## Zhan Shi

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#### "Understanding Term Premia on Real Bonds"

presented at the SICF 2012, NFA 2012, AFA 2013

Real bonds are a very important asset class and deciphering their risk-return relationship deepens our already extensive understanding about term premia. However, there has been little research on the dynamic behavior and economic determinants of risk premia on such bonds. This paper takes a series of steps towards extending extant evidence on nominal bond premia to their real counterparts. First, we document empirically that the real bond risk premium changes over time and fluctuates between positive and negative values. Second, we find that the real term structure itself contains a component that, albeit undetectable from cross section of bond yields, drives risk premia. Finally, we examine the potential link between the real bond premia and macroeconomic variables. We find that macro factors associated with real estate and consumer income and expenditure can capture a large portion of forecastable variations in excess returns on real bonds. Our empirical results indicate an essential need to propose asset pricing models such that implied real yields are able to account for these stylized facts.

# "Estimation of Asset Value and Asset Volatility in Structural Models" with Jingzhi Huang and Yuchen Luo

One widely used approach to credit risk modeling is the structural framework of Black and Scholes (1973) and Merton (1974). The implementation of a structural credit risk model requires the knowledge of two important and yet unobservable parameters, asset value and asset volatility. Various methods have been proposed in the literature for the estimation of these two parameters; however, so far there is no consensus on what method should be used in practice. We conduct a comprehensive comparison utilizing rigorous mathematical derivation and simulation. We make recommendations on which method to use. We also shed new light on the previous critics on some of the methods. We propose a methodology for analyzing the source of estimation errors, which could be applied in a much more general setting.

#### "Determinants of Bond Risk Premia"

with Jingzhi Huang

presented at the AFA 2011, R & R in RFS

In this paper, we provide new and robust evidence on the power of macro variables for forecasting bond risk premia by using a recently developed model selection method-the supervised adaptive group "least absolute

#### with Jingzhi Huang

#### Zhan Shi

- 2014 Western Finance Association Meeting, Monterey
- 2013 Financial Management Association Doctoral Student Consortium

#### **Revisiting the Equity-Credit Market Integration Anomaly**

- 2014 Fixed Income Conference, Charleston
- 2013 Asian Finance Association Meeting, Nanchang\*
- 2013 ITAM Finance Conference, Mexico City\*
- 2013 Northern Finance Association Meeting, Quebec City\*
- 2013 Annual Derivatives Securities and Risk Management Conference\*

#### **Understanding Term Premia on Real Bonds**

- 2013 Fixed Income Conference, Charleston
- 2013 American Finance Association Meeting, San Diego
- 2012 Northern Finance Association Meeting, Niagara Falls
- 2012 Singapore International Conference on Finance
- 2012 Midwest Finance Association Meeting, New Orleans

#### Estimation of Asset Value and Asset Volatility in Structural Models

2014 Midwest Finance Association Meeting, Orlando

#### **Determinants of Bond Risk Premia**

2012 Fixed Income Conference, Charleston\* 2011 American Finance Association Meeting, Denver 2010 Financial Management Association Meeting, New York 2010 SAIF and CKGSB Summer Research Conference, Shanghai 2010 China International Conference in Finance 2010 Annual Derivatives Securities and Risk Management Conference

\* presented by a co-author

#### Discussions

- 2015 Midwest Finance Association Meeting, Chicago
- 2014 Midwest Finance Association Meeting, Orlando
- 2013 Midwest Finance Association Meeting, Chicago
- 2012 Fixed Income Conference, Charleston
- 2012 Midwest Finance Association Meeting, New Orleans
- 2010 Financial Management Association Meeting, New York

#### Zhan Shi

### Program Committee

2015 European Finance Association Meeting, Vienna, Austria
2015 Midwest Finance Association Meeting, Chicago
2014 Midwest Finance Association Meeting, Orlando
2013 Midwest Finance Association Meeting, Chicago

## Teaching

Options & Futures I (OSU, undergraduate)	2014-2015
Fixed Income & Credit Risk (OSU, MBA & Master in Finance)	2014
Derivative Markets (PSU, undergraduate)	2012
Security Analysis and Portfolio Management (PSU, undergraduate)	2010-2011

### Awards and Grants

WFA Cubist Systematic Strategies Ph.D. Candidate Award	2014
MFA Doctoral Student Travel Grant	2013, 2014
Kenneth J. Carey Memorial Scholarship	2012
Competitive Dissertation Summer Award	2012
Smeal Research Grant Award	2009-2013
Fudan Best Undergraduate Thesis Prize	2008

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