

## JENNIE BAI

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Federal Reserve Bank of New York  
Capital Markets Research  
33 Liberty Street  
New York, NY 10045

Tel: (212) 720-6633  
Fax: (212) 720-1582  
Email: [jennie.bai@ny.frb.org](mailto:jennie.bai@ny.frb.org)  
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### PROFESSIONAL EXPERIENCE

**Federal Reserve Bank of New York**  
Economist, September 2008 to present

**Credit Suisse**  
Summer Associate, Asset Management, 2005

### EDUCATION

Ph.D., University of Chicago, Graduate School of Business, 2008  
M.B.A., University of Chicago, Graduate School of Business, 2008  
B.S., Fudan University, Shanghai, China, 2002

### RESEARCH INTEREST

Credit Risk, Fixed-Income and Derivative Market, Financial Econometrics, Art Market

### RESEARCH PAPERS

1. **“Anchoring Corporate Credit Spreads to Firm Fundamentals”** (with [Liuren Wu](#), CUNY Baruch), *Revise and Resubmit, Review of Financial Studies*

This paper examines the capability of structural models, and more generally firm fundamental characteristics, in explaining the cross-sectional variation of credit default swap spreads. The paper starts with a new implementation of the Merton (1974) structural model, highlighting its cross-sectional explanatory power, and then proposes a Bayesian shrinkage method to combine the additional predictions from a long list of firm fundamental variables. A comprehensive analysis based on 579 U.S. non-financial public firms over a period of 351 weeks shows that, with the new implementation, the structural model can explain over 66% of the cross-sectional variation on average. Incorporating additional fundamental variables can increase the average cross-sectional explanatory power to 77% while also making the performance more uniform over time. Furthermore, deviations between market observations and fundamental-based predictions generate statistically and economically significant forecasts on future market movements in credit default swap spreads.

2. **“The CDS-Bond Basis During the Financial Crisis of 2007-2009”** (with [Pierre Collin-Dufresne](#), Columbia), April 2012, Under Submission

We investigate both the time-series and cross-sectional variation in the CDS-bond basis, which measures the difference between the CDS spread and cash-bond implied credit spread, for a large sample of individual firms during the financial crisis. We test several possible explanations for the violation of the arbitrage relation between cash bond and CDS contract that would, in normal conditions, drive the basis to zero. Our findings do not uncover a clear single explanatory factor for the anomaly. Rather they point towards several drivers related to funding risk, counterparty risk and collateral quality that force the individual bond basis into negative territory at different

phases of the crisis.

3. **“On Bounding Credit Event Risk Premia”** (with [Pierre Collin-Dufresne](#), Columbia, [Robert Goldstein](#), University of Minnesota, and [Jean Helwege](#), University of South Carolina), August, 2012, Under Submission

Reduced form models of default that attribute a large fraction of credit spreads as compensation for credit event risk typically preclude the most plausible economic justification for such risk to be priced, namely, a “contagious” response of the market portfolio during the credit event. When this channel is introduced within a general equilibrium framework for an economy comprised of a large number of firms, credit event risk premia have an upper bound of just a few basis points, and are dwarfed by the contagion premium. We provide empirical evidence that supports the view that credit event risk premia are miniscule.

4. **“Eurozone Sovereign Bond Crisis: Liquidity or Fundamental Contagion”** (with [Kathy Yuan](#) and [Christian Julliard](#), London School of Economics and Political Science), July, 2012

We study how liquidity and credit (economic fundamental) risks evolve in the eurozone sovereign bond markets since 2006. Through structural break analyses, we find that bond spread variations during the early stage of the euro area sovereign debt crisis is mostly due to liquidity concerns, but after the late 2009 it is mostly credit risk driven. Through Structural VAR analyses, we find a spillover from aggregate credit risk premium to individual country credit risk premia, from aggregate liquidity to individual country liquidity risk, and a flight-to-liquidity phenomenon associated with domestic liquidity shocks. Even though we find significant liquidity contagion across countries, we do not identify liquidity dryout as a cause for the worsening economic fundamentals. Moreover, we find that ECB liquidity injections have been blowing against of worsening fundamentals rather than worsening liquidity conditions.

