

The Effect of Seller Ownership and Financing Choices on the Selling Price of Foreclosed Homes

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Abstract

Numerous studies have examined the effect of foreclosures on the selling prices of residential properties, but few have considered whether ownership and financing terms affect selling prices. The findings indicate that investor-resale properties sell at a significant premium relative to comparable properties sold by commercial banks, while GSE-owned properties sell at a slight premium. Also, cash buyers are able to negotiate lower prices from sellers.

The housing crisis that began in earnest in 2008 caused one of the most severe recessions in U.S. history. Because of the severe loss in value of real estate and mortgage-backed securities many of the nation's financial institutions were either substantially weakened or failed entirely, which forced the Federal Reserve, regulators, and government policy makers to take drastic action to protect the U.S. financial system. One of the results was that mortgage lending, which had been readily available before the downturn, became very difficult to obtain. At the same time, these same financial institutions were foreclosing on delinquent homeowner loans and becoming the owners of a tremendous number of homes and other types of real estate.¹ These financial entities and government agencies fall into several categories including commercial banks, mortgage bankers (such as Countrywide), government-sponsored entities (GSEs) including Fannie Mae (Federal National Mortgage Association) and Freddie Mac (Federal Home Loan Mortgage Corporation), and government agencies that either insured (FHA) or guaranteed (VA) home loans.

Once a foreclosed property becomes inventory for a financial entity or government agency, the disposition of the property including timing and price can vary dramatically depending on the incentives at work. Some of the new owners are publicly traded corporations that are concerned with reported profits and stock prices while others are part of the federal government, or at least have the de facto financial backing of the government, and are subject to political pressure as they make decisions on the disposition of REO properties on their books. Others may worry more about simply surviving and could have the incentive of simply maximizing cash flow in the short term.

Other influential factors of selling time and property price were the bailouts of many financial institutions by the federal government and the easy money policy of the Federal Reserve; these gave some financial institutions the additional time they needed to extend the foreclosure process in order to maximize the selling price or minimize any losses shown to shareholders.² Not all financial institutions had the ability to borrow from the

Federal Reserve or were likely to be bailed out by the government, and those that did not have these options may not have had the financial ability to hold out for higher prices as they marketed their foreclosed properties.³

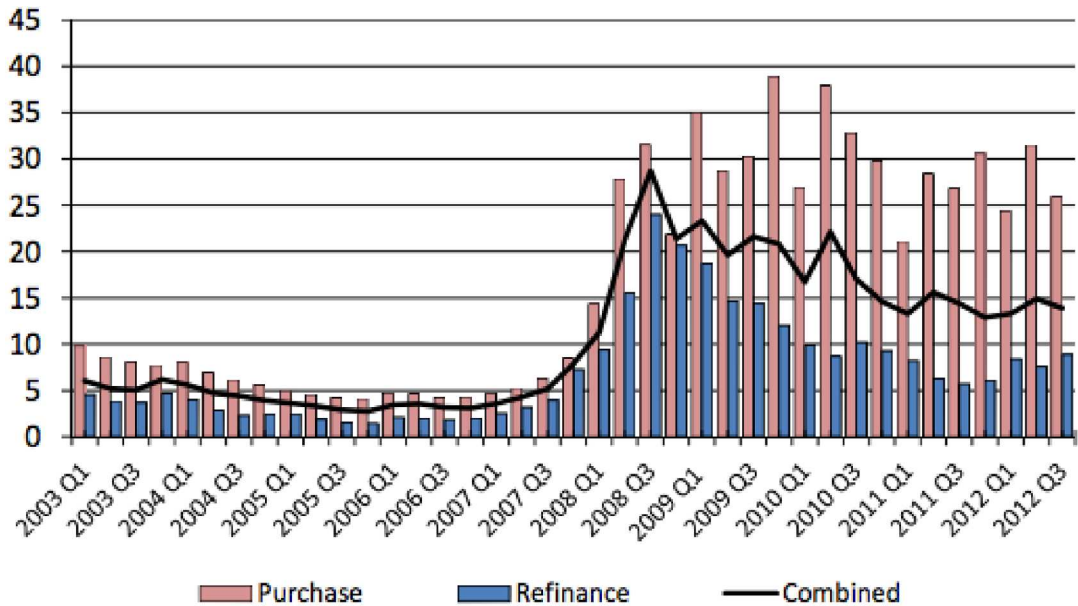
While Fannie Mae and Freddie Mac were greatly affected by the housing market failure, the FHA was not as heavily involved in the mortgage bubble because private lenders provided credit on easier terms (Timiraos, 2012). However, following the housing market debacle, Hagerty (2008) reports that the home loans insured by the FHA became one of the least expensive alternatives for financing, and in many instances, was the only alternative for borrowers who did not have perfect credit or who could only afford a small down payment. Because the FHA did not change their terms and underwriting requirements to the extent of Fannie Mae and Freddie Mac, FHA insured loans gained significant market share.

According to Timiraos and Hagerty (2009), Fannie Mae and Freddie Mac faced considerable pressure to minimize rising losses as they were exhausting their reserves. Stung by huge losses, they shied away from excessive credit risk, requiring stricter underwriting, adding fees, and demanding higher down payments. At the end of 2009, Congress was faced with the necessity of increasing the bailout of these entities beyond the \$400 billion already committed. In addition, the authors report that the federal government was reconsidering the requirements that Fannie Mae and Freddie Mac shrink their \$1.6 billion mortgage portfolio because of the fragile mortgage market. Therefore, while the FHA and VA were in a financial position to discount the prices of their foreclosed properties, Fannie Mae and Freddie Mac had less financial flexibility to sell their properties at large losses.

