NANCY R. XU

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EMPLOYMENT

Assistant Professor **Finance** July 2018 -
Boston College, Carroll School of Management

Ph.D. Dissertation Intern **Research and Statistics Group** June 2017 - August 2017
Federal Reserve Bank of New York

EDUCATION

Ph.D. **Finance and Economics** August 2012 - May 2018 (Expected)
Columbia University, Graduate School of Business
- Dissertation title: Essays on Risk Appetite and Uncertainty
- Chair: Geert Bekaert

Visiting Ph.D. Student **Finance** September 2013 - December 2013
NYU Stern School of Business

B.S. **Statistics** (summa cum laude) September 2009 - March 2012
University of Washington, Seattle

RESEARCH INTERESTS

Asset Pricing, Financial Econometrics, Climate Risk

WORKING PAPERS

[3] "Global Risk Aversion and International Return Comovements"

This article addresses the ongoing debate about the relative importance of fundamental sources of risk that transmit across countries, and provides evidence for the role of "global" risk aversion. I first compare international equity and bond return comovements, and establish three new stylized facts: (1) bond return correlations are smaller in magnitude than equity return correlations, (2) equity returns have downside correlations that are significantly higher than upside correlations, while bond return correlations are symmetric, and (3) equity return correlations are countercyclical, while bond return correlations are weakly procyclical. I then interpret the stylized facts in the context of a linear dynamic factor model, which is motivated using a dynamic no-arbitrage asset pricing model. The theoretical model features time-varying global economic uncertainties (of output growth, inflation, and real interest rates) and time-varying risk aversion (of a global investor) and consistently prices international equities and Treasury bonds. I find that all three stylized facts above can be explained by the different sensitivities of equity returns (strongly negative) and bond returns (weakly positive or negative) to the global risk aversion shock. In addition, global risk aversion explains 90 percent of the fitted global equity conditional comovements and 40 percent of the fitted global bond conditional comovements, after controlling for a wide set of global economic uncertainties. Inflation upside uncertainty is the other key driver for global bond comovement.

▷ Dissertation Award, Federal Reserve Bank of New York, New York Summer 2017

[2] "Procyclicality of the Comovement between Dividend Growth and Consumption Growth"

[*Revise & Resubmit at the Journal of Financial Economics; 2nd round*]

I document that dividend growth and consumption growth comove procyclically. This new stylized fact empirically resolves the "Duffee Puzzle"—stock returns and consumption growth covary procyclically (Duffee, 2005)—but contradicts extant theoretical assumptions in asset pricing models. I then design a new data generating process (DGP) for the joint consumption-dividend dynamics which fits the procyclical comovement and a wide set of other related second moments. Lastly, I solve a variant of Campbell and Cochrane's habit formation model with this new DGP and the procyclical consumption-dividend growth comovement as a new state variable. The new procyclical component in the amount of risk induces a more volatile price-dividend ratio at the cost of a lower equity premium due to the now counterbalancing dynamics of the price (countercyclical) and amount (procyclical) of risk. In addition, the new state variable accounts for 13% of the variability of the price dividend ratio in the data and carries a positive price of risk in the cross-section of stock returns.

▷ 28th AFBC, 2nd best paper at the Ph.D. Forum December 2015

[1] "The Time Variation in Risk Appetite and Uncertainty", with Geert Bekaert and Eric Engstrom

We develop new measures of time-varying risk aversion and economic uncertainty that can be calculated from observable financial information at high frequencies. Our approach has four important elements. First, we formulate a dynamic no-arbitrage asset pricing model that consistently prices all assets under assumptions regarding the joint dynamics among asset-specific cash flow dynamics, macroeconomic fundamentals and risk aversion. Second, both the fundamentals and cash flow dynamics feature time-varying heteroskedasticity and non-Gaussianity to accommodate dynamics observed in the data, which we document. This allows us to distinguish time variation in economic uncertainty (the amount of risk) from time variation in risk aversion (the price of risk). Third, despite featuring non-Gaussian dynamics, the model retains closed-form solutions for asset prices. Fourth, our approach exploits information on realized volatility and option prices for the two main risky asset classes, equities and corporate bonds, to help identify and differentiate economic uncertainty from risk aversion. We find that equity variance risk premiums are very informative about risk aversion, whereas credit spreads and corporate bond volatility are highly correlated with economic uncertainty. Model-implied risk premiums beat standard instrument sets predicting excess returns on equity and corporate bonds. A financial proxy to our economic uncertainty predicts output growth negatively and significantly, even in the presence of the VIX.

