

# Xingliang Ma

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Status: U.S. Permanent Resident

## SUMMARY OF QUALIFICATION

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- Strong analytical skills with PhD in economics and a distinct publication record;
- Hands-on experiences in agency and non-agency mortgage security modeling.

## PROFESSIONAL EXPERIENCES

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### ***Quantitative Analytics Senior, Freddie Mac, April 2015 – present***

- **Private Labeling Securities (PLS, non-agency loans)**
  - Review PLS model that covers all non-agency loans such as subprime, MBS, Alt-A, option ARMs, and 2<sup>nd</sup> lien;
  - Gain extensive experience in Generalized Additive Models, logistical regression, transition models, and their applications in prepayment and default risk modeling as well as severity and cash flow projections;
  - Build challenger models that achieved better performance than the submitted model;
  - Hands-on experience in every step of the model, including data cleaning, estimation, simulation, back test, etc;
  - Construct databases from CoreLogic data and write SQL queries to facilitate the model review;
  - Rewrite some of the R packages in C/C++ to speed up its execution;
  - Program extensively in R and Python; Parallel computing; familiar with a variety of programming paradigms such as objective-oriented programming, functional programming, and procedural programming;
  - Above & Beyond Reward after three months onboard for excellent work performance.
- **T-Deal model**
  - Construct data from Intex and identify coding bugs in model implementation; VBA, R, SAS;
  - Mentoring other team members on the structure of the model and help complete the model review as a team;
  - Gain exposures in the capital model and the securitization process.
- **Prepayment model (agency loans)**
  - Participate in prepayment 2.0 and 2.1 model review; SAS;
  - Solid understanding of the refinance, turnover, curtailment, and buyout model components.

### ***Associate Research Fellow, International Food Policy Research Institute, January 2012 – March 2015***

- **Econometric modeling & economic research**  
Dynamic Panel data estimation; Market efficiency test; Information & social network analysis; STATA; MATLAB.
- **Project lead**  
Lead in project planning, survey design, data analysis, and team building. Strong communication skills.

### ***Research Assistant, University of Wisconsin - Madison, August 2006 – December 2011***

- **Dynamic Adoption of Genetically Modified Crops in the US**  
Dynamic Programming; Bayesian Learning; Structural estimation; Fortran 90, Python;
- **Structural Demand Estimation of Differential Products**  
Generalized Method of Moments (GMM) estimation; Market demand analysis; MATLAB;
- **Survival Analysis on Product Lifecycles in the Market**  
Extended Cox Proportional Hazard model; Hazard function estimation; Market structure analysis; STATA;

## EDUCATION

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### **UNIVERSITY OF WISCONSIN - MADISON**

Madison, WI

#### ***Ph.D. Agricultural & Applied Economics***

2011

Dissertation: Essays on Structural Demand Estimation and Dynamic Adoption with Bayesian Learning:  
Application to the U.S. Seed Industry

### **FUDAN UNIVERSITY**

Shanghai, China

#### ***M.A. Economics***

2006

### **JILIN UNIVERSITY**

Changchun, China

#### ***B.S. Economics***

2003

## VOLUNTEER EXPERIENCES

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- Designate Security Administrator (DSA), UNIX system maintaining, Freddie Mac, 2015-present
- Representative of Associate Research Fellows, International Food Policy Research Institute, 2013-2014

## ADDITIONAL INFORMATION

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- Computing: R, Python, MATLAB, SAS, SQL, C/C++, Fortran, VBA, bash script, STATA
- Language: English (fluent), Chinese (native)
- Passed CFA level 1 & 2 in December 2015 and June 2016

## PUBLICATIONS

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1. **Ma, X.**, and G. Shi. 2015. "A Dynamic Adoption Model with Bayesian Learning: An Application to U.S. Soybean Farmers." *Agricultural Economics*, 46 (1): 25–38.  
(Code: [https://github.com/equusprobus/Dynamic\\_Adoption](https://github.com/equusprobus/Dynamic_Adoption))
2. **Ma, X.**, M. Smale, D. J. Spielman, P. Zambrano, H. Nazli, and F. Zaidi. 2016. "A question of integrity: Variants of Bt cotton, pesticides, and productivity in Pakistan." *Journal of Agricultural Economics* (accepted, forthcoming).
3. **Ma, X.**, and G. Shi. 2013. "GM vs. Non-GM: A Survival Analysis of U.S. Corn Hybrids." *Agricultural and Resource Economics Review*, 42(3):542-560.
4. Spielman, D.J., and **X. Ma**. 2016. "Private Sector Incentives and the Diffusion of Agricultural Technology: Evidence from Developing Countries." *Journal of Development Studies*, 52 (5): 696-717.
5. Spielman, D.J., H. Nazli, **X. Ma**, P. Zambrano, and F. Zaidi. 2015. Technological opportunity, regulatory uncertainty, and Bt cotton in Pakistan. *AgBioForum*, 18(1), 98-112.
6. Spielman, D.J., D.Z. Zeng, and **X. Ma**. 2014. "Clusters, Innovation Systems and Biotechnology in Developing-Country Agriculture." In *Handbook on Agriculture, Biotechnology and Development*, edited by S. Smyth, D. Castle, and P. Phillips. Surrey, UK: Edward Elgar Publishing.

## CONFERENCE PRESENTATIONS

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1. "Effect of Prices, Traits and Market Structure on Corn Seeding Density", Selected Paper, *American Agricultural Economics Association (AAEA) Annual Meeting*, Milwaukee, WI, July 2009
2. "GM vs. Non-GM: A Survival Analysis of Hybrid Seed Corn in the US", Selected Poster, *AAEA Annual Meeting*, Denver, CO, July 2010
3. "A Structural Estimation of the Demand for Corn Seed in the US", Selected Poster, *AAEA Annual Meeting*, Denver, CO, July 2010
4. "A Dynamic Adoption Model with Bayesian Learning: Application to the U.S. Soybean Market", Selected Paper, *AAEA Annual Meeting*, Pittsburgh, July 2011
5. "A Dynamic Adoption Model with Bayesian Learning: Application to the U.S. Soybean Market" (revised), Selected Paper, *American Economic Association (AEA) Annual Meeting*, San Diego, January 2013
6. "Private Sector Incentives and the Diffusion of Agricultural Technology: Evidence from Developing Countries", Selected Paper, *NC-1034 conference on Biotechnology Trade and Transfer*, Arizona, March 2013
7. "Private Sector Incentives and the Diffusion of Agricultural Technology: Evidence from Developing Countries", Selected Poster, *AAEA Annual Meeting*, Washington DC, August 2013
8. "Information efficiency in a lemons market: Evidence from Bt cotton seed market in Pakistan", Selected Paper, *AAEA Annual Meeting*, Minneapolis, MN, July 2014
9. "The role of social network in an imperfect market for agricultural technology products: Evidence on Bt cotton adoption in Pakistan", Selected Paper, *AAEA Annual Meeting*, Minneapolis, MN, July 2014
10. "A question of integrity: Variants of Bt cotton, pesticides, and productivity in Pakistan", Selected Paper, *AAEA Annual Meeting*, Boston, MA, July 2016