Nuiry (2012) reported that some commercial lenders sold their properties for much less than others. According to data obtained from a RealtyTrac database of foreclosure sales in the fourth quarter of 2011, Ally Financial⁴ sold their REO properties at an average “discount” of 60%.⁵ In contrast, Bank of America sold their foreclosed properties at an average discount of 27%, and U.S. government agencies and GSEs sold their properties at an average discount of 30%. However, there were differences even among these entities, with the FHA selling their properties at a much steeper discount than either Fannie Mae or Freddie Mac.

Other factors also play a role in the marketing and sale of foreclosed properties. One of the biggest obstacles to selling REO inventory during and after a severe recession such as in 2008–2009 is the lack of financing available for potential buyers. Even reasonably strong buyers were denied financing as many lenders exited the mortgage lending field and others cut back sharply on mortgage lending. Also, the underwriting guidelines for most mortgage loans tightened drastically, which makes mortgage loans much harder to obtain (Spahr and Sunderman, 2014). Exhibit 1 shows the prevalence of FHA-insured loans starting in 2008, as one of the few avenues left for many buyers were “government” loans that were FHA-insured or VA-guaranteed. Also, as shown by Asabere, Huffman, and Rutherford (2015), “cash was king” and the sellers of REO properties were more highly motivated to work with cash buyers because no lender was involved and the transaction was more likely to be completed. Without a lender in the process, sellers of REO properties know that there will be no issues with the purchaser’s credit, the appraised

Exhibit 1. FHA Loans as a Percentage of Mortgage Originations by Type



Source: Department of Housing and Urban Development.

value of the property or any of the numerous other problems that cause a mortgage loan to have a delayed closing or never close. Cash transactions are also more likely to close because the condition of the property will not prevent closing.

In summary, there are many different incentives at work that affect the motivation of diverse categories of sellers of REO properties. Also, a buyer’s choice of loans (or cash) in closing can have a significant effect on the type of property they can purchase and how quickly they can close, or even if they can close at all. The goal of this research is to determine the effect of these factors on the ultimate selling price of foreclosed properties.

Literature Review

In one of the earliest studies of distressed property sales, Shilling, Benjamin, and Sirmans (1990) examined distressed sales of residential condominium units in Baton Rouge, Louisiana in 1985. They estimated a distressed property discount of 24%. They concluded that discounts are related to the motivation of the seller to avoid carrying costs. However, they did not control for time on the market, property condition, cash sales, or neighborhood location variables in their empirical model.

In a study of 2,482 residential sales in Arlington, Texas by Forgey, Rutherford, and VanBuskirk (1994), a hedonic pricing model was employed to determine whether

foreclosures sold at a discount to non-foreclosed homes. The results indicated that foreclosed properties sold at a 23% discount. However, Carroll, Clauretje, and Neill (1997) criticized the methodology employed in the study and concluded that when properly controlling for location and the common characteristics between foreclosed properties and neighboring properties that the discount fell from 23% to between 0.17% and 2.58%. The corrected discounts were no longer statistically significant. The authors concluded that real estate markets do operate efficiently and do not offer an opportunity for arbitrage profits for the buyers of foreclosed properties.

Campbell, Giglio, and Pathak (2011) examine house transactions in Massachusetts over a 20-year period. They found that foreclosures and homes that sell close to the time of death or bankruptcy of a seller, sell at significantly lower prices. The foreclosure discount averaged 27% of the value of the property. The authors also found that the foreclosure discount was larger for lower-priced homes in lower-value ZIP Codes and conclude that there must be a fixed cost to holding REO properties that causes the sellers to be motivated to move them more quickly.

Clauretje and Daneshvary (2009) suggest that the greater than 20% discount found in most previous empirical studies is counterintuitive to an efficient market. Their sample consists of 1,302 foreclosed and 8,498 regular single-family homes in the Las Vegas, Nevada market and they estimate the foreclosure discount at about 9.7% after controlling for property condition. These authors in another study (2011) also examine the discount associated with short sales, foreclosures, and REO sales using a sample of 24,545 observations. They find that short sales have the lowest price discount (5.6%), followed by foreclosure process properties (10.3%) and REOs (13.5%).

Harding, Rosenblatt, and Yao (2012) conclude that foreclosed properties do not sell at discounts significant enough to overcome the transaction costs involved in obtaining the property. They show that most investors in REO properties do not earn an economically significant excess return. This indicates that REO markets are operationally efficient and that sellers are not acting irrationally in their disposition of REO properties. The authors conclude that previous studies showing a “stigma” foreclosure discount were instead seeing a difference in the condition of the properties and the fact that REO price attributes are not the same as that for normal housing, making it impossible to accurately measure price discounts between the two samples using standard hedonic pricing techniques.

Larsen (2012) observed the behavior of lenders over a three-year period in Dayton, Ohio, investigating the foreclosure selling results achieved by different institutional owners of foreclosed properties. Results indicate that experienced sellers sold their properties for higher prices than inexperienced sellers holding constant time on the market. The author also found that there was not a significant difference in the selling performance of government agencies or GSE's relative to private lenders.

Although much has been written on the various ways for consumers to finance purchases of foreclosed properties, there is scarce academic research investigating the effect of a buyer's choice of financing and type of seller on the final selling price of a foreclosed property.

Methodology

The following fixed effects regression is employed to estimate the price model:

$$\ln(NSP) = \alpha + \gamma HC + \rho WCR + \delta TIME + \tau LC + \pi OWN + \theta FT + \epsilon, \quad (1)$$

where $\ln(NSP)$ is the natural logarithm of the net selling price of the house and **HC**, **WCR**, **TIME**, **LC**, **OWN**, and **FT** are matrices of independent variables represented by γ , ρ , δ , τ , π , and θ . The intercept parameter of the regression is represented by α , and the error term is denoted by ϵ .

