

XIAOHUI GAO BAKSHI

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PERSONAL INFORMATION

- Female; U.S. citizenship

EDUCATION

Ph.D. in Finance - Department of Finance, University of Florida - Gainesville	8/2003 - 7/2008
Master of Science in Mathematics - Department of Mathematics, University of Florida - Gainesville	8/2001 - 5/2003
Bachelor of Science in Mathematics - Department of Mathematics, Fudan University	9/1997 - 6/2001

RESEARCH INTERESTS

Empirical Corporate Finance; Theoretical and Empirical Asset Pricing; Behavioral Finance; Entrepreneurship; International Finance

ACADEMIC POSITIONS

1. Associate Professor of Finance (Research), Fox School of Business, Temple University, August 2018 –
2. Assistant Academic Director of the Doctor of Science in Global Finance (DS-GF) program (joint program with Tsinghua University)
3. Visiting Assistant Professor of Finance, University of Maryland, College Park, August 2013 – June 2018
4. Assistant Professor of Finance, Faculty of Business and Economics, the University of Hong Kong, August 2008 – 2013

RESEARCH

Publications

1. [A Theory of Dissimilarity Between Stochastic Discount Factors](#), forthcoming, 2020, *Management Science* (with Gurdip Bakshi and George Panayotov)

This paper proposes a measure of dissimilarity between stochastic discount factors (SDFs) in different economies. The SDFs are made comparable using the respective bond prices as the numeraire. The measure is dimensionless, synthesizes features of the risk-neutral moments of excess currency returns, and can be extracted from currency option prices. Linking theory to data, we provide evidence gathered from (i) the cross-section of 45 currency option prices, (ii) the time-series of currency returns, (iii) estimated SDFs using model-free restrictions, and (iv) structural models in international finance.

2. [Understanding the Sources of Risk Underlying the Cross-Section of Commodity Returns](#), *Management Science*, 65 (2), 2019, 619-641, (with Gurdip Bakshi and Alberto Rossi).

We show that a model featuring an average commodity factor, a carry factor, and a momentum factor is capable of describing the cross-sectional variation of commodity returns. More parsimonious one- and two-factor models that feature only the average and/or carry factors are rejected. To provide an economic interpretation, we show that innovations in global equity volatility can price portfolios formed on carry, while

innovations in a commodity-based measure of speculative activity can price portfolios formed on momentum. Finally, we characterize the relation between the factors and the investment opportunity set.

3. [A Recovery That We Can Trust? Deducing and Testing the Restrictions of the Recovery Theorem](#), *Review of Financial Studies* 31(2), 2018, 532-555, (with Gurdip Bakshi and Fousseni Chabi-Yo).

How reliable is the recovery theorem of Ross (2015)? We explore this question in the context of options on the 30-year Treasury bond futures, allowing us to deduce restrictions that link the physical and risk-neutral return distributions. Our empirical results undermine the implications of the recovery theorem. First, we reject an implicit assumption of the recovery theorem that the martingale component of the stochastic discount factor is identical to unity. Second, we consider the restrictions between the physical and risk-neutral return moments when the recovery theorem holds, and reject them in both forecasting regressions and generalized method of moment estimations.

4. [Do Individual Investors Treat Trading as a Fun and Exciting Gambling Activity? Evidence from Repeated Natural Experiments](#), *Review of Financial Studies* 28 (2015), 2128-2166 (with Tse-Chun Lin).

We hypothesize that individual investors treat trading as a fun and exciting gambling activity, implying substitution between this activity and alternative gambling opportunities. To examine this hypothesis, we study the lottery jackpots and the trading of individual investors in Taiwan. When the jackpots exceed 500 million Taiwan dollars, the trading volume decreases between 5.2% and 9.1% among stocks preferred by individual investors and between 6.8% and 8.6% among lottery-like stocks. The decline in individual buy volume is statistically indistinct from the decline in sell volume. Large jackpots are associated with less trading in options with high sensitivity to volatility.

5. [Where Have All the IPOs Gone?](#) *Journal of Financial and Quantitative Analysis* 48 (2013), 1663-1692 (with Jay Ritter and Zhongyan Zhu). [awarded the 2013 JFQA William F. Sharpe Award]
[This paper is also the basis of the [Testimony of Jay Ritter before the Senate Committee on Banking, Housing, and Urban Affairs, March 6th 2012](#)].

