that the proxy voting process serves as a channel for the public to influence corporate behaviour.

Multinational Firms and the International Transmission of Crises: The Real Economy Channel (with Jan Bena and Serdar Dinc)

This paper studies investment and employment at a subsidiary located in a non-crisis country if its parent firm also has a subsidiary in a crisis country. It finds that investment is about 18% lower in the subsidiaries of these parents relative to the same-industry, same-country subsidiaries of multinational firms that do not have a subsidiary in a crisis country. Employment growth rate in the affected subsidiaries is zero or negative while it is 1.4% in the subsidiaries of unaffected parents. These results hold for the parents that are unlikely financially constrained and are robust to controlling for subsidiary and parent size, parent cash flow, subsidiary country, industry, year, and parent country, as well as using alternative crisis definitions.

Corporate Liquidity, Acquisitions, and Macroeconomic Conditions (with Yeejin Jang, Bernadette Minton and Michael Weisbach)

This paper evaluates how the relation between firms' cash holdings and their acquisition decisions changes over macroeconomic cycles using a sample of 47,378 acquisitions from 36 countries between 1997 and 2014. Higher cash holdings and stronger macroeconomic conditions each increase the likelihood a firm will make an acquisition. However, larger cash holdings decrease the sensitivity of acquisitions to macroeconomic factors, suggesting that cash holdings lower financing constraints during times when the cost of external finance is high. Announcement day abnormal returns for acquirers follow a consistent pattern: they decrease with acquirer cash holdings and with better macroeconomic conditions.

Selecting Directors using Machine Learning (with Lea Stern, Chenhao Tan, and Mike Weisbach)

Can an algorithm assist firms in their hiring decisions of corporate directors? This paper proposes a method of selecting boards of directors that relies on machine learning. We develop algorithms with the goal of selecting directors that would be preferred by the shareholders of a particular firm. Using shareholder support for individual directors in subsequent elections and firm profitability as performance measures, we construct algorithms to make out-of-sample predictions of these measures of director performance. We then run tests of the quality of these predictions and show that, when compared with a realistic pool of potential candidates, directors predicted to do poorly by our algorithms indeed rank much lower in performance than directors who were predicted to do well. Deviations from the benchmark provided by the algorithms suggest that firm-selected directors are more likely to be male, have previously held more directorships, have fewer qualifications and larger networks. Machine learning holds promise for understanding the process by which existing governance structures are chosen, and has potential to help real world firms improve their governance.

Nonbank Lending (with Sergey Chernenko and Robert Prilmeier)

We provide novel systematic evidence on the terms of direct lending by nonbank financial institutions. Analyzing hand-collected data for a random sample of publicly traded middle-market firms during the 2010-2015 period, we find that nonbank lending is widespread, with 32% of all loans being extended by nonbanks. Firms are more likely to borrow from a nonbank lender if local banks are poorly capitalized and less concentrated. Nonbank borrowers are smaller, more R&D intensive, and significantly more likely to have negative EBITDA. Nonbank lenders are less likely to monitor by including financial covenants in their loans, but likely to engage in more ex-ante screening. We find that nonbank borrowers pay about 200 basis points higher interest rates than bank borrowers. Using fuzzy regression discontinuity design and matching techniques generates similar results. Overall, our results provide evidence of market segmentation in the commercial loan market, where bank and nonbank lenders utilize different lending technologies and cater to different types of borrowers.

Research in Progress:

Ownership and Media Bias (with Serdar Dinc and Ivan Alfaro)

Invited Presentations/Discussions:

