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Determinants of the incidence of U.S. Mortgage Loan Modifications

Vicki Been [a], Mary Weselcouch [b,*], Ioan Voicu [c,1], Scott Murff [c,1]

[a] New York University School of Law and Furman Center and Furman Center for Real Estate and Urban Policy, New York University, United States
[b] Furman Center for Real Estate and Urban Policy, New York University, United States
[c] Office of the Comptroller of the Currency, Washington, D.C., United States

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ABSTRACT

This paper combines data on the performance of mortgage loans with detailed borrower, neighborhood, and property characteristics to examine the factors that determine the outcomes of seriously delinquent loans. We employ multinomial logit models in a hazard framework to explain how loan, borrower, property, servicer and neighborhood characteristics affect which of the following four outcomes results from a seriously delinquent loan: (1) the borrower cures the delinquency; (2) the borrower and lender agree to modify the loan; (3) the borrower suffers a liquidation (short sale, deed in lieu, foreclosure auction sale or REO); or (4) the loan remains delinquent. In particular, we focus on mortgage modification. We find that the outcomes of delinquent loans are significantly related to: current LTV, FICO scores, especially risky loan characteristics, the servicer of the loan, neighborhood housing price appreciation, and whether the borrower received foreclosure counseling.

1. Introduction

Loan modifications give borrowers in default[2] the opportunity to reduce their interest rate, extend the term of their loan, reduce their principal balance, or add missed payments to the principal (Adelino et al., 2009; Mason, 2007). If a loan modification helps a borrower to stay current on his or her loan, the modification may allow the borrower to avoid both the financial costs of foreclosure and the disruption and social and psychological costs of moving, and may save the borrower's credit record (Kingsley et al., 2009; Schloemer et al., 2006). Successful modifications help the neighborhood as well, by avoiding vacancies and high rates of turnover (and the crime and other negative impacts that they may cause), avoiding decreases in neighboring property values associated with foreclosures, and promoting stability (and the social cohesion it produces) (Ellen et al., 2013; Harding et al., 2009; Immergluck and Smith, 2006; Schuetz et al., 2008). Lenders may benefit from modifications by avoiding the costs associated with foreclosure, such as reduced property values, loss of income and deterioration in quality as the property sits vacant, and legal and administrative fees (Gerardi and Li, 2010; Pennington-Cross, 2010). This paper focuses specifically on the United States housing market and modifications, but the lessons learned from this research could be applied to other housing markets experiencing high levels of borrower default.

Policymakers in the U.S. have put considerable emphasis on the desirability of modifications to help borrowers avoid losing their homes through foreclosures. Modifications play a central role in the federal Making Home Affordable Plan the Obama administration announced in February 2009 (U.S. Department of Treasury, 2009). The plan includes financial incentives for servicers to complete modifications of delinquent loans, principal reduction rewards for borrowers who stay current, incentive payments to servicers and borrowers for modifying at-risk loans before they become delinquent, and an insurance fund to encourage lenders to modify loans even if they fear that home prices will fall in the future. Through the Home Affordable Modification Program (HAMP), the U.S. Department of the Treasury partnered with banks and other regulatory agencies to issue guidelines to standardize loan modification practices throughout the mortgage industry (U.S. Department of Treasury, 2009).

For policymakers as well as lenders, understanding the determinants of successful modifications – those that allow the homeowner to stay current over the long-term – is crucial. Yet too little is known even about the most basic questions that would help us understand why some modifications are successful and

* Corresponding author. Address: Furman Center for Real Estate and Urban Policy, New York University, 139 MacDougal Street, 2nd Floor, New York, NY 10012, United States. Tel.: +1 212 998 6110.

E-mail address: weselcouch@exchange.law.nyu.edu (M. Weselcouch).

[1] The views expressed in this paper are those of the authors alone and do not necessarily reflect those of the Office of the Comptroller of the Currency or the Department of the Treasury.

[2] Some modifications are arranged before default, but such loans are excluded from the analysis in this paper for reasons we discuss in the Data section.

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others are not: Which borrowers receive what kinds of modifications? Are certain loan provisions associated with the likelihood that the loan will be modified? Do the characteristics or identity of lenders or servicers affect the propensity of borrowers to receive modifications? How do characteristics of the property, or the neighborhood in which it is located, affect the propensity of loans to be modified? What role, for example, does residential segregation – the concentration of minorities in a neighborhood – play (if any) in the propensity of borrowers to get modifications?

In this paper, we shed new light on these issues about the borrowers and loans receiving modifications by using a unique combination of data on borrowers in New York City. In a subsequent paper, we will use that information to examine the features of the borrower, loan, lender, neighborhood and property that predict which modifications will succeed in keeping borrowers in their homes over the long term.

By better understanding the characteristics of the borrowers, loans, properties, and neighborhoods receiving modifications, policymakers can devise modification programs that can better serve all affected parties, and adopt outreach and communications policies to target any groups of borrowers that appear to be receiving disproportionately few modifications. Specifically, given that just over 1.1 million borrowers have received HAMP modifications (U.S. Department of Treasury, 2013), while over 5 million borrowers nationwide were delinquent on their loan or in some stage of the foreclosure process as of the end of 2012 (Lender Processing Services, 2013), policymakers may need to refine the modification programs to ensure that the efficient level of modifications is being offered. Similarly, a better understanding of who is receiving modifications should help both lenders and foreclosure counseling agencies better target their outreach efforts and improve their modification application procedures and eligibility determinations.