The net selling price is the price of the house minus selling concessions. Exhibit 2 provides a description of the variables. The matrix **HC** consists of house characteristics. The house characteristics include the age of the house (*AGE*), square footage (*SQFT*), the number of bedrooms (*BEDRMS*), the number of bathrooms (*TOTBATHS*), and dummy variables for houses with central air conditioning (*CENTAC*), a fireplace (*FIREPL*), and a garage (*GARAGE*). The matrix **WCR** captures a potential decrease in property value because of a potential warranty problem, poor property condition, and a right of redemption option. Foreclosed properties are often sold “As-Is,” which could indicate potential hidden problems with the condition of the property, unknown problems with the title, or something else. This variable is denoted *SLDASIS*. Foreclosed properties described as being in poor condition (*PCOND*) should sell at a discount; foreclosed properties are more often in poor condition than non-foreclosed properties.⁶ Alabama has a statutory right of redemption statute that permits foreclosed property owners to potentially redeem their property within 12 months of the foreclosure auction after paying interest and expenses, which is one of the longest redemption periods in the country. The historical trend has been to reduce redemption rights and according to Baker, Miceli, and Sirmans (2008) there were 28 states with statutory rights of redemption in 1937 with that number being reduced to 17 by 1992. According to Quinn (2014), there were 13 states with a statutory right of redemption in 2014. Redemption statutes create what is essentially a call option on the property; a dummy variable (*RPERD*) captures the potential decrease in value of being sold within the right of redemption window. Quarterly and yearly dummy variables capture seasonal and cyclical pricing effects spanning 2004–2011; this is represented by the **TIME** matrix. In addition, the model includes location dummy variables denoted by the matrix **LC**. These are defined by Census tracts, which range from 97 to 126, depending on the time. The inclusion of Census tract dummy variables improves the explanatory fit of the regression and substantially reduces spatial correlation.

The primary focus of this study is the effect of the owner and financing terms on the net selling price; these effects are captured by the variables in the matrices **OWN** and **FT**, respectively. The ownership categories include FHA and VA (*FHAVAOWN*), commercial banks (*CBKOWN*), other commercial lenders such as other mortgage banking companies (*OCLOWN*), and GSEs, including Fannie Mae and Freddie Mac (*GSEOWN*), and investor owned for resale purposes (*INVRSON*). The financing term categories consist of cash (*FTCASH*), conventional financing through Fannie Mae and Freddie Mac (*FTCONV*), and FHA or VA financing (*FTFHVA*). The omitted variables in the matrices to avoid singularity


Exhibit 2. Description of Variables

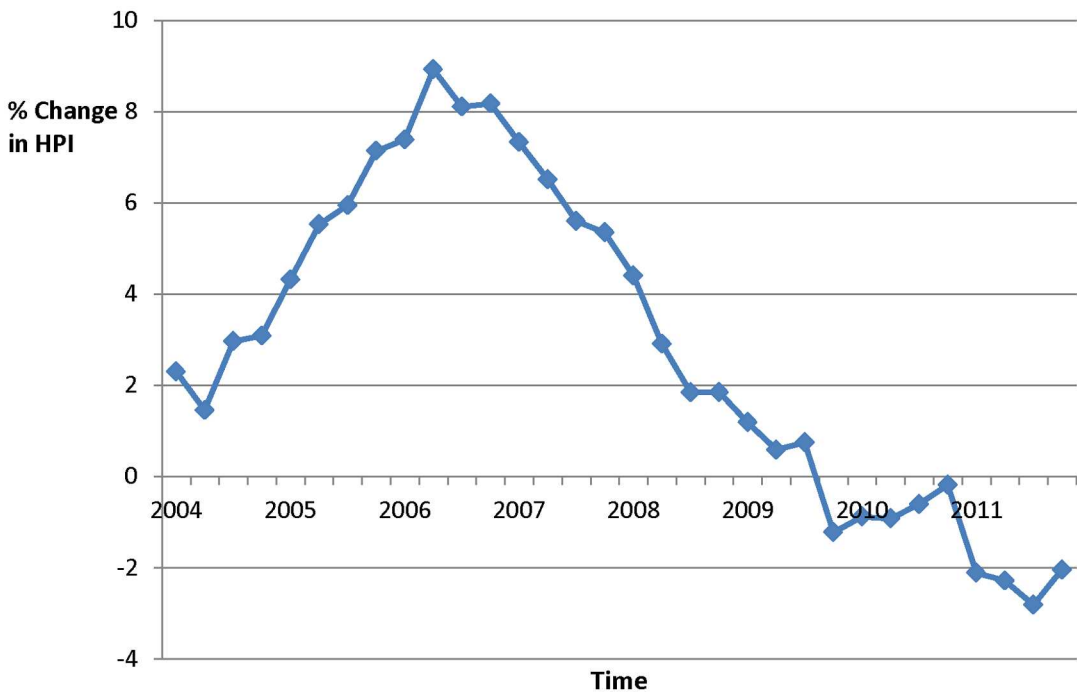
Variable	Description
<i>NSP</i>	Net selling price of the property (selling price minus closing costs and points paid by seller).
<i>AGE</i>	The age of the house in years.
<i>BEDRMS</i>	Number of bedrooms in the house.
<i>CENTAC</i>	Dummy variable for presence of central air conditioning.
<i>FIREPL</i>	Dummy variable for presence of a fireplace.
<i>GARAGE</i>	Dummy variable for presence of a garage.
<i>SQFT</i>	Number of heated square feet of the house (in thousands).
<i>TOTBATHS</i>	Total number of baths in the house.
<i>PCOND</i>	Dummy variable for a property described in poor condition.
<i>RPERD</i>	Dummy variable for property sold in the redemption period.
<i>SLDASIS</i>	Dummy variable for a property sold "As-Is."
<i>FHAVAOWN</i>	Property owned by FHA/VA.
<i>CBKOWN</i>	Dummy variable for property owned by a commercial bank (omitted variable).
<i>OCLOWN</i>	Dummy variable for a property owned by other commercial lenders.
<i>GSEOWN</i>	Dummy variable for a property owned by a government-sponsored entity (Fannie Mae or Freddie Mac).
<i>INVRDOWN</i>	Dummy variable for a property owned by an investor re-seller.
<i>FTCASH</i>	Dummy variable for a property sold in a cash transaction.
<i>FTCONV</i>	Dummy variable for a property sold in a conventional loan transaction (omitted variable).
<i>FTFHVA</i>	Dummy variable for a property sold in an FHA/VA transaction.
<i>Q1</i>	Dummy variable for the first quarter of a year (omitted).
<i>Q2</i>	Dummy variable for the second quarter of a year.
<i>Q3</i>	Dummy variable for the third quarter of a year.
<i>Q4</i>	Dummy variable for the fourth quarter of a year.
<i>SLDYR04</i>	Dummy variable for a property sold in 2004 (omitted variable).
<i>SLDYR05</i>	Dummy variable for a property sold in 2005.
<i>SLDYR06</i>	Dummy variable for a property sold in 2006.
<i>SLDYR07</i>	Dummy variable for a property sold in 2007.
<i>SLDYR08</i>	Dummy variable for a property sold in 2008.
<i>SLDYR09</i>	Dummy variable for a property sold in 2009.
<i>SLDYR10</i>	Dummy variable for a property sold in 2010.
<i>SLDYR11</i>	Dummy variable for a property sold in 2011.