SELECTED WORK IN PROGRESS

"Bond Home Bias"
"Investor Attention and the Equity Risk Premium", with Melk C. Bucher
"Growth Dynamics at Different Stages of Development", with Geert Bekaert

SELECTED RESEARCH EXPERIENCES

Research Assistant, Professor Geert Bekaert, Columbia	2012 - 2015
Research Assistant, Professor Stephan Siegel, University of Washington	2011 - 2012
Student Research Assistant CEDR (Center for Education Data & Research)	2011 - 2011

SELECTED TEACHING EXPERIENCES

Teaching Assistant, Professor Robert J. Hodrick Spring 2015, 2016, 2017
Financial Econometrics (PhD Core)

Teaching Assistant, Professor Geert Bekaert — Fall 2015, 2016, 2017, Spring 2016, 2017, 2018
Asset Management (MBA & EMBA)

Teaching Assistant, Professor Robert J. Hodrick — Fall 2015, Summer 2016
Advanced International Corporate Finance (MBA)

PROFESSIONAL SERVICES

Program Committee,
- *Eastern Finance Association Annual Meeting* — 2018

Session Chair,
- *Midwest Finance Association Annual Meeting, "Risk and Risk Appetite"* — 2018

Referee,
- *Journal of Banking and Finance* (3) — June 2015 - Present

MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

American Finance Association	2015-present
The Society for Financial Econometrics (SoFiE)	2016-present
The Econometric Society	2017-present

PRESENTATIONS (including scheduled; * = co-author)

"The Time Variation in Risk Appetite and Uncertainty"

□ 2018 North American Summer Meeting of the Econometric Society (NASMES)	June 2018
□ 11th Annual SoFiE Conference (Main)	June 2018
□ Federal Reserve Board's Conference on Risk, Uncertainty, and Volatility	April 2018
□ Columbia Women in Economics	April 2018
□ Columbia Finance Lunch Seminar	March 2018

"Global Risk Aversion and International Return Comovements"

□ CICF 2018	July 2018
□ 21st Annual Conference of the Swiss Society for Financial Market Research	April 2018
□ Finance Ph.D. Seminar, NYU Stern	December 2017
□ Finance Faculty Free Lunch, Columbia Business School	November 2017
□ Econometrics Colloquium, Columbia University	November 2017
□ Ph.D. Seminar, Columbia Business School	October 2017
□ Financial Economics Colloquium, Columbia University	October 2017
□ Federal Reserve Bank of New York, New York	September 2017

"Procyclicality of the Comovement between Dividend Growth and Consumption Growth"

□ 2018 E(astern)FA, Philadelphia	April 2018
□ 2018 MFA, San Antonio, TX	March 2018
□ 2017 SoFiE Conference, New York	June 2017
□ Federal Reserve Bank of New York, New York	June 2017
□ 2017 AEA/AFA/ASSA (poster presentation), Chicago	January 2017
□ 28th Australasian Finance and Banking Conference (AFBC), Ph.D. Forum	December 2015
□ 28th AFBC, Asset Pricing II	December 2015
□ Ph.D. Seminar, Columbia Business School	November 2015
□ 15th Transatlantic Doctoral Conference, London Business School	May 2015
□ Third-year paper presentation, Columbia Business School	January 2015

CONFERENCES & SEMINARS (including scheduled)

2018:
CICF (2), 2018 NASMES, 11th Annual SoFiE Conference (Main), SFS Cavalcade, Federal Reserve Board's Conference on Risk, Uncertainty, and Volatility, Columbia Women in Economics, Columbia Business School, 21st Annual Conference of the Swiss Society for Financial Market Research, E(astern)FA, MFA, Boston College (Carroll), Cornerstone, Emory (Goizueta), Georgetown (McDonough), Goldman Sachs, Johns Hopkins University (Carey), University of California Riverside, University of Minnesota (Carlson), University of Notre Dame (Mendoza), University of Oklahoma (Price), University of Southern California (Marshall), University of Wisconsin Madison