This paper will build upon the existing literature by combining a dataset the Furman Center for Real Estate and Urban Policy has built on borrower, neighborhood, and property characteristics for loans originated in New York City with the Office of the Comptroller of the Currency's (OCC's) Mortgage Metrics dataset to examine the determinants of loan modifications. Identifying the features of borrowers, loans, lenders, servicers, properties and neighborhoods that are associated with loan modifications will allow lenders and policy-makers to target modification programs for distressed mortgage borrowers more effectively. The unusually rich combination of data also will shed some light on whether borrowers and servicers are acting rationally in deciding whether to modify a loan, and whether there are any characteristics of loans, borrowers or neighborhoods that make modifications especially challenging given the current economic and regulatory framework.

2. Background and literature review

When a borrower falls behind on her home mortgage payments, a variety of resolutions or outcomes are possible. First, if the borrower is delinquent or in default, but has not yet received a notice of foreclosure (*lis pendens*), the borrower and/or lender have several options: (i) the borrower can cure the delinquency or default by making some or all of the missed payments; (ii) the borrower and the lender can agree to modify the loan; (iii) the borrower can refinance the mortgage; (iv) the borrower can sell the property either for enough to pay off the balance remaining on the mortgage, or through a ''short sale,'' whereby the lender agrees to accept a purchase price of less than the balance remaining in satisfaction of the mortgage; (v) the borrower can pre-pay the mortgage by drawing on other resources; or (vi) the borrower can continue to be delinquent or in default, but the lender can choose to forbear on the delinquency or default without beginning foreclosure, or set a repayment plan in which the borrower typically pays back any late payments in small installments on top of the existing mortgage installments. Second, if the lender (or servicer acting on behalf of the lender or on behalf of the investors in securitized mortgages) has begun the foreclosure process, either by filing a *lis pendens* in a judicial foreclosure state or by sending a Notice of Default to the borrower in a non-judicial foreclosure state,[3] the borrower can pursue any of those six paths, and in addition may: (vii) give the lender/servicer a deed in lieu of foreclosure; (viii) lose the property to the lender/servicer in the foreclosure auction (''REO'' property[4]); or (ix) lose the property to a third party in a foreclosure auction.

The lender/servicer and borrower accordingly may reach an agreement to modify the terms of the loan either before or after the foreclosure process has officially begun. We will refer to the borrower's counter-party as the servicer. The servicer is, of course, acting on behalf of the lender or investors, and presumably is seeking to minimize losses to the investors or lender. The servicer's interests are unlikely, however, to be perfectly aligned with the lender's or investors' interests. The servicer may lack sufficient information about the lender's or investors' interests to serve those interests well, or may lack the technology or other resources to serve those interests even when they are clear (Cordell et al., 2008). Further, the payment structure for servicing may provide incentives for servicers to forego a modification even if modification would serve the lender's or investors' interests. (Cordell et al., 2009; Levitin and Twomey, 2011; Magder, 2009; Mason, 2007; Thompson, 2009). We cannot separate the decision of the servicer from that of the lender or investors in this paper, however, except indirectly by analyzing the outcomes of securitized loans versus those held in the lender's portfolio. We therefore will refer to the decision maker as the servicer, and assume that the servicer generally, though not perfectly, is acting to minimize losses to the lender or investors.

According to U.S. Department of Treasury (2008, 2009, 2010, 2011), the number of loan modifications issued has been consistently increasing since November 2007 (the inception of the OCC data collection), with over 2.1 million permanent modifications completed nationally as of March 2011. Nearly 400,000 of those modifications were achieved through HAMP (U.S. Department of Treasury, 2011).

Despite the importance of modifications to both the Bush and Obama Administration's efforts to limit the effects of the foreclosure crisis, the literature on modifications is relatively thin. A series of papers offer a theoretical framework for assessing how lenders will view the decision to modify. Ambrose and Capone (1996a), for example, posit that lenders will modify a loan when the benefits of not losing principal and interest payments outweigh the costs of making the modification. Similarly, Adelino et al., 2009 theorize that low rates of modifications result from lenders determining that foreclosure is more profitable for them than modification. Riddiough and Wyatt (1994) postulate that lenders will only consider options other than foreclosure when the cost of foreclosure exceeds the cost of encouraging more defaults by displaying a willingness to negotiate workouts, and Wang et al., 2002 build on that insight. Foote et al., 2008 explain that because all borrowers, regardless of the amount of equity in their homes, have an incentive to seek modifications to lower their mortgage costs, it becomes difficult for lenders to determine which applicants legiti-

[3] In this paper, we focus only on loans in New York, a judicial foreclosure state where a *lis pendens* can be filed if a borrower is at least 90 days delinquent.

[4] ''REO'' stands for ''Real Estate Owned,'' a shortening of the ''Other Real Estate Owned'' category of assets that appears on financial statements of mortgage lenders. In practice, ''REO'' is used to describe properties that have finished the foreclosure process and are owned by the bank that once owned the mortgage.