The Economic Dimensions of the Foreclosure Crisis

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ABSTRACT

This paper proposes to examine the significance of both loan/borrower characteristics and macroeconomic factors in the mortgage default and foreclosure crisis in the New York City metropolitan area in the years immediately preceding the collapse of the housing bubble. Matching the full set of 2010 New York State pre-foreclosure filings to home loans originated from 2004 through 2008; the proposal seeks to expand upon the scope of earlier studies, incorporating measures of macroeconomic conditions together with loan characteristics and borrower demographics. Following a review of the literature and of the relative success of loan modification programs, we conclude with a brief proposal for a comprehensive study.

INTRODUCTION

Since the foreclosure crisis began nearly six years ago, numerous efforts at stemming the rapid growth in foreclosure actions have been undertaken, at both the State and federal levels. An essential part of that process necessarily involved identifying the central reasons that homeowners entered into foreclosure since the collapse of the housing market following the unraveling of the subprime mortgage crisis in 2006. Despite recent indicators of the beginnings of recovery in some markets, the problem of foreclosure still remains a significant drag on the economic recovery and job growth. The discussion here is centered on a critical evaluation of the relative success rates of the various federal and state programs aimed at loan modification. A central conclusion of our research is that many of the modification programs failed, to a certain extent, to address the principal causes of high default and foreclosure rates, not simply because they often required voluntary cooperation from lenders, but because of the structure of many of the loans that had been originated to borrowers. At the same time, the continued fundamental weaknesses within the economy overall have clearly exacerbated the problem. The focus of this inquiry is to examine the impact in the New York City metropolitan area with a particular focus on continued high unemployment in areas with the highest rates of ongoing foreclosure, declining or stagnant home prices, the sluggish pace of the economic recovery and job creation, and the probable growth of structural unemployment as a result of the prolonged economic slump.

We also consider the role that discriminatory lending practices contributing to Black and Latino borrowers' greater likelihood of receiving 'high cost' (subprime) loans by including measures of loan/value ratios using FHFA home price indices, home price index averages, and the number of commercial banks at the census tract level, as well as an identification of lenders by type (conventional or subprime). In a

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separate paper (Doviak and MacDonald, 2011), we do find strong evidence of discriminatory lending, which confirms the findings of other studies. This same earlier investigation found that Blacks and Latinos received a disproportionately high share of pre-foreclosure filing notices, which appeared to confirm the presence of disparities in lending practices.

DATA: BACKGROUND

In December 2009, the State of New York enacted new legislation requiring all mortgage servicers to send all delinquent borrowers a "pre-foreclosure filing notice" (PFF) at least 90 days prior to formally filing for foreclosure on a primary residence in the state. The notice informs homeowners that their loan is in default, indicates the dollar amount necessary to cure the default and suggests measures that borrowers can take to avoid foreclosure, including negotiating a loan modification with their lender and/or consulting with a non-profit housing counselor (NYS DFS, 2009).

Beginning in February, 2010, mortgage servicers in New York State were also required to file the notices with the NYS Department of Financial Services, which collected an extraordinary level of detail on both the borrowers and the loans. The numerous data fields collected included property address, the names of the borrowers, the current monthly payment, the delinquent contractual payments, the interest rate being paid, whether the loan was a fixed-rate or adjustable-rate mortgage, the date and the amount of the original loan, the lien type, the loan term, whether the loan had been modified or not and whether an investor's approval was necessary to modify the loan. If the loan progresses to a lis pendens filing, (i.e. the first step in the foreclosure process – the filing of the complaint) then servicers are also required to follow up on their initial filing with information on the entity filing for foreclosure.

We will utilize this pre-foreclosure filing data in this current proposed inquiry to examine several factors that may or may not have contributed to the ongoing crisis. This dataset will enable us to examine each of the regions of the state separately with respect to foreclosure activity and to examine the relationship to home price indices, unemployment rates, and rates of job creation, access to traditional lending institutions, as well as the characteristics of the loans themselves.