- American Finance Association Meetings in Philadelphia (Discussion), University of Illinois, NBER Corporate Finance Meetings, UMass Amherst, 2018.
- UBC Winter Finance Conference (Discussion), SFS Cavalcade (Discussion), University of Washington, Koc University, Carnegie Mellon University, York University, Emory University, Steve Ross Conference at MIT, Journal of Accounting and Economics Conference at Wharton (Discussion), University of Nebraska, Tilburg University, Erasmus University Rotterdam, and University of Amsterdam, 2017.
- Allied Social Science Association Meetings in Boston (Discussion), University of Exeter, Bristol University, HEC Paris, Stockholm School of Economics, Villanova University, Hong Kong University (HKU), Hong Kong University of Science and Technology (HKUST), University of Rochester, 2016
- Allied Social Science Association Meetings in Boston (Discussion), University of Pittsburg, Federal Reserve Bank of New York, Western Finance Association Meetings (Discussion), University of Georgia, 2015
- Allied Social Science Association Meetings in San Diego (Discussion), Babson College, the European Winter Finance Summit, Nanyang Technical University, National University of Singapore, and Singapore Management University, 2013
- American Finance Association Meetings in Chicago (Presentation & Discussion), UBC Winter Finance Conference, Chicago Fed Bank Structure Conference, University of Amsterdam, Securities and Exchange Commission, 2012
- European Finance Association Meetings, Capital Markets Board Of Turkey, University of Arizona, University of Alberta, University of Texas at Austin, Purdue University, 2011

- Summer Finance Conference at IDC in Israel, University of Notre Dame, Washington University at St Louis, 2010
- American Finance Association Meetings in San Francisco (Discussion), NBER Corporate Finance Meetings, Georgetown University, 2009
- Allied Social Science Association Meetings in New Orleans, The International Finance Conference at Queen's Business School (Discussion), 2008
- Western Finance Association Meetings, Wharton Conference on Corporate Governance and Globalization, Ohio State University Propensity-Score-Matching Working Group, Conference on Corporate Governance in Emerging Markets (Presentation and Discussion), Case Western Reserve University, 2007
- University of Georgia, Conference on Corporate Finance of Financial Intermediaries (Wharton School of University of Pennsylvania), Sabanci University, Koc University, Bilkent University, UCLA, University of Texas at Dallas, University of Rochester, University of North Carolina, University of Oregon, University of Washington at Seattle, Ohio State University, University of Michigan, Indiana University, 2006
- Federal Reserve Bank of Chicago, MIT Sloan School of Management, Financial Management Association Annual Meetings, Research Conference of the FDIC Center for Financial Research, Bank Structure Conference of the Federal Reserve Bank of Chicago, 2005
- Board of Governors of the Federal Reserve System Finance Seminar, 2004

Teaching Experience:

The Ohio State University, Fisher College of Business,
- Financial Institutions, 2007- *present.*
- PhD Modules in M&As and Financial Institutions.

PhD Dissertation Committee:

Greg Allen (Chair) (PhD Student, Ohio State University)
Shan Ge (Committee Member) (Assistant Professor, NYU Stern)
L. Ivan Alfaro (Assistant Professor, BI Norwegian Business School)
Sophia Longman (Assistant Professor, Pace University)
Alvaro Taboada (Assistant Professor, University of Tennessee)
Rose C. Liao (Associate Professor, Rutgers Business School)
Ji-Woong Chung (Assistant Professor, Korea University)
Ayelet Ben-David (PhD, University of Chicago)
John Sedunov (Assistant Professor, Villanova University)
Robert Prilmeier (Assistant Professor, Tulane University)

Professional Services:

Associate Editor, Review of Financial Studies; Journal of Banking and Finance; Financial Management

Referee, Journal of Accounting and Economics, Journal of Banking and Finance, Journal of Corporate Finance, Journal of Economic Theory, Journal of Finance, Journal of Financial Economics, Journal of Financial Intermediation, Journal of Financial and Quantitative Analysis, Journal of Political Economy, Management Science, Review of Corporate Finance Studies, Review of Finance, and Review of Financial Studies.

Track Chair,
Western Finance Association Meetings, 2018
Midwest Finance Association Meetings, 2018
American Finance Association Meetings, 2017

Program Committee Member,
Yale/RFS Financial Crisis Conference, 2018
European Finance Association Meetings, 2010-2018
Western Finance Association Meetings, 2013-2017
Financial Management Association Meetings, 2008-2014
FIRS Conference, 2014-2018
SFS Finance Cavalcade, 2013-2017

Session Chair,
American Finance Association Meetings, 2017
European Finance Association Meetings, 2011
Western Finance Association Meetings, 2013
FIRS Conference, 2016
SFS Finance Cavalcade, 2015

Member, American Economic Association, American Finance Association, Financial Management Association, Foundation for the Advancement of Research in Financial Economics (founding member), Society for Financial Studies, and Western Finance Association.