5. **“When Is There a Strong Transfer Risk from the Sovereigns to the Corporates? Property Rights Gaps and CDS Spreads”** (with [Shang-Jin Wei](#), Columbia), September 2012, Under Submission

When a sovereign faces the risk of debt default, it may be tempted to expropriate the private sector. This may be one reason for why international investment in private companies has to take into account the sovereign risk. But the likelihood of a transfer from the sovereign risk to corporate default risks may be mitigated by legal institutions that provide strong property rights protection. Using a novel credit default swaps (CDS) dataset covering both government and corporate entities across 30 countries, this paper studies both the average strength of the transfer risks and the role of institutions in mitigating such risks. We find that (1) sovereign risk on average has a statistically and economically significant influence on corporate credit risks. All else equal, a 100 basis points increase in the sovereign CDS spread leads to an increase in corporate CDS spreads by 71 basis points. (2) The sovereign-corporate relation varies across corporations, with state-owned companies exhibiting a stronger relation. (3) However, strong property rights institutions tend to weaken the connection. In contrast, contracting institutions (protection of creditor rights or minority shareholder rights) do not appear to matter much in this context.

6. **“Have Financial Markets Become More Informative?”** (with [Thomas Philippon](#) and [Alexi Savov](#) New York University), July 2012

The finance industry has grown. Financial markets have become more liquid. Information technology has improved. Have prices become more informative? We use stock and bond prices to forecast earnings and find that the information content of market prices has not increased since 1960. The magnitude of earnings surprises has increased. A baseline model predicts that as the efficiency of information production increases, prices become more disperse and covary more strongly with

future earnings. The forecastable component of earnings improves capital allocation and serves as a direct measure of welfare. We find that this measure has remained stable. A model with endogenous information acquisition predicts that an increase in fundamental uncertainty also increases informativeness as the incentive to produce information grows. We find that uncertainty has indeed increased outside of the S&P 500, but price informativeness has not.

7. **“The Microstructure of Chinese Government Bond Market”**, (with [Michael Fleming](#), and Casidhe Horan, Federal Reserve Bank of New York), August 2012

While China now has one of the largest government bond markets in the world, the market has received relatively little attention and analysis. We describe the history and structure of the market and assess its functioning. We find that trading in individual bonds was historically sparse, but has increased markedly in recent years. We find that certain announcements, such as the producer price index and manufacturing index (PMI) have significant effects on yields, even when such yields are measured at a daily level. Despite the increased activity in the market, we are able to reject the null hypothesis of market efficiency under two different tests for four of the most actively traded bonds.

8. **“A Comprehensive Look at the Time Series Predictability of Cross-sectional Anomalies”** (with [Long Chen](#), Cheung Kong Graduate School of Business), April 2012

We provide a comprehensive study on the time series predictability of sixteen cross-sectional anomalies that have been identified in the empirical asset pricing literature. This is a natural extension of Goyal and Welch (2008) who study the ability of macro variables to predict the market equity premium. We find that in general neither the macro variables in Goyal and Welch (2008) nor the cross-sectional firm characteristic spreads can reliably predict the anomalies, either in-sample or out-of-sample. Investors who practice anomaly trading do not seem to benefit from market timing.

9. **“Going Global: Markups and Product Quality in the Chinese Art Market”**, (with [Benjamin Mandel](#), Federal Reserve Bank of New York, and Jia Guo, Columbia University), August 2012

Media: [-Asia Week Guide article](#)

How do markups over marginal cost and product quality relate to a producers export status? These patterns are difficult to measure since both markups and quality are typically unobserved. We exploit the Chinese fine art industry to decompose export prices into markups and product quality. Art trade has unique features, no marginal cost and clear measure of quality, which help such decomposition. We find that international sold artworks and the domestic artworks of internationally selling artists have much higher prices than those of domestically selling artists. Also, for internationally selling artists, international works have a higher price than their domestic works. Both results can be partially explained by quality differences. However, even after controlling for quality differences, internationally sold artworks still have a significantly higher price than domestic artworks.

10. **“State Space Models and MIDAS Regressions”** (with [Eric Ghysels](#), UNC-Chapel Hill and [Jonathan Wright](#), John Hopkins), *Econometric Reviews* 2011

We examine the relationship between MIDAS regressions and Kalman filter state space models applied to mixed frequency data. In general, the latter involves a system of equations, whereas in contrast MIDAS regressions involve a (reduced form) single equation. As a consequence, MIDAS regressions might be less efficient, but also less prone to specification errors. First we examine how MIDAS regressions and Kalman filters match up under ideal circumstances, that is in population, and in cases where all the stochastic processes - low and high frequency - are correctly specified by a linear state space model. We characterize cases where the MIDAS regression exactly replicates the

steady state Kalman filter weights. In cases where the MIDAS regression is only an approximation, we compute the approximation error and find it to be small (using two different metrics). We also study how MIDAS regressions perform in comparison to the Kalman filter when the latter is subject to specification errors. Our findings favor MIDAS regressions, as their approximation errors are typically small in comparison to the model specification errors of the Kalman filter. The paper concludes with an empirical application comparing MIDAS and Kalman filtering to predict future GDP growth, using monthly macroeconomic series.