OVERIVEW OF MODIFICATION PROGRAMS SINCE 2008

The sharp rise in, and continued high rates of unemployment since the onset of the recession in 2008 is clearly tied to the continued high rates of default and foreclosure. At the same time, falling or stagnant home prices and negative equity are seen as key factors in the unprecedented high foreclosure rates of the past five years. While many modification programs aimed initially at getting borrowers out of 'high cost' or subprime loans, many subsequent efforts have fallen short of large scale remediation of high risk loans, precisely because of issues related to the sluggish economic recovery.

According to Core Logic, an estimated 10.8 million, or 22.3 percent of all residential properties with a mortgage, were in a negative equity position at the end of second quarter 2012. Declining home values or

increased mortgage debt or some combination of these contributes to the problem (Core Logic, September 2012).

At the federal level, a number of foreclosure prevention measures have been introduced over the last few years, including the Home Affordable Modification Program (HAMP), Making Home Affordable, FHA's Hope for Homeowners Program, the FHA's refinance program for underwater mortgages, and finally the Home Affordable Refinance Program (HARP).

In February 2009, the U.S. Treasury Department allocated $50 M in TARP funds to help homeowners struggling with their mortgages. As of May 2012, out of 1,883,740 trial modifications initiated, more than 1 million had resulted in a permanent modification (U.S. Department of the Treasury, 2012).

Further, as part of the nationwide mortgage settlement reached between the U.S. government and the lenders in 2012, the nation's five largest banks agreed to pay a total of $25 billion to borrowers who have lost their homes to foreclosure, and to the states and the federal government to settle investigations linking the country's five largest mortgage servicers to the practice of routinely signing foreclosure related documents without the presence of a notary public and without confirming whether the facts contained in the documents were correct. Of this, a total of $1.5 billion is to be distributed directly to homeowners who have lost their homes to foreclosure, while the nation's five largest servicers will be required to work off up to $17 billion in principal reduction and other forms of loan modification relief for distressed borrowers nationwide (National Mortgage Settlement, 2012). In New York State, which received a total of $107.6 million, $9 M has reportedly gone to foreclosure prevention programs, while $6 million in grants has been allocated to non-profits working on housing and community renewal. An additional $25 M is slated to settle claims by New York State Attorney General Eric Schneiderman regarding [banks'] use of a private national mortgage electronic system (New York State Mortgage Settlement, 2012).

In October 2011, the Federal Housing Finance Agency (FHFA), Fannie Mae, and Freddie Mac improved upon the existing Home Affordable Refinance Program making it easier for lenders to refinance HARP-eligible mortgages by making refinancing possible for borrowers who owed more on their mortgages than their homes were worth (Fannie Mae, 2012).

Since 2007, an estimated 5.66 million homeowners have received a mortgage modification; 4.62 million received a 'proprietary' modification, while just over 1 million had received a modification through HAMP U.S. Department of the Treasury, May 2012). As of May 2012, New York State ranked second nationally in permanent HAMP modifications at 58,200.

Despite the relative success of these modification programs, many problems continue to pose obstacles to what should be a straightforward process. More than 4 million homes have been lost to foreclosure since 2007 (CNN Money, January 12, 2012).

According to the State Foreclosure Prevention Working Group (Aug. 2010), which analyzed a longitudinal dataset of nine loan servicers, modifications that included significant reductions in principal balance tended to have lower re-default rates than their counterparts. This finding led the group to recommend reducing principal balances on loans in areas impacted by significant home price declines

(Aug. 2010). Similarly, Querci and Ding (2009) found that borrowers were less likely to re-default on their home mortgage when their monthly payments were reduced through a balance-reducing loan modification. Using data from a large sample of recently modified subprime loans, the authors looked at the question of why some loan modifications were more likely to re-default than others. At the same time, they examined the characteristics of modifications that were more likely to re-default within a short term period. Their findings confirmed that modifications that involved a significant reduction in mortgage payments tended to result in more sustainable short-term modifications, and that re-default rates are further reduced when payment reductions also include a reduction in principal balances.