During 1980–2000, an average of 310 companies per year went public in the United States. Since 2000, the average has been only 99 initial public offerings (IPOs) per year, with the drop especially precipitous among small firms. Many have blamed the Sarbanes-Oxley Act of 2002 and the 2003 Global Settlement’s effects on analyst coverage for the decline in IPO activity. We find very little support for the conventional wisdom, and we offer an alternative explanation. Our economies of scope hypothesis posits that the advantages of selling out to a larger organization, which can speed a product to market and realize economies of scope, have increased relative to the benefits of operating as an independent firm.

6. [The Marketing of Seasoned Equity Offerings](#) (with Jay Ritter), *Journal of Financial Economics* 97 (2010), 33 - 52. [awarded the first prize of the 2010 JFE Jensen Prizes for Corporate Finance and Organizations].

In an accelerated seasoned equity offering (SEO), an issuer foregoes the investment bank’s marketing efforts in return for a lower fee. To explain why many issuing firms choose a higher cost fully marketed offer, we posit that the marketing effort flattens the issuer’s shortrun demand curve. Alternatively stated, with a fully marketed offer, the issuer is paying investment bankers to create demand, making the elasticity of demand at the time of issuance an endogenous choice variable. Empirical analysis shows that both the pre-issue elasticity of the issuing firm’s demand curve and the offer size are important determinants of the offer method choice. We find evidence of a large transitory increase in the elasticity of demand for issuers conducting fully marketed SEOs.

Working Papers

1. [Unspanned Risks, Negative Local Time Risk Premiums, and Empirical Consistency of Models of Interest-Rate Claims](#) (with Gurdip Bakshi and John Crosby, 2021, presented at AFA 2020 in San Diego, presented at MFA 2019 in Chicago).

We formalize the notion of local time risk premium in the context of a theory in which the pricing kernel is a general diffusion process with spanned and unspanned components. We derive results on the expected excess return of options on bond futures. These results are organized around our new empirical finding that the average returns of out-of-the-money puts and calls on Treasury bond futures are both negative. Our theoretical reconciliation warrants a negative local time risk premium, and our treatment considers models with market incompleteness and sources of volatility uncertainty.

2. [A New Formula for the Expected Excess Return of the Market](#) (with Gurdip Bakshi, John Crosby, and Wei Zhou, 2021, presented at Virtual Derivatives Workshop 2021)

Key to deriving the lower bound to the expected excess return of the market in Martin (2017) is the assumption of the negative correlation condition (NCC). We improve on the lower bound characterization by proposing an exact formula for the conditional expected excess return of the market. In our formula, each risk-neutral return central moment contributes to the expected excess return and is representable in terms of known option prices. To interpret theoretical and empirical distinctions between our formula and the lower bound, we develop and study the asset pricing restrictions of the NCC.

3. [The Geography of Exchange Rate Disconnect](#) (with Gurdip Bakshi and John Crosby, 2021, presented at Eastern Finance Association 2021)

This paper proposes a measure of exchange rate disconnect. Working in a two-currency international economy, our theory implies that the disconnect is the ratio of two martingales. We analyze empirically our measure of disconnect using 435 pairs of economies to reveal a geography of disconnect. Linking theory to returns of international bonds and equities, we examine cross-sectional disparities in disconnect with respect to multidimensional attributes of the global economy, including volatility of extracted SDFs, volatility of exchange rate growth, (absolute) currency excess returns, trade patterns, and geographical proximity.

4. [The Scourge of Pandemics and Risk Premium](#) (with Gurdip Bakshi, 2020)

Pandemics pressure vulnerabilities in the ecosystem of societies, including corporate profitability. This paper seeks an answer to an unresolved question: What could be the risk premium for pandemics? We present a framework to derive expressions for equity price and risk premium and then consider an approach to identify risk premium for pandemics that is data-informed. Bridging theory and investment practice, our implementations indicate that the estimate of pandemic risk premium is 2.55% over 01/1871 to 12/2019 (149 years). We benchmark the risk premium for pandemics to those for wars and Great Depression.