Notes: The sources are the North Alabama Multiple Listing Service and official recorded deeds and mortgages for Madison County, Alabama.

in the regression equation are commercial bank owned and conventional financing, respectively; these form the base for comparison.

Although the price model includes quarter and year time dummies, the market conditions before, during, and after the severe recession in 2008–2009 may have caused a fundamental shift in the explanatory variables. The housing debacle disrupted the supply

Exhibit 3. Percentage Change in Huntsville, AL MSA Housing Pricing Index from 2004:Q1 to 2012:Q1



and demand for houses, leaving large quantities of unsold houses and buyers with few or no sources of financing. Exhibit 3 shows the housing price index (HPI) in the Huntsville, Alabama MSA from 2004:Q1 to 2011:Q4. Based on the data shown in the graph, additional sub-periods are examined. The first is the period when the percentage change in the HPI increased, which spans 2004:Q1 to 2006:Q4. The second is when the percentage change in the HPI decreased but was still positive relative to the beginning of the sample period; this period includes 2007:Q1 to 2009:Q3. The third is the worst period of the percentage change in the HPI, which is 2009:Q4 to 2011:Q4; this period has negative growth. While the HPI improved from 2009:Q4 to 2010:Q4, it declined again for three quarters before beginning to improve again, yet it was still -2% in 2011:Q4.

Data

The data for this study were obtained from the North Alabama Multiple Listing Service and from official recorded deeds and mortgages for Madison County, Alabama. A sample of 1,941 foreclosed single-family houses was drawn from 14,365 sales records in Huntsville and Madison, Alabama occurring from January 2004 through December 2011. Financing terms observations (FT) were excluded if they did not occur through conventional, FHA or VA, or for cash; in some cases, the financing was unknown. In total, 193 selling term observations were eliminated from the final sample.⁷ In addition, 47 observations were removed because of missing or unknown ownership (OWN). Some of

Exhibit 4. Descriptive Statistics of Sample and Selling Terms Sub-Samples

Variable	Full Sample		Cash		Conventional		FHA/VA	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<i>NSP</i>	\$78,944	\$56,708	\$59,484	\$39,853	\$85,827	\$62,779	\$104,219	\$54,634
<i>AGE</i>	33.45	11.58	36.61	9.03	32.52	12.10	28.66	13.21
<i>SQFT</i>	1.63	0.62	1.49	0.52	1.70	0.68	1.78	0.56
<i>BEDRMS</i>	3.29	0.63	3.21	0.58	3.32	0.65	3.38	0.66
<i>TOTBATHS</i>	1.83	0.61	1.67	0.54	1.89	0.63	1.99	0.59
<i>CENTAC</i>	0.92	0.27	0.90	0.30	0.92	0.28	0.96	0.19
<i>FIREPL</i>	0.39	0.49	0.30	0.46	0.41	0.49	0.52	0.50
<i>GARAGE</i>	0.54	0.50	0.50	0.50	0.55	0.50	0.64	0.48
<i>Q2</i>	0.23	0.42	0.24	0.43	0.24	0.43	0.19	0.39
<i>Q3</i>	0.25	0.44	0.24	0.43	0.25	0.43	0.31	0.46
<i>Q4</i>	0.26	0.44	0.29	0.45	0.24	0.43	0.26	0.44
<i>SLDYR05</i>	0.08	0.27	0.04	0.20	0.11	0.31	0.08	0.27
<i>SLDYR06</i>	0.12	0.32	0.08	0.28	0.16	0.36	0.06	0.24
<i>SLDYR07</i>	0.11	0.31	0.11	0.31	0.13	0.34	0.03	0.17
<i>SLDYR08</i>	0.13	0.34	0.12	0.33	0.14	0.34	0.14	0.35
<i>SLDYR09</i>	0.16	0.36	0.18	0.39	0.11	0.31	0.26	0.44
<i>SLDYR10</i>	0.12	0.33	0.16	0.37	0.09	0.29	0.13	0.34
<i>SLDYR11</i>	0.17	0.38	0.22	0.42	0.12	0.32	0.25	0.44
<i>SLDASIS</i>	0.43	0.49	0.46	0.50	0.43	0.50	0.32	0.47
<i>PCOND</i>	0.02	0.16	0.03	0.18	0.02	0.15	0.00	0.07
<i>RPERD</i>	0.86	0.35	0.83	0.38	0.88	0.33	0.86	0.35
<i>FHAVAOWN</i>	0.27	0.44	0.32	0.47	0.23	0.42	0.24	0.43
<i>CBKOWN</i>	0.32	0.47	0.33	0.47	0.33	0.47	0.25	0.44
<i>OCLOWN</i>	0.14	0.35	0.12	0.33	0.17	0.38	0.08	0.27
<i>GSEOWN</i>	0.22	0.41	0.21	0.40	0.22	0.41	0.23	0.42
<i>INVRDOWN</i>	0.06	0.23	0.02	0.14	0.05	0.22	0.19	0.39
<i>FTCASH</i>	0.36	0.48	1.00	0.00	0.00	0.00	0.00	0.00
<i>FTCONV</i>	0.51	0.50	0.00	0.00	1.00	0.00	0.00	0.00
<i>FTFHVA</i>	0.14	0.34	0.00	0.00	0.00	0.00	1.00	0.00