Such modifications have, however, been rare. Modifications with a significant reduction in principal balance represent just 20 percent of the loan modifications that the SFPWG studied. In most modifications, the loan amount increased as service charges and late payments were rolled into the loan.

With the onset of the financial crisis in late 2008, the SFPWG concluded that a comprehensive approach to loan modification was necessary. At the time its fourth report was issued in January 2010, it was estimated that just four out of ten seriously delinquent borrowers were on track for any kind of loan modification. The authors also conclude that while the HAMP program increased the percentage of borrowers participating in some form of loan modification, the rapidly rising number of such delinquent borrowers has meant that HAMP has merely been able to slow the foreclosure crisis, and that its efforts have not been able to keep pace with the rising scale of delinquencies (SFPWG, Jan. 2010).

The Home Affordable Refinance Program, initiated in early 2009, has perhaps had the greatest level of success. While the program does not involve modifications that reduce principal balances, it has had a comparatively higher degree of success in modifying underwater mortgages. Since its inception, the program, which allows homeowners in negative equity to borrow up to 125 percent of their home's equity to refinance, an estimated 1.5 million underwater homeowners have been able to refinance into a low fixed-rate 30 year loan. The program has reportedly had its biggest impact in the states hit hardest by the housing collapse and recession, including California, Nevada, Arizona and Florida (The Success of HARP 2.0, Aug. 2012).

While all of these programs have experienced some degree of success over the past three years, they have relied upon the voluntary participation of lenders and servicers, employing a number of incentives to encourage participants to modify the loans of homeowners at risk of default and foreclosure.

Thus, while the success of the various modification efforts has improved most recently, the results continue to be mixed, with significant percentages of modified loans (particularly under HAMP) going back into default.

Among the most significant of impediments to refinancing has been the large number of home loans with second liens (Been, et. al., 2011, Lee, et. al. 2012, LaCour-Little, 2009).

This paper seeks to examine the factors that are the best predictors of the probability of foreclosure. Although the problem is not new, it continues to have a significant impact on the progress of economic recovery. The most recent RealtyTrac report (August 2012) showed that one in 681 housing units in the

U.S. received a foreclosure filing notice in August 2012. The report indicated that an estimated 153,500 properties nationwide during the same month received a foreclosure filing, default notice or were subject to a bank repossession and that a total of twenty states showed an increase in foreclosure fling activity. Further, according to the report, "twenty states registered year-over-year increases in foreclosure activity, led by judicial foreclosure states such as New Jersey, New York, Maryland, Illinois and Pennsylvania" (RealtyTrac, Sept. 2012).

Given the continued significance of the foreclosure issue overall (and in New York in particular, which has been the focus of our research), combined with the mixed success rates of the various modification programs in place since 2009, we seek to examine more closely a number of variables in addition to the financial characteristics of loans. These include measures of labor market conditions, specifically, unemployment rate trends, and job growth in New York regions since December 2007. Home Price Indices are also examined as a potential predictor of foreclosure, given the strong correlation between sharp home price declines in areas with elevated numbers of underwater mortgages. Also considered is the significance of the geographic location of traditional lending institutions to rates of foreclosure. It is expected that the greater the use of (and access to) traditional lenders (commercial banks, savings banks, credit unions), the lower the probability of default and foreclosure, and the greater the use of non-traditional lenders (i.e., sub-prime lenders) the greater the probability of default and foreclosure. Also examined is the number of mortgages that received a permanent modification. In addition we look at the extent to which a loan is 'underwater' as a predictor of progression toward a foreclosure filing.

REVIEW OF THE LITERATURE

A review of the extensive literature on the major factors that led to the foreclosure crisis and that have continued to reinforce its effects, lend support for the view that continued high unemployment, particularly in the hardest hit markets, the negative equity position of many borrowers, stagnant and/or continued declines in home values weigh on housing market recovery and the difficulties posed to refinancing of mortgages with second liens. These factors also continue to play a significant role in continued elevated rates of foreclosure in many labor market areas.