2017:
NYU Stern (PhD Seminar), Columbia Business School (Faculty Lunch, PhD seminar), Columbia University (Financial Economics, Econometrics), Columbia University (Economics), Federal Reserve Bank of New York (2), 2017 SoFiE Conference, 2017 AEA/AFA/ASSA (Poster Session)

2015:
28th Australasian Finance and Banking Conference (AFBC), Main conference-Asset Pricing II, Ph.D. Forum (one of the 8 selected doctoral papers that year), 2nd MIT-FARFE Capital Markets Research Workshop, NBER Summer Institute, 15th Transatlantic Doctoral Conference (TADC)

CONFERENCE DISCUSSIONS

"Media Network Based Investors' Attention: A Powerful Predictor of Market Premium", by Li Guo, Lin Peng, Yubo Tao, Jun Tu. *CICF, Tianjin* July 2018
"Break Risk", by Simon C. Smith and Allan Timmermann. *SFS Cavalcade at Yale* May 2018
"What the Variance Risk Premium tells us about the Expected Market Returns", by Sung June Pyun. *28th AFBC, Sdyney* December 2015
"Risk, Unemployment, and the Stock Market: A Rare-Events-Based Explanation of Labor Market Volatility", by Mete Kilic and Jessica A. Wachter. *15th TADC, London* May 2015

GRANTS, AWARDS & HONORS

Federal Reserve Bank of New York Summer PhD Dissertation Internship	2017
2017 SoFiE Conference Travel Grant	2017
Graduate Student Advisory Council (GSAC) Student Travel Grant, Columbia University	2017
2015-16 Werner L. and Adriana Chilton Doctoral Fellowship, Columbia Business School	2016
AFA 2016 Doctoral Student Travel Grant	2016
28th Australasian Finance and Banking Conference 2nd best paper at the Ph.D. Forum	2015
28th Australasian Finance and Banking Conference Doctoral Student Travel Grant (8)	2015
2nd MIT-FARFE Capital Markets Research Workshop Travel Grant	2015
15th LBS Transatlantic Doctoral Conference Travel Grant	2015
CBS Doctoral Full Fellowship	2012-2016
President, Statistics & Probability Association (UW)	2011-2012
Annual Dean's List (three times)	2009-2012
Phi Beta Kappa	2012
Honor Student in Department of Statistics, UW	2009-2011
Senior Medal Nominee (high scholarship for seniors, 20 nominees per class)	2012
AMATYC (National College-level Math Competition) Northwest region, No.8, WA	2008

PUBLISHED COMPUTER PROGRAM PACKAGES

"MicroMacroMultilevel" in *R*, with Jackson G. Lu and Elizabeth Page-Gould
[*Target: Journal of Statistical Software*]

To date, most multilevel methodologies can only unbiasedly model macro-micro situations, wherein higher-level explanatory variables (e.g., aggregate-level variables) are used to predict an lower-level outcome variable (e.g., individual-level variables). In contrast, this R package enables researchers to unbiasedly model micro-macro situations, wherein individual-level explanatory variables (and group-level explanatory variables) are used to predict a group-level outcome variable. This package is useful because in micro-macro multilevel modeling, it is statistically biased to directly regress the group-level outcome variable on the unadjusted group means of individual-level explanatory variables (Croon & van Veldhoven, 2007). Instead, one should use the best linear unbiased predictors (BLUP) of the group means (i.e., the adjusted group means).

▷ Version July 2017; Active & downloadable in *R CRAN*

OTHERS

Computer Languages: Matlab (advanced); STATA (advanced); R (advanced/package developer); Mathematica; Python; SAS; Linux; LaTex; VBA; Office.
(Human) Languages: Chinese (native); English (fluent).
Certifications: Actuarial P (Probability) Exam (March. 2011) and FM (Financial Mathemtics) Exam (June. 2011); Level II candidate CFA (June 2012).
DOB: December 10th, 1990.
Alter-egos: Cat owner; oil painter; snorkeling lover

REFERENCES

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