NANCY R. XU

Finance Department • Carroll School of Management • Boston College Address: Fulton Hall 320E, 140 Commonwealth Avenue, Chestnut Hill, MA 02467 Email: nancy.xu@bc.edu • Phone: +1(617)552-2713 • Website: www.nancyxu.net

Last updated: January 2, 2020

EMPLOYMENT

Assistant Professor Finance

July 2018 -

Boston College, Carroll School of Management

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

June 2017 - August 2017

EDUCATION

Ph.D. Finance and Economics

August 2012 - May 2018

Columbia University, Graduate School of Business

- Dissertation title: Essays on Risk Appetite and Uncertainty
- Chair: Geert Bekaert

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

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

RESEARCH INTERESTS

Asset Pricing, Financial Econometrics, Behavioral Macro

PUBLICATION

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

[Forthcoming at the Journal of Financial Economics]

Duffee (2005) documents that the amount of consumption risk (i.e., the conditional covariance between market returns and consumption growth) is procyclical. In light of this "Duffee Puzzle", I empirically demonstrate that the conditional covariance between dividend growth (i.e., the immediate cash flow part of market returns) and consumption growth is (1) procyclical and (2) a consistent source of procyclicality in the puzzle. Moreover, I solve an external habit formation model that incorporates realistic joint dynamics of dividend growth and consumption growth. The procyclical dividend-consumption comovement entails two new procyclical terms in the amount of consumption risk via cash flow and valuation channels, respectively. These two procyclical terms play an important role in generating a realistic magnitude of consumption risk. In contrast to extant habit formation models, the conditional equity premium no longer increases monotonically when a negative consumption shock arrives because it might lower the amount of risk while increasing the price of risk.

WORKING PAPERS

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

I establish three stylized facts about global equity and bond return comovements: Equity return correlations are higher, asymmetric, and countercyclical, whereas bond return correlations are lower, symmetric, and weakly procyclical. To interpret these stylized facts, I formulate a dynamic no-arbitrage asset pricing model that consistently prices international equities and bonds; the model features various time-varying global macroeconomic uncertainties and risk aversion of a global investor. I find that different sensitivities of equity returns (strongly negative) and bond returns (weakly positive or negative) to the global risk aversion shock can explain the observed comovement differences. Global risk aversion explains 90% (40%) of the fitted global equity (bond) comovement dynamics.

Dissertation Award, Federal Reserve Bank of New York, New York

Summer 2017

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

We formulate a dynamic no-arbitrage asset pricing model for equities and corporate bonds, featuring time-varying risk aversion and economic uncertainty. The joint dynamics that we specify among asset-specific cash flows, macroeconomic fundamentals and risk aversion accommodate both heteroskedasticity and non-Gaussianity. As the main contribution, the model delivers measures of risk aversion and uncertainty at daily frequency. In addition, we find that variance risk premiums on equity are very informative about risk aversion, whereas credit spreads and corporate bond volatility are highly correlated with economic uncertainty. Our model-implied risk premiums outperform standard instruments for predicting excess returns on equity and corporate bonds. A financial proxy to economic uncertainty predicts output growth significantly and negatively.

□ Global Association of Research Professionals Research Excellence Award, China International Risk Forum
 □ December 2018

[4] "Variance Risk Premium Components and International Stock Return Predictability", with Juan M. Londono

We decompose the U.S. variance risk premium (VP) into its downside and upside components (DVP and UVP, respectively) as proxies for asymmetric global risk variables. DVP is positive, persistent and countercyclical, while UVP is borderline positive and procyclical with often negative spikes. Acknowledging for asymmetry in VP significantly improves its international stock return predictability, with DVP being a robust mid-horizon predictor and UVP being a robust short-horizon predictor. To rationalize our empirical findings, we propose an international dynamic asset pricing model featuring asymmetric non-Gaussian shocks and partial global integration. We find that (i) DVP (UVP) is mostly driven by global risk aversion (economic uncertainty), (ii) international equity risk premiums exhibit distinct loadings on global premium determinants, and (iii) DVP (UVP) transmits to international markets through financial (economic) integration.

