

JENNIE BAI

Georgetown University
McDonough School of Business
3700 O Street
Washington DC 20057

Tel: (202) 687-5695
www.jenniebai.com
jennie.bai@georgetown.edu
Updated: **November 2014**

Employment

Assistant Professor of Finance, **Georgetown University**, Aug2013 - present

Economist, **Federal Reserve Bank of New York**, 2008 - 2013

RESEARCH INTEREST

Credit Risk, Liquidity Risk, Banking, Derivative Market, Art Market

RESEARCH PAPERS

1. **“On Bounding Credit Event Risk Premia”** (with [Pierre Collin-Dufresne](#), Ecole Polytechnique Federale de Lausanne, [Robert Goldstein](#), University of Minnesota, and [Jean Helwege](#), University of South Carolina), *forthcoming, Review of Financial Studies*

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 supporting the view that credit event risk premia are minuscule.

2. **“Anchoring Corporate Credit Spreads to Firm Fundamentals”** (with [Liuren Wu](#), CUNY Baruch) *Revise & Resubmit, Journal of Financial and Quantitative Analysis*

This paper examines the capability of firm fundamentals in explaining the cross-sectional variation of CDS spreads. We combine the Merton (1974) distance-to-default measure with a long list of firm fundamentals through a Bayesian shrinkage method to generate a weighted average CDS (WCDS) valuation. Historical analysis shows that a cross-sectional regression of market CDS against the two Merton model inputs explains an average of 49% of the variation, but WCDS can raise the average explanatory power to 77%. Furthermore, deviations between market observations and WCDS valuation generate statistically and economically significant forecasts on future market movements.

3. **“The CDS-Bond Basis”** (with [Pierre Collin-Dufresne](#), Ecole Polytechnique Federale de Lausanne) *Reject & Resubmit, Review of Financial Studies*

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.

4. **“Have Financial Markets Become More Informative?”** (with [Thomas Philippon](#) and [Alexi Savov](#) New York University) Under Submission

Media: [-Bloomberg](#), [New York Times](#)

The finance industry has grown, financial markets have become more liquid, and information technology has been transformed. But have market prices then become more informative? We present a model with information acquisition and investment to link financial development, price informativeness, and allocational efficiency. We then use market prices to construct the model-implied informativeness measure, the predictable component of future earnings based on market prices, going back to 1960. Informativeness has increased at long horizons (three to five years) and is unchanged at shorter horizons. The increase is strongest among retail and services firms, growth firms, and firms with option listings.

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)

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. **“Measuring Liquidity Mismatch in the Banking Sector,”**, (with [Arvind Krishnamurthy](#), and [Charles-Henri Weymuller](#), Harvard University)

This paper implements a liquidity measure proposed by Brunnermeier, Gorton and Krishnamurthy (2011), “the Liquidity Mismatch Index (LMI),” to measure the mismatch between the market liquidity of assets and the funding liquidity of liabilities. The LMI measure weights each asset and liability by contract- and time-varying weights which measure the liquidity of the contract. Using bank regulatory report and repo transaction data, we construct the LMI for 2870 bank holding companies during 2002 - 2013 and investigate its time-series and cross-sectional patterns. The LMI can be aggregated across firms to measure the aggregate liquidity shortfall in the U.S. banking sector. We find that the aggregate banking sector LMI worsens from around [negative] \$2 trillion in 2004 to \$4.5 trillion in 2008, before reversing back to \$2 trillion in 2009. In the cross section, we find that banks with more liquidity mismatch (i) experience more negative stock returns during the crisis, and more positive stock returns pre-crisis, and (ii) experience more negative stock returns on events corresponding to a liquidity run, and more positive stock returns on events corresponding to liquidity provision by the government. We demonstrate the LMI can serve as an effective tool in liquidity stress test.

