Understanding the Securitization of Subprime Mortgage Credit
Understanding the Securitization of Subprime Mortgage Credit

Adam B. Ashcraft
Financial Intermediation
Federal Reserve Bank of New York
New York, NY 10045
adam.ashcraft@ny.frb.org

Til Schuermann
Financial Intermediation
Federal Reserve Bank of New York and Wharton Financial Institutions Center
New York, NY 10045
til.schuermann@ny.frb.org

Full text available at: http://dx.doi.org/10.1561/0500000024
Editorial Scope

Foundations and Trends® in Finance will publish survey and tutorial articles in the following topics:

- Corporate Governance
- Corporate Financing
- Dividend Policy and Capital Structure
- Corporate Control
- Investment Policy
- Agency Theory and Information
- Market Microstructure
- Portfolio Theory
- Financial Intermediation
- Investment Banking
- Market Efficiency
- Security Issuance
- Anomalies and Behavioral Finance
- Asset-Pricing Theory
- Asset-Pricing Models
- Tax Effects
- Liquidity
- Equity Risk Premium
- Pricing Models and Volatility
- Fixed Income Securities
- Computational Finance
- Futures Markets and Hedging
- Financial Engineering
- Interest Rate Derivatives
- Credit Derivatives
- Financial Econometrics
- Estimating Volatilities and Correlations

Information for Librarians
Foundations and Trends® in Finance, 2006, Volume 2, 4 issues. ISSN paper version 1567-2395. ISSN online version 1567-2409. Also available as a combined paper and online subscription.
Understanding the Securitization of Subprime Mortgage Credit

Adam B. Ashcraft\textsuperscript{1} and Til Schuermann\textsuperscript{2}

\textsuperscript{1} Research Officer, Financial Intermediation, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045, adam.ashcraft@ny.frb.org

\textsuperscript{2} Vice-President, Financial Intermediation, Federal Reserve Bank of New York and Wharton Financial Institutions Center, 33 Liberty Street, New York, NY 10045, til.schuermann@ny.frb.org

Abstract

In this survey we provide an overview of the subprime mortgage securitization process and the seven key informational frictions which arise. We discuss how market participants work to minimize these frictions and speculate on how this process broke down. We continue with a complete picture of the subprime borrower and the subprime loan, discussing both predatory borrowing and predatory lending. We present the key structural features of a typical subprime securitization, document how the rating agencies assign credit ratings to mortgage-backed securities, and outline how the agencies monitor the performance of mortgage pools over time. Throughout the survey, we draw upon the example of a mortgage pool securitized by New Century during 2006.
Keywords: Subprime mortgage credit; securitization; rating agencies; principal agent; moral hazard.

JEL codes: G24, G28
Contents

1 Introduction 1

2 Overview of Subprime Mortgage Credit Securitization 3

2.1 The Seven Key Frictions 5
2.2 Five Frictions that Caused the Subprime Crisis 21

3 An Overview of Subprime Mortgage Credit 25

3.1 Who is the Subprime Mortgagor? 27
3.2 What is a Subprime Loan? 30
3.3 How have Subprime Loans Performed? 40
3.4 How are Subprime Loans Valued? 42

4 Overview of Subprime MBS 47

4.1 Subordination 47
4.2 Excess Spread 50
4.3 Shifting Interest 50
4.4 Performance Triggers 51
4.5 Interest Rate Swap 53
4.6 Remittance Reports 53
1

Introduction

As of this writing the total write-downs by financial institutions over the course of 2007–2008 has been $290 billion, much — if not most — directly or indirectly related to subprime mortgages. This already exceeds the total cost of the S&L crisis of about $250 billion (in 2008 dollars) (GAO, 1996). How does one securitize a pool of mortgages, especially subprime mortgages? What is the process from origination of the loan or mortgage to the selling of debt instruments backed by a pool of those mortgages? What problems creep up in this process, and what are the mechanisms in place to mitigate those problems? This survey seeks to answer all of these questions. Along the way we provide an overview of the market and some of the key players, and provide an extensive discussion of the important role played by the credit rating agencies.

In Section 2 we provide a broad description of the securitization process and pay special attention to seven key frictions that need to be resolved. Several of these frictions involve moral hazard, adverse selection, and principal-agent problems. We show how each of these

frictions is worked out, though as evidenced by the recent problems in
the subprime mortgage market, some of those solutions are imperfect.
In Section 3, we provide an overview of subprime mortgage credit; our
focus here is on the subprime borrower and the subprime loan. We offer,
as an example a pool of subprime mortgages New Century securitized in
June 2006. We discuss how predatory lending and predatory borrowing
(i.e., mortgage fraud) fit into the picture. Moreover, we examine sub-
prime loan performance within this pool and the industry, speculate
on the impact of payment reset, and explore the ABX and the role
it plays. In Section 4, we examine subprime mortgage-backed securi-
ties, discuss the key structural features of a typical securitization, and,
once again illustrate how this works with reference to the New Century
securitization. We finish with an examination of the credit rating and
rating monitoring process in Section 5. Along the way we reflect on dif-
ferences between corporate and structured credit ratings, the potential
for pro-cyclical credit enhancement to amplify the housing cycle, and
document the performance of subprime ratings. Finally, in Section 6,
we review the extent to which investors rely upon credit rating agen-
cies views, and take as a typical example of an investor: the Ohio Police
and Fire Pension Fund.

We reiterate that the views presented here are our own and not
those of the Federal Reserve Bank of New York or the Federal Reserve
System. And, while the survey focuses on subprime mortgage credit,
note that there is little qualitative difference between the securitization
and ratings process for Alt-A and home equity loans. Clearly, recent
problems in mortgage markets are not confined to the subprime sector.
References


References


Hagerty, J. and Hudson (2006), ‘Town’s residents say they were targets of big mortgage fraud’. *Wall Street Journal*. September 27.


References