11. **“Equity Premium Predictions with Adaptive Macro Indices”**, November 2008

Fundamental economic conditions are crucial determinants of equity premia. However, commonly used predictors do not adequately capture the changing nature of economic conditions and hence have limited power in forecasting equity returns. To address the inadequacy, this paper constructs macro indices from large datasets and adaptively chooses optimal indices to predict stock returns. I find that adaptive macro indices explain a substantial fraction of the short-term variation in future stock returns, and have more forecasting power than both the historical average of stock returns and commonly used predictors. The forecasting power exhibits a strong cyclical pattern, implying the ability of adaptive macro indices in capturing time-varying economic conditions. This finding highlights the importance of using dynamically-measured economic conditions to investigate empirical linkages between equity premium and macroeconomic fundamentals.

## WORK IN PROGRESS

**“Risk Topology: Empirical Implementation”**, (with [Arvind Krishnamurthy](#), and Charles-Henri Weymuller, Harvard University), September 2012

## SEMINAR AND CONFERENCE PRESENTATIONS

**2013:** American Finance Association (Scheduled), the Day-Ahead Conference of the Federal Reserve System (Scheduled),

**2012:** Yale University\*, the CREDIT Conference on Sovereign Risk and its Consequences for Financial Markets, Institutions and Regulation, Artelligence conference\*, NBER Asset Pricing Workshop, Society for Economic Dynamics Annual Conference at Cyprus, Fixed Income Conference: Navigating Cathartic Change in Fixed Income, University of South Carolina, University of Florida, Federal Reserve Bank of New York, Cheung Kong Graduate School of Business, New York University\*

**2011:** International Banking, Economics and Finance Association Annual Conference, Rutgers University, Federal Reserve Bank of New York, European Finance Association Annual Conference at Stockholm, City University of New York, Northern Finance Association Annual Conference at Vancouver.

**2010:** The Sixth MTS Conference on Financial Markets by London Stock Exchange and London School of Economics, Columbia-Tsinghua Conference in International Economics at Beijing, China, Rutgers University, European Central Bank\*, MIDAS workshop at Goethe University Frankfurt\*

**2009:** European Economic Association Annual Meetings in Barcelona, the China International Conference in Finance

**2008:** Federal Reserve Bank of New York, University of Alberta, University of Washington, McGill University, Iowa University, Pennsylvania State University, University of Illinois at Chicago.

**2007:** NBER Time Series Conference (Iowa City), University of Chicago Graduate School of Business

2006: NBER Time Series Conference (Montreal), Southern Methodist University

(\*: presentation by a coauthor)

## CONFERENCE DISCUSSIONS

Nils Friewald, Christian Wagner, and Josef Zechner, "The Cross-Section of Credit Risk Premia and Equity Returns," Western Finance Association meeting, June 2012.

Richard Stanton and Nancy Wallace, "The Bear's Lair: Index Credit Default Swaps and the Subprime Mortgage Crisis," European Finance Association meeting, August 2011.

Iuliana Ismailescu and Blake Phillips, "Savior or Sinner? Credit Default Swaps and the Market for Sovereign Debt," Northern Finance Association meeting, September 2011.

Nikunj Kapadia and Xiaoling Pu, "Limited Arbitrage between Equity and Credit Markets," China International Conference in Finance, July 2009.

## PROFESSIONAL AFFILIATIONS

American Finance Association  
American Economic Association  
Western Finance Association

## REFEREEING

Review of Financial Studies, Journal of Financial and Quantitative Analysis, Management Science, Journal of Money, Credit and Banking, Journal of Empirical Finance, Journal of Financial Markets, Pacific-Basin Finance Journal

## HONORS AND AWARDS

NBER Time Series Conference Travel Award for 2006 and 2007.  
Oscar Mayer Fellowship for Dissertation, University of Chicago GSB, 2007.  
University of Chicago Graduate School of Business Doctoral Fellowship for 2002-2006.  
Chun-Tsung Scholar, provided by Nobel Prize Laureate Dr. TsungDao Lee, 1999-2001.  
All-around best student, Ministry of Education in Shanghai, 2000.  
Presidents Award, Unilever Fellowship, CitiBank Fellowship, Peoples first Prize, 1999-2001.

## NON-ACADEMIC EXPERIENCE

Docent and librarian at the Metropolitan Museum of Art, New York, 2010 - present.  
Docent at the Field Museum, Chicago, 2003 - 2008.  
Member of the Asian Art Council in the Art Institute of Chicago, 2003 - 2008.  
Docent at the Shanghai Museum, Shanghai, China, 1999 - 2002.