5. [Dark Matter in \(Volatility and\) Equity Option Risk Premiums](#) (with Gurdip Bakshi and John Crosby, 2021, presented at Eastern Finance Association 2021, Midwest Finance Association 2021, Canadian Annual Derivatives 2020)

If the evolution of equity index volatility and the pricing kernel were to be absent of risks unspanned by index futures, it would counterfactually imply that (i) the expected excess return of out-of-the-money calls on futures is positive, (ii) the expected excess return of straddles is approximately zero, and (iii) futures returns and changes in volatility are perfectly correlated. Remediating these contradictions, we consider a specification of market incompleteness that equips the pricing kernel and volatility dynamics with unspanned risks. The empirical evidence is supportive of our theory of economically relevant unspanned risks.

6. [The Bond Risk Premium Channel of Monetary Policy: Reconciling the Moving Parts in the FOMC Announcement Effects](#) (with Gurdip Bakshi and Fousseni Chabi-Yo, 2020).

Bond risk premiums undergo a realignment around FOMC announcement. We construct daily conditional risk premiums on the long-term bond (and equity) using options on Treasury bond futures to examine hypotheses about FOMC announcement effects. Connecting theory to extracted risk premiums and tail risks, we provide evidence that (i) bond and equity risk premiums rise on pre-announcement day, but fall on announcement day, (ii) FOMC announcement recalibrates bond and equity tail risks, and (iii) bedrock relations between equity returns, risk premiums, and market uncertainty behave anomalously preannouncement (and alludes to leakage). We formalize a theory that synthesizes bond risk premiums.

7. [Do Minimum Wage Hikes Hinder Entrepreneurship?](#) (First draft 2018, being revised).

I address two new questions: Do minimum wage hikes lower the survival rates of startups (firms of age one year)? Do minimum wage hikes lower the conditional survival rates of young firms (ages two to five years)? Relying on a novel panel data set that characterizes the count of continuing and dead private firms, I find that minimum wage hikes lower startup survival rates. Further, the conditional survival rates among firms of age two are less adversely affected, whereas firms of ages three, four, and five are not affected. Debates concerning minimum wage policies can benefit from my entrepreneurship perspectives.

8. [Recovery](#) (with Gurdip Bakshi and Jinming Xue, Revised January 2021).

We consider an approach in which the conditional expectation of asset return quantities (under the realworld probability measure) can be synthesized from the prices of the risk-free bond, the asset, and options on the asset. The method is free of distributional assumptions, and we use it to study empirical questions related to (i) conditional probability of a disaster and return upside and (ii) spanning hypothesis in the Treasury market. We examine empirical consistency and show that our theoretical treatment is relevant.

9. [Fund Performance Measurement Respecting an Industry Benchmark](#) (with Gurdip Bakshi and John Crosby, Revised April 2021, presented at Eastern Finance Association 2021, presented at European Finance Association 2018).

We develop an axiomatically consistent way of ranking and scoring funds that respects an industry benchmark. Our performance measure, termed MAP, accounts for the feature that investors may exhibit skepticism when evaluating investment strategies versus a benchmark. Linking developed theory to data and using the CRSP value-weighted index as the benchmark, we feature evidence on (i) desirability of popular investment strategies, (ii) whether investors gain by selling the tails of return distributions, (iii) rank-ordering of actively managed mutual funds, (iv) predicting fund flows using MAP, (v) variables that forecast MAP performance of mutual funds, and (vi) distribution of fund performance.

10. [Measuring and Understanding Uncertainty of Uncertainty](#) (with Jinming Xue, under revision).

Uncertainty of uncertainty characterizes the dispersion of the cost of insuring equities. We propose a methodology that measures and extracts uncertainty of uncertainty from options on the VIX futures. Uncertainty of uncertainty is high, variable, and not highly correlated with extant uncertainty indexes. Exploring its macroeconomic origins in the setting of a large macroeconomic data set, we find that uncertainty of uncertainty can be forecast by principal components that echo concerns about monetary policy outcomes, flight to safety, and deflation. We draw inferences about the predictive coefficients based on a number of statistical tests, including a parametric bootstrap procedure.