SELECTED WORK IN PROGRESS

"Uncertainty Shocks and Personal Investment: Evidence From a Global Brokerage", with Rawley Heimer and Shimon Kogan

"Mood Propagation", with Xing Huang

"Risk, Uncertainty and Monetary Policy in a Global World", with Geert Bekaert and Marie Ho-

erova

OTHER RESEARCH EXPERIENCES

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

TEACHING EXPERIENCES

Instructor, MFIN2270 Data Analytics in Finance, Boston College Carroll 2019 - ▷ This course will introduce you to Python, a popular modern programming language, demonstrate how to extract data from websites, conduct a series of basic financial analysis including regressions on real-world financial data, and perform Monte Carlo simulations.

Teaching Assistant, Professor Robert J. Hodrick, Columbia Business School 2015 - 2017

▷ Financial Econometrics (PhD Core), Advanced International Corporate Finance (MBA)

Teaching Assistant, Professor Geert Bekaert, Columbia Business School 2015 - 2018

▷ Asset Management (MBA & EMBA)

PROFESSIONAL SERVICES

Program Committee,

• Eastern Finance Association Annual Meeting	2018
China International Risk Forum	2019
Midwest Finance Association Annual Meeting	2020
Asset Pricing Conference at ANU	2020

Session Chair,

•	China International Risk Forum, "Interest, Credit, and liquidity risk"	2018
•	North American Summer Meeting Of The Econometric Society, "Methods"	2018
•	Midwest Finance Association Annual Meeting, "Risk and Risk Appetite"	2018

Referee,

• Review of Financial Studies, Management Science, Review of Asset Pricing Studies, Journal of Banking and Finance, Journal of Empirical Finance, Journal of Money, Credit, and Banking, Journal of Corporate Finance, Economics Letters, PLOS ONE

MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

American Finance Association	2015-present
The Society for Financial Econometrics (SoFiE)	2016-present
The Econometric Society	2017-present
Northern Finance Association	2018-present
European Finance Association	2018-present
Macro Finance Society	2018-present

<u>PRESENTATIONS/INVITED TALKS</u> (includes scheduled; * = co-author)

"Uncertainty Shocks and Personal	l Investment: Evidence From a Global Brokerage"
□ 2019 ANU-RSFAS Research Camp*	December 2019

□ Boston College (Carroll) November 2019

[&]quot;Bond Home Bias"