Note: The number of observations for the full sample is 1,539; for cash = 548; for conventional is 782; and for FHA/VA is 209.

the remaining sample observations had missing variables, or they were badly coded; 162 observations were removed for this reason. The final sample consists of 1,539 sales from 2004:Q1 to 2011:Q4.

Findings

Exhibit 4 shows the descriptive statistics of the entire sample and the financing terms subsamples. The average net sales price of foreclosed houses is \$78,944 for the entire period; however, the financing terms subsamples ranges from \$104,219 for FHA/VA

properties to \$59,484 for cash sales. The FHA/VA financed properties are owner-occupant only, and sellers may ask a premium for the time and effort for a buyer to qualify under FHA/VA standards. Also, conventional financing underwriting standards have been considerably stricter since the housing debacle. This is apparent in Exhibit 4 as conventional financing reached its maximum of 16% of total mortgage originations in 2006, while FHA/VA jumped to 26% of total originations in 2009 after being only 6% of originations in 2006. Cash sales increased markedly during the Great Recession as lenders became much more cautious; properties for investment purposes were typically financed with cash. Of total cash transactions from 2006 to 2011, the lowest percentage occurred in 2005 at 4%, while the highest percentage occurred in 2011 at 22%. Still, conventional financing represents about half of the total sample transactions, while cash sales are 36% and FHA/VA financing is only 14%.

Exhibit 5 shows the descriptive statistics for the ownership subsamples. Properties owned by investors for resale purposes had the highest net selling price of \$108,118, while properties owned by the FHA/VA had the lowest average net selling price of \$63,102. The largest proportion of foreclosure sales occurred in 2009–2011 except for other commercial lenders (primarily mortgage banking firms) whose foreclosure sales occurred earlier.

The fixed-effects net selling price regression findings are reported in Exhibit 6 for 2004–2011, and for the previously defined sub-periods. All regression model results are statistically significant at the 1% level; the fixed effects dummy variables number from 97 to 126 census tracts depending on the regression, and all models have statistically significant fixed effects at the 1% level. Regression coefficients are corrected for heteroscedasticity using the White (1980) method.

The coefficients for the house attributes are consistent with expectations. The *AGE* coefficient indicates that an additional year decreases the net selling price of the house from 0.7% to 1% depending on the period of time; the net selling price also increases with heated square footage at a rate of 31%–36% per 1,000 square feet. Property prices increased from 2004 to 2007, when prices peaked at 24.2% above the 2004 price level.⁸ Properties sold “As-Is” had a 2.6%–5% lower net selling price than properties in better condition, suggesting that the properties with the disclaimer sold for a reduced selling price. The net selling price for properties in poor condition was an average of 13% less for the 2004–2011 period, with the highest discount of 24.9% occurring in 2004–2006 and declining to a 11.9% discount in 2007:Q1–2009:Q3; there is no statistically significant discount in 2009:Q4–2011:Q4. In addition, there was no statistically significant discount related to the right of redemption period during the period of study.

Of particular interest is the effect of type of ownership and financing on the net selling price. The comparison base is property owned by commercial banks. Exhibit 6 shows that other commercial lenders had no net sales price discounts for any of the time periods studied. Also, although the FHA/VA property coefficient suggests a price discount of 3% for the entire time period, the discounts are less in the sub-periods and they are not statistically significant.⁹ Net selling price premiums occurred for GSEs (Fannie Mae and Freddie Mac) of approximately 3.6%, although it varied with a maximum of 4.7% from 2004 to 2006. Investor re-sale property owners had a substantial premium of 24.4%–