A broad cross-section of the literature is largely consistent in pinpointing the crisis in the subprime mortgage market beginning in 2006 as the catalyst for much of the larger housing market collapse that followed (Gerardi et al, 2008 and 2011, Been, et. al., 2011, Rugh and Massey, 2010, Bromley, 2008, Gerardi and Willen, 2008). Other analyses identify a number of other important factors that coincided with the build-up to the collapse that were at work as well. These include deteriorating loan quality and poor underwriting standards particularly in the subprime market (Been, et. al., 2011), smaller down payments and a run-up in borrowing against home equity while home prices were still rising, coupled with declines in home price appreciation that began well before the crisis (Gerardi, et. al., 2011). At the same time, the work of the State Foreclosure Prevention Working Group, (which began analyzing a longitudinal dataset of nine large loan servicers in 2007 - long before the crisis reached its peak) and Quercia and Ding (2009)

find a significant relationship between re-default risk and the failure to reduce principal balances in loan modification efforts (SFPWG, Aug. 2010).

Much of the literature also addresses the shortcomings of the various loan modification programs introduced in the wake of the foreclosure crisis. It is noted that the Home Affordable Modification Program (HAMP) in particular, had mixed results, as the available data clearly demonstrates. Others point to the significant constraints on modification efforts posed by mortgages with a second lien. It is estimated that between 40 and 45 percent of new mortgage loans originated at the height of the housing boom (2005-2007) included a second lien or piggyback mortgage which enabled borrowers with less than a 20 percent down payment to purchase a home, particularly in high cost coastal markets and in 'bubble locations.' (Lee et al, 2012). Their research documents that both the number of and value of closed end second liens (as opposed to HELOCs) represented a relatively small percentage of originations in 1999 compared with their peak in 2006.

In the years immediately prior to the housing market collapse, increasing numbers of borrowers, particularly in the subprime segment of the market, were making very small down payments at the time of their purchases, and in many cases, zero money down. At the same time, the authors note, many borrowers who had purchased years before the onset of the crisis, had been withdrawing extraordinary amounts of equity while home prices were still rising, (Gerardi et. al. 2011). These two conditions alone would clearly pose challenges to refinancing in a down market. As the market peaked and prices began their rapid decline, large numbers of homeowners – both subprime and prime - found themselves in a negative equity position. Until HARP 2.0's recent allowance of refinancing of up to 125 percent of a home's original mortgage (2011), this problem was clearly unaddressed.

Several others point to the exponential growth in second liens as a significant impediment to refinancing. Been, et. al. (2011) point out that HAMP's success was to a significant degree constrained by the presence of a second mortgage. "Second liens significantly complicate modifications because first lien holders may lose their senior status upon modification," and thus are reluctant to agree to participate in a modification unless second lien holders agree to subordinate their liens to the newly modified mortgage. As the authors point out, few have chosen to do so. Examining a sample of zip code-level and state data, LaCour-Little et. al.(2009) found that the percentage of piggyback originations from 2001 – 2008 was positively correlated with higher foreclosure rates in subsequent years. Their findings confirm that second liens rose rapidly during the housing boom and are a major contributing factor to underwater mortgages in the face of the sharp decline of home prices after the peak. They specifically looked at whether states and zip codes with a higher proportion of piggyback loans originated during the 2001 - 2006 period were associated with increased rates of delinquency and foreclosure. Their findings pointed to evidence that second liens to subprime borrowers were significantly related to higher rates of foreclosure after 2006. The finding did not especially hold for prime second-lien borrowers (LaCour-Little, et. al., 2009). Nevertheless, given the time of their study, it may have been too early to have seen the full effects of

declining home equity, which affected large swaths of the home-owning population nationwide, as home prices continued their decline through 2010 and 2011.

The introduction of 2MP, a second-lien modification program as a complementary program to HAMP later in 2009, has to date had limited success in attracting lender participation, with just over 90,000 second lien modifications from the program's inception through July 2012 (U.S. Treasury Dept., July 2012). Continued stagnant home price appreciation continues to exacerbate the foreclosure problem and refinancing obstacles.