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

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. **“Do Distributional Characteristics of Corporate Bonds Predict Their Future Returns?”** (with [Turan Bali](#) and Quan Wen, Georgetown University), December, 2014

This paper investigates the significance of volatility, skewness, kurtosis, and downside risk in predicting the cross-sectional variation in future returns on corporate bonds. The results indicate a significantly positive (negative) link between volatility (skewness) and expected returns, whereas kurtosis does not have a robust incremental contribution to the predictability of bond returns. Bonds in the highest volatility quintile generate 6% to 8% more annual raw and risk-adjusted returns compared to bonds in the lowest volatility quintile. After controlling for volatility, bonds with low skewness generate 2.5% to 3% more annual raw and risk-adjusted returns compared to bonds with high skewness. The cross-sectional relation between downside risk and bond returns is even stronger than volatility and skewness. These findings remain intact after controlling for a large set of bond characteristics and risk factors. Hence, the distributional characteristics of corporate bonds are powerful determinants of the cross-sectional differences in future returns.

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

10. **“A Comprehensive Look at the Time Series Predictability of Cross-sectional Anomalies”** (with [Long Chen](#), Cheung Kong Graduate School of Business, and [Jianfeng Yu](#), University of Minnesota). March 2014

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.

11. **“Going Global: Markups and Product Quality in the Chinese Art Market”**, (with [Benjamin Mandel](#), Citigroup, and [Jia Guo](#), Columbia University)
Media: [-Asia Week Guide article](#)

We analyze two reasons for export prices to be different across markets, namely quality differentiation and variable markups, and attempt to parse their relative importance and some of their underlying drivers. To overcome the substantial measurement issues in this task, we consider a particular industry as a special case: Chinese fine art. The simplicity of the supply-side of art vis-à-vis marginal cost and the wealth of data on its quality characteristics makes it possible to separately identify the markup and quality components of international relative prices for Chinese artworks. Through this lens, we trace the process of internationalization of Chinese art since the year 2000 and uncover a rich set of facts. We find strong support for quality sorting into international markets at both the level of artist and artwork, as well as substantial markup differences across destinations. Using a structural model of endogenous quality choice by Feenstra and Romalis (2012), we argue that much of the international quality premium is driven by specific distribution costs (whether physical or informational) rather than destination-specific preferences for quality.

12. **“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.

13. **“Equity Premium Predictions with Adaptive Macro Indices”**

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.

SEMINAR AND CONFERENCE PRESENTATIONS

2015: American Economic Association (scheduled), the IMF/World Bank joint seminar (scheduled),

2014: American Finance Association, SFS Finance Calvacade, University of Connecticut Annual Risk Management Conference (invited talk), Western Finance Association, Federal Reserve Board, European Finance Association, BIS Research Network meeting on Banking and Asset Management (invited talk),

Annual Bank Research Conference of FDIC, New York University, George Washington University, PBC School of TsingHua University

2013: American Finance Association, European Finance Association (Cambridge), the Day-Ahead Conference of the Federal Reserve System, University of Toronto, Rotman School of Management, Bank of France, Bank of England, Federal Reserve Bank of San Francisco, FDIC-Cornell joint conference on Derivatives Securities and Risk Management, the Department of the Treasury's Office of Financial Research, the Sixth Biennial McGill Global Asset Management Conference in Montreal, Columbia University*, Financial Stability Analysis by the Federal Reserve Bank of Cleveland and Office of Financial Research, the China International Conference in Finance, European Bank Association's 5th Annual Financial Stability Conference, Copenhagen Business School

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)

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

PROFESSIONAL AFFILIATIONS

American Finance Association

American Economic Association

Western Finance Association

European Finance Association

REFEREEING

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 Empirical Finance, Journal of Financial Markets, Pacific-Basin Finance Journal, International Review of Finance

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, the Ministry of Education in Shanghai, 2000.
President's Award, Unilever Fellowship, CitiBank Fellowship, People's first Prize, 1999-2001.

NON-ACADEMIC EXPERIENCE

Docent and librarian at the Metropolitan Museum of Art, New York, 2010 - 2012.
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.