Exhibit 5. Descriptive Statistics of Ownership Subsamples

Variable	FHA / VA		Comm. Bank		Other Comm. Lender		GSE		Investor Resale	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<i>N</i> SP	\$63,102	\$33,833	\$78,996	\$62,132	\$78,958	\$62,002	\$90,542	\$62,968	\$108,118	\$49,469
<i>AGE</i>	33.95	11.27	34.22	10.74	33.86	10.33	32.35	13.47	30.04	12.11
<i>SQFT</i>	1.49	0.44	1.68	0.68	1.65	0.71	1.73	0.67	1.63	0.46
<i>BEDRMS</i>	3.16	0.57	3.33	0.63	3.32	0.66	3.35	0.68	3.35	0.52
<i>TOTBATHS</i>	1.75	0.51	1.83	0.62	1.80	0.66	1.91	0.66	1.89	0.54
<i>CENTAC</i>	0.95	0.21	0.87	0.34	0.91	0.29	0.94	0.24	0.98	0.15
<i>FIREPL</i>	0.33	0.47	0.39	0.49	0.29	0.45	0.49	0.50	0.46	0.50
<i>GARAGE</i>	0.56	0.50	0.51	0.50	0.48	0.50	0.61	0.49	0.58	0.50
<i>Q2</i>	0.22	0.42	0.22	0.42	0.29	0.46	0.24	0.43	0.17	0.38
<i>Q3</i>	0.25	0.43	0.27	0.44	0.22	0.41	0.24	0.43	0.31	0.47
<i>Q4</i>	0.26	0.44	0.27	0.44	0.23	0.42	0.26	0.44	0.27	0.45
<i>SLDYR05</i>	0.06	0.24	0.08	0.27	0.14	0.35	0.06	0.23	0.10	0.30
<i>SLDYR06</i>	0.08	0.27	0.12	0.32	0.25	0.43	0.09	0.29	0.09	0.29
<i>SLDYR07</i>	0.06	0.24	0.15	0.36	0.22	0.42	0.04	0.19	0.10	0.30
<i>SLDYR08</i>	0.11	0.32	0.16	0.37	0.15	0.36	0.10	0.30	0.13	0.34
<i>SLDYR09</i>	0.20	0.40	0.16	0.37	0.07	0.26	0.12	0.33	0.27	0.45
<i>SLDYR10</i>	0.08	0.28	0.13	0.34	0.03	0.16	0.22	0.42	0.11	0.32
<i>SLDYR11</i>	0.18	0.39	0.14	0.35	0.03	0.18	0.31	0.46	0.15	0.36
<i>SLDASIS</i>	0.28	0.45	0.55	0.50	0.56	0.50	0.43	0.50	0.06	0.23
<i>PCOND</i>	0.00	0.07	0.05	0.21	0.04	0.19	0.01	0.11	0.01	0.11
<i>RPERD</i>	0.77	0.42	0.89	0.32	0.85	0.35	0.93	0.26	0.82	0.39
<i>FTCASH</i>	0.44	0.50	0.37	0.48	0.30	0.46	0.34	0.47	0.12	0.33
<i>FTCONV</i>	0.44	0.50	0.53	0.50	0.62	0.49	0.51	0.50	0.43	0.50
<i>FTFHVA</i>	0.13	0.33	0.11	0.31	0.07	0.26	0.15	0.36	0.45	0.50

Note: The number of observations for the FHZ/VA sample is 408; for commercial bank = 493; for other commercial lender is 218; for GSE is 331; and for investor resale is 89.

Exhibit 6. Net Selling Price Regression

Variable	2004:Q1–2011:Q4	2004:Q1–2006:Q4	2007:Q1–2009:Q3	2009:Q4–2011:Q4
	Coeff.	Coeff.	Coeff.	Coeff.
AGE	−0.008***	−0.007***	−0.008***	−0.010***
SQFT	0.312***	0.363***	0.318***	0.363***
BEDRMS	0.006	−0.045**	0.001	0.004
TOTBATHS	0.061***	0.060***	0.066***	0.022
CENTAC	0.164***	0.127***	0.192***	0.124***
FIREPL	0.027*	0.066**	0.031	−0.014
GARAGE	0.098***	0.101***	0.116***	0.071***
Q2	0.013	0.060**	−0.003	−0.035
Q3	−0.009	0.031	0.002	−0.074**
Q4	−0.016	0.071***	−0.066**	−0.149***
SLDYR05	0.083***	0.098***	—	—
SLDYR06	0.214***	0.234***	—	—
SLDYR07	0.217***	—	—	—
SLDYR08	0.140***	—	−0.088***	—
SLDYR09	0.084***	—	−0.194***	—
SLDYR10	0.062***	—	—	−0.156***
SLDYR11	−0.040*	—	—	−0.251***
RPERD	0.016	−0.024	0.025	0.019
SLDASIS	−0.034***	−0.040**	−0.026	−0.051**
PCOND	−0.139***	−0.287***	−0.127***	0.034
FHAVAOWN	−0.030**	−0.003	−0.018	−0.021
OCLOWN	−0.003	0.042*	−0.021	0.018
GSEOWN	0.035**	0.046*	0.029	0.044*
INVRSOWN	0.258***	0.228***	0.218***	0.260***
FTCASH	−0.106***	−0.107***	−0.103***	−0.117***
FTFHVA	0.098***	0.021	0.136***	0.090***
Adj. R ²	0.87	0.89	0.89	0.87
Log-Likel.	367.21***	224.42***	238.51***	112.29***
F.E. Tracts	126	101	97	107

Notes: The dependent variable of the regression is the natural logarithm of the net selling price of the property. The findings show that square footage (*SQFT*), the number of bathrooms (*TOTBATHS*), central A/C (*CENTAC*), a fireplace (*FIREPL*), and a garage (*GARAGE*) increase the net selling price. Physical house age (*AGE*) decreases the net selling price, while the number of bedrooms (*BEDRMS*) is generally not statistically significant. Quarterly seasonal variables (*Q2*, *Q3*, and *Q4*) are not statistically significant in 2004:1–2011:4, although there is statistical significance in some sub-periods. House prices increased from 2005 to 2007 relative to the base year (2004), remained above the 2004 selling price level until 2010 before dropping below the 2004 level in 2011. Properties sold “As-Is” (*SLDASIS*) and those in poor condition (*PCOND*) sell at a discount. The presence of a right of redemption Alabama statute (*RPERD*) is not statistically significant in the regressions. FHA- and VA-owned properties (*FHAVAOWN*) have net selling prices with no statistically significant discounts or premiums relative to properties owned by commercial banks (*CBKOWN*) in the three sub-periods from 2004 to 2011. Also, other commercial lenders (*OCLOWN*) have net selling prices that are generally not statistically different from commercial lenders, although a 4.3% premium is present in 2004–2006. Properties owned by government-sponsored entities (*GSEOWN*) sell for a 3.6% premium in 2004:Q1–2011:Q4, ranging from 2.9% to 4.7% in sub-periods, while investor-