The drag on housing market recovery and the ongoing elevated rates of delinquency and foreclosure tied to continued high unemployment rates, and longer average duration of unemployment are also viewed as central factors. Despite the decline in unemployment rates nationally from 9.1 percent in August 2011 to 8.1 percent in August 2012, rates in all New York State metropolitan areas actually rose from August 2011 through August 2012. While much of the increase is attributed to a strong increase in labor force participation rates over the year - a combination of new entrants and previously discouraged workers becoming more optimistic about the direction of the economy- (New York State Labor Department, July, 2012), the elevated rates also indicate that these participants are not rapidly being absorbed into the workforce despite the statewide addition of 130,000 private sector jobs over this same period.

The data show the continued high rates unemployment from January 2010 through January 2011 across the New York Metropolitan area's economy from January 2010 through January 2011, the period during which the pre-foreclosure filings in New York State were beginning to be filed.

Table 1: Unemployment Rates, January 2010, January 2011

Area	January 2012	January 2011
New York State	9.5%	8.9%
New York City	10.4%	9.4%
Nassau-Suffolk	8.1%	7.8%

New York State Department of Labor: http://labor.ny.gov/stats/laus.asp

Compounding the problem is the fact that the employment to population ratio in the state has declined significantly, reflecting a similar trend nationally. In New York State, that rate has declined from 58.5 percent in January 2010 to approximately 56.8 percent in January 2011 NYS Department of Labor, March 2012). Further, New York State's average duration of unemployment stood at 26.5 weeks in 2009 Employment in New York State, March 2010).

Nationally, 54.6 percent of job seekers were unemployed 15 weeks or longer as of August 2012, while the average (mean) duration stood at 39.2 weeks, an insignificant change from 39.7 weeks in August 2011 (U.S. Department of Labor, 2012).

OUR PROPOSED ANALYSIS

In an earlier paper, we examined a number of financial characteristics of home mortgages that were expected to be most strongly associated with the probability of receiving a lis pendens filing (Doviak and MacDonald, 2012). That study, "Who Enters the Foreclosure Process," revealed that with a few exceptions, our findings confirmed that the financial characteristics of home mortgages were fairly strong predictors of whether a loan progressed from default to foreclosure. The rate of progression from default to a lis pendens filing was higher among defaulted borrowers who took out larger loans, made larger monthly payments, and paid adjustable interest rates. The rate of progression from default to a lis pendens filing was also higher among borrowers who were in delinquency for a longer period of time (over 120 days). Also significant was the finding that a larger proportion of defaulted borrowers whose mortgages were modified through the HAMP program progressed to a lis pendens filing. However, these regression results also suggest that this particular difference may have been attributable to the fact that many of these borrowers received a pre-foreclosure filing notice at a later stage of delinquency.

Nevertheless, this finding is clearly consistent with the large percentage of HAMP modified loans that did not progress beyond trial modifications.

Interestingly, the regression results of that study further suggest that – after controlling for other factors – defaulted borrowers with an adjustable rate mortgage or a payment option adjustable rate mortgage did not progress to foreclosure at a significantly higher rate than defaulted borrowers with a fixed rate mortgage. However, the difference between defaulted borrowers with a fixed rate mortgage and defaulted borrowers with an interest only loan was statistically significant. Those with an interest only loan were more likely to progress to foreclosure. One possible explanation offered for this finding was that many interest only loans were structured with balloon payments wherein the interest rate generally re-set several percentage points higher after perhaps three to five years.

However, the same study may also have been affected by omitted variable bias. Clearly, the significance of factors other than the characteristics of loans and borrowers themselves played a critical part in the default and foreclosure crisis. Thus, the findings of this prior study lead us to the proposed present inquiry, which seeks to examine questions related to the financial characteristics of loans within the broader context of macroeconomic conditions, as well as access to and use of traditional lending institutions. This expanded study, employing the same PFF data set, will also include variables that measure trends in home price indices, unemployment rates, and job creation rates across the New York City metropolitan region. This inquiry will begin with an incorporation of these variables into the framework of the initial model that sought to identify key loan and borrower variables that were linked to the probability of a loan entering into foreclosure.

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