Google scholar page: <https://scholar.google.com/citations?user=6zgpsEAAAAAJ&hl=en>
Total Web of Science citations: 312; Total google scholar citations: 1130 (797 since 2016)

RESEARCH AWARDS

- The 2013 JFQA *William F. Sharpe Award* at the *Journal of Financial and Quantitative Analysis* (<http://depts.washington.edu/jfqa/SharpeBallot2000/SharpeAwardWinners.html>)
- The first prize of the 2010 *Jensen Prizes for Corporate Finance and Organizations* at the *Journal of Financial Economics* (<http://jfe.rochester.edu/winners.htm>)

TEACHING

Teaching Interests

Corporate Finance; Investments; Fixed Income Securities; International Finance; Entrepreneurship and Private Equity

Classes Taught and Teaching Ratings at the FOX School of Business

- Intermediate Corporate Finance (FIN 3504)
- Empirical Corporate Finance (Ph.D. program; FIN 9002)

Two-year moving average of the teaching ratings is 4.2 out of 5 (average across items 3, 4, 5, 8, and 11)

Classes Taught and Teaching Ratings at the Smith School of Business

- Investments (BMGT 343)
- Entrepreneurial Finance and Private Equity (Master of Finance and MBA program; BUFN 755)

Five-year moving average of the teaching rating is 3.42 out of 4.00.

- Short term study abroad course in China and Hong Kong, Entrepreneurship, Financial Markets, and Corporate Finance (BMGT 438O)

REFERENCES

- Jay Ritter
Joe B. Cordell Eminent Scholar in Finance
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- Robin Greenwood
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INVITED PRESENTATIONS

- Chinese University of Hong Kong (2009); Hong Kong University of Science and Technology (2009); Pennsylvania State University (2010); Georgia State University (2011); University of California-Irvine (2011); University of Maryland-College Park (2011); University of Texas-Dallas (2011); Georgetown University (2015); George Mason University (2015); Rutgers University (2016); American University (2017).

CONFERENCE PRESENTATIONS

- 2021 Eastern Finance Association
- 2021 Midwest Finance Association (Chicago)
- 2021 Virtual Derivatives Workshop
- 2020 Canadian Annual Derivatives Conference (Montréal)
- 2020 Midwest Finance Association (Chicago)
- 2020 American Finance Association (San Diego)
- 2019 Midwest Finance Association (Chicago)
- 2018 Midwest Finance Association (San Antonio, invited)
- 2018 Midwest Finance Association (San Antonio, invited)
- 2018 American Finance Association (Philadelphia)
- 2017 SFS Cavalcade Asia (Beijing)
- 2017 IFSID – Sixth Conference on Derivatives (Montreal), September 2017
- 2017 Midwest Finance Association (Chicago)
- 2016 SFS Finance Cavalcade (Toronto)
- 2015 Conference on Financial Economics and Accounting, Rutgers University
- 2015 University of Oregon Summer Finance Conference
- 2015 American Finance Association (Boston)
- 2013 NBER Meetings on Economics of Commodity Markets
- 2011 Western Finance Association

PROFESSIONAL SERVICES

Journal referee: Journal of Finance, Review of Financial Studies, Journal of Financial and Quantitative Analysis, Review of Finance, Management Science, Journal of Banking and Finance, Journal of Money, Credit, and Banking, Journal of Financial Intermediation, Financial Management, Review of Derivatives Research, Review of Corporate Finance Studies, and Journal of Empirical Finance.

RESEARCH GRANTS

- General Research Fund, competitive grants: HK\$160,000 in 2012; HK\$162,800 in 2010; HK\$462,240 in 2009

CITATIONS

<u>Citations as of May 6, 2020</u>				
<u>Title of the Publication</u>	<u>Published in:</u>	<u>Year</u>	<u>Google Scholar</u>	<u>Web of Sciences</u>
1 The Marketing of Seasoned Equity Offerings	Journal of Financial Economics	2010	348	101
2 Where Have All the IPOs Gone?	Journal of Financial and Quantitative Finance	2013	362	105
3 Do individual investors treat trading as a fun and exciting gambling activity? Evidence from repeated natural experiments	Review of Financial Studies	2015	98	27
4 A recovery that we can trust? Deducing and testing the restrictions of the recovery theorem	Review of Financial Studies	2018	38	9
5 Understanding the Sources of Risk Underlying the Cross Section of Commodity Returns	Management Science	2019	81	4
6 A Theory of Dissimilarity Between Stochastic Discount Factors	Management Science (forthcoming)	2020	4	
Total of all papers, including working papers			938	246