Exhibit 6. Net Selling Price Regression (continued)

owned properties sell at a 29.4% premium in 2003:Q1–2011:Q4, ranging from 24.4% to 29.7%. Properties selling for cash have an average 10.1% lower net selling price, ranging from a 9.8% to a 11.0% discount relative to conventional financing. Properties selling through FHA and VA have an average 10.3% premium, ranging from 2.1% to 14.6%. The number of observations for 2004:Q1–2011:Q4 is 1,539; for 2004:Q1–2006:Q4 is 468; for 2007:Q1–2009:Q4 is 542; and for 2009:Q4–2011:Q4 is 529.

* Statistically significant at the 10% level.

** Statistically significant at the 5% level.

*** Statistically significant at the 1% level.

29.7%, which likely reflects the effect of property updates made by the investor prior to resale.

Financing arrangements also had a statistically significant influence on net selling prices. Properties purchased with cash had a discount of 9.8%–11.0%, with the discounts remaining in a narrow band regardless of the time period. FHA/VA financed properties sold for more during the entire time; however, the premium varied significantly from as little as 2.1% (2004–2006) to 14.6% (2007:Q1–2009:Q3). It is possible that a small part of this outcome could be attributed to some real estate agents not adequately recording closing costs paid by the seller on behalf of the buyer and added to the purchase price, but that possibility is unlikely to account for the magnitude of the premium observed. Closing costs were considered by using the selling price net of all closing costs paid by the seller on behalf of the buyer. Also, the large jump in the premium in 2009–2011 is consistent with the fact that mortgage loans were much more difficult to obtain immediately after the housing crash, and for many borrowers the only loans for which they could qualify were FHA and VA. Evidence of tighter standards is that the FHA/VA percentage of mortgages underwritten jumped from 6% in 2006 to 26% in 2009. Underwriting times became extraordinarily long for these loans and many of them never closed because of stricter underwriting and borrower weakness. Higher premiums in 2007:1–2009:3 may reflect differences in FHA loans versus others during that time because many FHA borrowers took advantage of down payment assistance programs such as the Nehemiah Program, which increased the cost due to a required donation and a processing fee.¹⁰

Anecdotal evidence suggests that sellers wanted to receive a premium price if they were going to be subjected to the longer periods needed to close these loans and the high likelihood that the buyer would “fall out” and not receive final loan approval. According to Pennington-Cross and Nichols (2000), weaker borrowers are more likely to use FHA financing, so it is likely that the premiums on FHA/VA transactions are at least partially driven by the seller’s perception that these purchasers are riskier than those with cash or conventional financing. Since sellers could not definitively know which FHA/VA borrowers were strong, it is probable that they required a premium price for any buyers using FHA/VA.¹¹ This premium came about when the seller was unwilling to incur any of the closing costs for the buyer as they might have for a strong buyer that was very likely to close and, instead, simply added them to the purchase price. In these cases, the net selling price was higher for FHA/VA loans than for most other loan types.¹²

The net effect is that cash buyers and those buyers using financing that could signal strength through the financing they qualified for were likely to get better pricing. Cash buyers received the best pricing, especially after the market crash. Borrowers using conventional lending had to be financially strong during much of this period so they were considered very likely to close, while FHA/VA borrowers were viewed as possibly being financially weak. Longer closing times and a lower probability of closing for FHA/VA borrowers led sellers to this conclusion. Therefore, these buyers resided on the opposite side of the risk spectrum compared to cash buyers.

Implications and Conclusion

In this study, we examine the effect of property ownership and financing source on the net selling price of foreclosed properties. The housing market collapse of 2008–2009 and the ensuing aftermath had a profound effect on the prices and inventories of properties. The ownership and financing sources were expected to affect the net selling price of properties as large inventories of foreclosed houses placed downward pressure on prices.

The findings indicate that investor-owned properties sold at a large premium of 24.4%–29.7% compared to foreclosed properties sold by commercial banks; this premium did not change substantially during the three time segments analyzed. Properties owned by GSEs sold at a 3.6% premium in 2004–2011.

The financing terms findings support the expectation that cash selling terms are accompanied with lower net selling prices. Interestingly, however, while the effect is strong at a 9.8%–11.0% discount, it did not vary much over the 2004–2012. In addition, houses purchased with FHA/VA financing sold at a 14.6% premium in 2007:Q1–2009:Q3, and at a 9.4% premium during 2009:Q4–2011:Q4. This corresponds to the jump in FHA/VA financing loans in 2009–2011 shown in Exhibit 1.

The results suggest that house buyers and sellers relied on FHA and VA financing to a much greater extent during and after the housing crisis and this change influenced house pricing. Buyers were willing to pay more for FHA/VA properties due to the low down payments. In addition, the total payment might also have been lower as well compared to a conventional loan with a similar down payment (if one was even available), because the mortgage insurance (MI) premium was less expensive on FHA loans.¹³ Also, sellers likely wanted to be compensated for the additional time and effort required to close on a FHA/VA sale, especially during the early period when down payment assistance programs were popular with buyers, but increased the complexity of the loan process and resulted in a longer closing period. In addition, purchasers using FHA financing tended to be weaker buyers and therefore sellers may have held out for higher prices to compensate for borrower risk, i.e., less likely to be able to close the transaction. From a policy perspective, the government acted as a “lender of last resort” during and after the recent financial crisis, keeping FHA and VA financing available for home buyers. House sellers received substantial price premiums for these properties.