[&]quot;Investor Attention and the Equity Risk Premium", with Melk C. Bucher

[&]quot;Growth Dynamics at Different Stages of Development", with Geert Bekaert

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"Variance Risk Premium Components and International Stock Return Predictability"		
□ IFABS 2019 Medellin Conference*	December 2019	
□ Stanford SITE "Session 7: Asset Pricing Theory and Computation"	August 2019	
□ ECWFC at the WFA	June 2019	
□ NASMES Summer Meeting, Seattle, WA*	June 2019	
□ IFABS 2019 Angers Conference*	June 2019	
□ FMA Global Conference in Latin America*	May 2019	
□ E(astern)FA, Miami*	April 2019	
□ Federal Reserve Board*	March 2019	
□ MFA, Chicago, IL	March 2019	
□ 2018 China International Risk Forum, Hangzhou, China	December 2018	
□ Econometric Society European winter meeting 2018, Italy*	December 2018	
□ Boston Macro Juniors Workshop, Cambridge, MA	November 2018	
□ Boston College (Carroll), MA	November 2018	
"Risk, Uncertainty and Monetary Policy in a Global World"		
□ 11th International Research Forum on Monetary Policy*	March 2020	
□ MFA, Chicago	March 2020	
□ SNB-FRB-BIS High-Level Conference on Global Risk, Uncertainty, and Vola		
, , , , , , , , , , , , , , , , , , ,	November 2019	
□ 20th IWH-CIREQ-GW Macroeconometric Workshop: Micro Data and Macro		
Germany*	October 2019	
□ Conference on Advances in Applied Macro-Finance, Istanbul, Turkey	December 2018	
"Man J Dunna station"		
"Mood Propagation"	Contombon 2010	
□ WAPFIN at Stern, NY	September 2018	
"The Time Variation in Risk Appetite and Uncertainty"		
□ 8th HEC-McGill Winter Finance Workshop	March 2020	
□ 9th ITAM Finance Conference 2020	February 2020	
□ E(uropean)FA, Portugal*	August 2019	
□ European Financial Management annual meeting, Azores*	June 2019	
□ 2019 China International Conference in Finance (CICF), Guangzhou, China	July 2019	
□ 2019 Financial Intermediation Research Society (FIRS), GA	May 2019	
□ 15th European Winter Finance Summit, Austria	March 2019	
□ MFA, Chicago, IL	March 2019	
□ AFA, Atlanta, GA	January 2019	
□ 2018 China International Risk Forum, Hangzhou, China	December 2018	
□ 31st Australasian Finance and Banking Conference, Sydney*	December 2018	
□ NFA, Charlevoix, Canada	September 2018	
□ "Machine Learning and Finance: The New Empirical Asset Pricing" hosted	_	
Chicago Booth	July 2018	
□ 2018 North American Summer Meeting of the Econometric Society, Davis, C.		
□ 11th Annual SoFiE Conference (Main), Lugano, Switzerland	June 2018	
□ Baruch College	May 2018	
☐ Federal Reserve Board's Conference on Risk, Uncertainty, and Volatility, DC	-	
□ Columbia Women in Economics	April 2018	
□ Columbia Finance Lunch Seminar	March 2018	
"Clabal Dial According and Latermant" LD		
"Global Risk Aversion and International Return Comovements"	Ion 0000	
□ 2020 AEA, San Diego	January 2020	
☐ Stanford SITE "Session 8: The Macroeconomics of Uncertainty and Volatility	_	
□ 2019 UBC summer conference	July 2019	
University of Luxembourg, Luxembourg	December 2018	
University of Zurich, Switzerland	December 2018	
□ London Business School, UK	September 2018	

□ E(uropean)FA, Warsaw, Poland □ 2018 China International Conference in Finance (CICF), Tianjin, C □ 21st Annual Conference of the Swiss Society for Financial Market: □ 2017-18 Finance Job Market: Boston College (Carroll), Cornerstone, town (McDonough), Goldman Sachs, Johns Hopkins University (Care (Riverside), University of Minnesota (Carlson), University of Notre sity of Oklahoma (Price), University of Southern California (Marshal Madison, □ Finance Ph.D. Seminar, NYU Stern □ Finance Faculty Free Lunch, Columbia Business School □ Econometrics Colloquium, Columbia University □ Ph.D. Seminar, Columbia Business School □ Financial Economics Colloquium, Columbia University	Research April 2018 , Emory (Goizueta), George- y), University of California Dame (Mendoza), Univer-

"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

SEMINARS & CONFERENCES (includes scheduled; * = co-author)

2020:

Conferences:

AFA (San Diego), The RCFS/RAPS Winter Conference (Bahamas), 9th ITAM Finance Conference 2020 (Mexico City), 8th HEC-McGill Winter Finance Workshop (British Columbia, Canada), 11th International Research Forum on Monetary Policy*, MFA (Chicago)

2019:

Seminars:

Federal Reserve Board*, Boston College (Carroll)

Conferences:

AFA (Atlanta), MFA (Chicago, x2 papers), E(uropean)FA (Portugal), E(astern)FA (Miami), 15th European Winter Finance Summit (Zurs, Austria), FMA Global Conference in Latin America*, IFABS 2019 Angers Conference*, FIRS (Savannah, Georgia), CICF (Guangzhou, China), NASMES Summer Meeting (Seattle)*, ECWFC(WFA, Hungtington Beach, CA), WFA, Stanford SITE (x2 papers), UBC summer conference (Vancouver), FMA (New Orleans), WAPFIN (NYU Stern), 20th IWH-CIREQ-GW Macroeconometric Workshop: Micro Data and Macro Questions (Halle, Germany)*, SNB-FRB-BIS High-Level Conference on Global Risk, Uncertainty, and Volatility (Zurich)*, 2019 ANU-RSFAS Research Camp*

2018:

Seminars:

London Business School, University of Zurich, University of Luxembourg, Baruch College, Boston College (Carroll, 2), 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

Conferences:

2018 China International Risk Forum, Econometric Society European winter meeting 2018*, Conference on Advances in Applied Macro-Finance, 31st Australasian Finance and Banking Conference*, Boston Macro Junior Workshop, WAPFIN at Stern, NFA, EFA, "Machine Learning and Finance: The New Empirical Asset Pricing" hosted by University of Chicago Booth, CICF (1 paper, 1 discussion), 2018 NASMES, 11th Annual SoFiE Conference (Main), SFS Cavalcade North America, 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

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

[16] "International Lending: The Role of Lender's Home Country", by Mehdi Beyhaghi, Rui Dai, Anthony Saunders, John Wald.

MFA, Chicago March 2020

[15] "Public Debt and the Slope of the Term Structure", by Thien T. Nguyen.

The RCFS/RAPS Winter Conference, Bahamas

February 2020

[14] "Understanding the Sources of Macroeconomic Uncertainty", by Barbara Rossi, Tatevik Sekhposyan, and Matthieu Soupre.

AEA, San Diego

January 2020

[13] "Global Capital and the Cross-Section of International Equity Return Comovement", by Thummim Cho, and Argyris Tsiaras.

AFA, San Diego January 2020

[12] "Housing Cycle and Exchange Rates", by Sai Ma, and Shaojun Zhang.

AFA, San Diego

January 2020

[11] "What Interbank Rates Tell Us About Time-Varying Disaster Risk", by Hitesh Doshi, Hyung Joo Kim, and Sang Byung Seo.

FMA, New Orleans, LA

October 2019

[10] "Arbitrage Portfolios", by Soohun Kim, Robert A. Korajczyk, Andreas Neuhierl.

CICF, Guangzhou

July 2019

[9] "Higher-Order Risk Premium, Stock Return Predictability, and Rare Event Dynamics", by Zhenzhen Fan, Xiao Xiao, Hao Zhou.

CICF, Guangzhou

July 2019

[8] "Expectations Uncertainty and Household Economic Behavior", by Itzhak Ben-David, Elyas Fermand, Camelia M. Kuhnen, Geng Li.

WFA, Hungtington Beach

June, 2019

[7] "Subjective Model Uncertainty, Variance Risk Premium, and Speculative Trading", by Ming Guo, Hao Zhou.

CIRF, Hangzhou

December 2018

[6] "Location Choice, Portfolio Choice", by Ioannis Branikas, Harrison Hong, Jiangmin Xu.

HKUST Finance Symposium, Hong Kong

December 2018

[5] "Searching for Yield Abroad: Risk-Taking through Foreign Investment in U.S. Bonds.", by John Ammer, Stijn Claessens, Alexandra Tabova, Caleb Wroblewski.

EFA, Warsaw August 2018

[4] "Media Network Based Investors' Attention: A Powerful Predictor of Market Premium", by

Li Guo, Lin Peng, Yubo Tao, Jun Tu.

CICF, Tianjin July 2018

[3] "Break Risk", by Simon C. Smith and Allan Timmermann.

SFS Cavalcade at Yale May 2018

[2] "What the Variance Risk Premium tells us about the Expected Market Returns", by Sung June Pyun.

28th AFBC, Sdyney December 2015

[1] "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

SERVICES

Finance Department Recruiting committee, Boston College

Workshop for Boston College international visitors (in Chinese)

November 2018

GRANTS, AWARDS & HONORS

Semifinalist, 2019 FMA Global Conference Best Paper Awards	2019
Global Association of Research Professionals Research Excellence Award, CIRF	2018
Boston College Research Expense Grant, "Mood Propagation"	2018-2019
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 Univer	sity 2017
2015-16 Werner L. and Adriana Chilton Doctoral Fellowship, Columbia Business Sch	ool 2016
AFA 2016 Doctoral Student Travel Grant	2016
28th Australasian Finance and Banking Conference 2nd best paper at the Ph.D. Foru	ım 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).

OTHERS

Computer Languages: Matlab (advanced); STATA (advanced); R (advanced/package developer); Mathematica; Python; SAS; Linux; LaTex; VBA; Office; RATS

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)

Alter-egos: Cat owner; oil painter; snorkeling lover; tennis starter