There are some very clear implications for regulators, mortgage lenders, buyers, and sellers. Cash buyers in all circumstances have a competitive advantage over other buyers, particularly in a financial environment when rigorous underwriting standards are imposed,

and will likely receive favorable pricing in comparison to those buyers using financing to purchase a home. Since most buyers use some type of financing, it would be to their benefit to provide an effective signal to sellers regarding not only the likelihood of the loan being approved, but also the amount of time it may take to close the loan and complete the purchase. Sellers expect to be compensated for increased risk and uncertainty; to the extent that products and processes can be developed that will decrease the uncertainty in the mortgage lending process, buyers will benefit from lower transaction prices.

Another important implication of this study is that regulators must do all they can to maintain the availability of mortgage loans, especially during periods of financial turmoil. Mortgage market problems have a direct effect on real estate liquidity and value. In the recent mortgage crisis and recession, the government and regulators were sending mixed messages to lenders, and that along with the financial hardships many were facing, led to a dramatic decrease in mortgage availability, especially for those with less than the very best credit and down payment capability. In the future, losses suffered in our financial and real estate markets should be markedly less if the financial market regulators and participants do a better job of maintaining mortgage availability even during periods of financial exigency.

Endnotes

- ¹ Foreclosed property that is currently owned by a financial institution is frequently called “REO” property, which is an acronym for “real estate owned” and comes from the accounting category frequently used for this type of property.
- ² Federal Reserve policy has allowed commercial banks access to inexpensive capital, particularly during the period of the Troubled Asset Relief Program (TARP) and quantitative easing. Commercial banks have been severely criticized for not making more homeowner loans, but given their diverse lending ability, banks could make money through other loans, refinancing activities, and investment activities using funds borrowed from the Fed at low interest rates. In addition, regulators required higher equity positions after the housing market failure, and the sale of foreclosed properties at discount prices often decreases the commercial banks’ equity position. However, commercial banks also faced pressure by regulators to sell foreclosed properties so the full extent of capital impairment could be recognized. Other commercial lenders, such as mortgage bankers, do not have access to capital at rates as inexpensive as commercial banks and do not have the high degree of regulatory scrutiny of their capital positions. Therefore, it is likely that it may be to their advantage to sell properties quickly even if they have to sell them at a discount.
- ³ For example, Countrywide made mortgage loans in the same way as many commercial banks, but as a non-bank financial institution they were regulated differently and did not have access to the same resources that a commercial bank would in the same circumstances. Historically, it has been extremely unlikely that bank regulators would let a bank simply fail. In most circumstances, they provide what help the bank may need while helping to arrange the purchase of the bank’s assets by another institution. This type of backing did not exist for non-bank institutions.
- ⁴ Ally Financial was formerly GMAC, which was the fourth-largest home mortgage lender prior to the financial crisis; 74% of Ally is owned by the U.S. Department of the Treasury.
- ⁵ The term “discount” is not defined in the article so it is not clear what original value is indicated.

- ⁶ The *PCOND* variable is determined by the description of the property by the listing agent for the public and other agents. In either case, terms are searched that indicate the need for significant repair or renovation. Terms include (a) needs repair, (b) fixer upper and handyman, (c) needs TLC, (d) needs work, or (e) poor condition. This variable should capture visible indicators that a property is in poor physical condition. The *SLDASIS* variable should capture poor property conditions that may not be apparent to the buyer, or that are worse than they may appear. In addition, it may capture title problems or other non-physical deficiencies of the property.
- ⁷ It is possible that the removal of observations based on financing and ownership could bias the sample. However, statistical tests indicate that removing these observations does not bias the findings.
- ⁸ Dummy variables are transformed as $y = e^x - 1$, where y is the change in the dependent variable and x is the corresponding regression coefficient. For *SLDYR07* for the full sample, $y = e^{0.217} - 1$, hence $y = 0.242$ or 24.2%.
- ⁹ The *FHAVAOWN* coefficient is negative in all sub-periods, although it is statistically significant only for the entire time. Regression coefficients can shift, particularly when data such as selling prices change substantially because of market gyrations. A statistically significant and somewhat larger coefficient may occur over the entire time compared to sub-periods because of shifting of the *FHAVAOWN* and other regression coefficients in sub-periods. In addition, insignificant coefficients in subsamples can occur because of a smaller number of observations, which decreases t -values.
- ¹⁰ In these types of programs, the seller made a “donation” to a non-profit third party like Nehemiah and generally paid a processing fee to the organization. The donation was typically 3% to 6% of the purchase price and the organization then turned around and gifted the down payment to the purchaser. In these cases, the seller was not only paying the down payment and closing costs for the buyer, but was also paying a processing fee on top of that in many cases. The time it took to close one of these loans was also dramatically extended. These types of down payment assistance programs were eliminated by the FHA in 2008 to cut loan losses.
- ¹¹ Because of the difficulty of obtaining financing, sellers often wanted to see a preapproval letter from the buyer and that usually stated the type of loan. The selling agent would often send the preapproval letter with the offer.
- ¹² One drawback to this approach is that the house was even less likely to appraise for the purchase price, and given that appraisal standards were tightened at about the same time, the result was that more FHA/VA loans “fell out” and never closed and the bad reputation for FHA/VA loans among sellers just continued to get worse.
- ¹³ There is an up-front MI premium and a smaller monthly premium on an FHA loan compared to a conventional loan.

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