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The Impact of Recovery Efforts on Residential Vacancies

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Legislation aimed at stabilizing housing markets since the recession has focused on providing funding to acquire and remediate foreclosed and abandoned homes or providing financial assistance and incentives to purchase homes. Cuyahoga County has received over $100 million in such funds since 2008. We investigate the impact of these funds on vacancy rates. We examine neighborhoods in Cuyahoga County where National Stabilization Program dollars were spent and find that the program helped reduce vacancies in neighborhoods where properties were primarily purchased for consumption purposes.

Keywords: Vacancy, REO, depressed housing markets, neighborhood stabilization program (NSP), Housing and Economic Recovery Act of 2008, American Recovery and Reinvestment Act of 2009.

JEL Classifications: H59, O18, R58.

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1. Introduction

The Housing and Economic Recovery Act (HERA), enacted by Congress in July 2008, was an ambitious piece of housing legislation intended to shore up a slumping housing market and mitigate the effects of the foreclosure crisis, among other things. One of the components of this act is the Neighborhood Stabilization Program (known as NSP1), which authorized the allocation of $4 billion in block grant funds to states and local governments for the acquisition and rehabilitation or demolition of foreclosed and abandoned properties. The funds could also be used to resell the properties and to provide financing for their redevelopment or purchase. Six cities and five suburbs in Cuyahoga County received approximately $48 million.

Seven months after HERA was enacted, the American Recovery and Reinvestment Act (ARRA) was signed into law, providing an additional $1.93 billion dollars toward neighborhood stabilization activities. This second round of funding for neighborhood stabilization is known as NSP2. Cuyahoga County received $40.8 million. Cleveland received its own allocation of $16 million, half of which was used for demolition.

The intent of this paper is to quantify the extent to which the NSP interventions impacted the stability of the Cuyahoga County housing market above and beyond the impact of homebuyer tax credit incentives included in the same legislation. As a measure of market stability, we use vacancy rates. We examine the vacancy rate of properties that were previously owned by the lender (called real estate owned or REO) in and around areas targeted for NSP dollars. Focusing on REO transactions alone

helps us control for heterogeneity in property histories before the first observed transaction in our dataset. We control for a variety of property and neighborhood characteristics, as well as the intended use of the property after the purchase out of REO---as a residence for the buyer ("consumption") or as an investment.

We find that, overall, there is a negligible difference between the vacancy rates of former-REO properties in areas that received funding under the NSP1 and the vacancy rates among matched properties in non-NSP1 areas. The overall impact of NSP2 is also negligible. However, when we control for whether the buyer is buying for consumption or investment, we find an impact. Current vacancy rates of former-REO properties are lower in NSP areas than in non-NSP areas for properties that were purchased for consumption.

Our paper contributes to the growing body of evidence on what happens to a property after it is sold out of REO. Much of the research on the REO market focuses on who is buying and selling the REO properties, the geographic location of REO sales, the selling prices of REO properties, and the time on the market.

For example, Immergluck (2011) analyzed REO sales activity between 2005 and 2009 in Fulton County, Georgia. He examined the length of time properties spent in REO prior to be being purchased, who purchased the REOs, and at what price level. He found that investors have purchased an increasing share of REO properties over time and that they were more likely to purchase the lower-valued properties (less than $30,000) in

lower-income neighborhoods. Also, in neighborhoods with high levels of low-value REO sales, many of these properties remain vacant and distressed after the purchase.

In another study, Coulton, et al. (2010) examined REO sales activity and post-REO property values in Cuyahoga County, Ohio. Comparing the market value of properties prior to foreclosure and the sales price after they emerged from REO status, the researchers found properties that left REO status in 2009 were selling for only 28 percent of their pre-foreclosure estimated market value compared to 76 percent for properties that left REO status in 2004. They also found that of those REOs selling for extremely distressed prices (less than $10,000) between 2004 and 2009, 49 percent were vacant by early 2010.

Unlike these two studies, our study takes into account differences across geographic locations that may be attributable to the presence of stabilization funds.

The rest of the paper is organized as follows. The next section describes our data and statistical methods. The third section presents the results. Section 4 concludes.

2. Data and Method

We evaluate the impact of the NSP funds on Cuyahoga County's REO market through its effect on the current vacancy status of former-REO properties. We concentrate on REO properties for two reasons. First, as properties that have already gone through foreclosure, REOs are vacant and vulnerable to vandalism and deterioration. An intervention that reduces vacancies would be most valuable to the neighborhoods.

Second, REO status provides a common starting point for all the properties. In the absence of a common starting point, the history of the property at the time of the first transaction (the type of seller, vacancy status, the reason for sale) becomes relevant. REO properties, by contrast, are all owned by a financial institution or government agency and they are all vacant initially.

We identify the areas that were targeted by NSP (1 and 2) funds by examining the NSP plans that were developed by each community. The plans described how and where the community intended to use the funds. In most cases, these areas were particular census tracts within a community, without any reference to specific properties. Within the city of Cleveland, we know exactly which properties were targeted by NSP 1 and which census block those properties are in.

Note that the same census block may have been targeted by either NSP 1 or NSP 2 or it may have been targeted by both. To capture different block types, we split the sample in six categories, depicted in Figure 1, and analyze each one separately. The first category contains properties that are in a census block targeted by NSP 1, the second contains properties in NSP 2 census blocks, the third has properties that are in NSP 1 but not in NSP 2, the fourth contains properties in NSP 2 but not in 1, the fifth covers properties in census blocks covered by both NSPs, and the sixth is the full sample, that is properties in blocks targeted by NSP 1 or 2.

Information on property sales, including the address and parcel number, the identity of the buyer and the seller and the transaction price, comes from Cuyahoga County

auditor records from 2006 until the end of 2010. We include only residential properties—single-family homes, two-family homes, three-family homes, and condominiums. Properties with a sales amount of zero are excluded from the analysis.[1]

We group the REO buyers into three categories: investors, nonprofits, and individuals. REO sellers are either government agencies or banks/mortgage servicers. We cannot distinguish between banks that own the mortgage and those that act as a servicer, but we do distinguish between local banks and nonlocal banks, where localness means having a branch in the county.

We assigned buyers and sellers to the appropriate categories using information in the county record. First, we looked at buyers' and sellers' names. For example, names which included LLC, CO, Group, or Inc. were placed in the investor group. Next, we looked at the number of properties any one person has bought or sold. Individuals who bought or sold more than three properties over a five-year period (2006-2010) were also placed in the investor group. Individuals who bought or sold fewer than four properties over the five-year period were classified as individuals.

In addition to data on sales transactions, we obtained information about property characteristics from Cuyahoga County auditor records. We also got data on the demographic characteristics of the census blocks, such as income, race, and educational

[1]HUD properties with a zero sales prices were found on the County Recorder's site and the transfer amount was entered manually. (For more information on this issue, see Coulton, et al. 2008.)

attainment levels of the residents, from the Census Bureau, vacancy data from the United States Postal Service (USPS), and tax delinquency data from the Cuyahoga County treasurer.

Estimation Strategy

We measure the impact of the NSP by comparing the current vacancy status of formerly-REO properties inside and outside the areas that received NSP funds. We focus only on properties sold out of REO after September 2008, when NSP allocations were announced. Other incentives in the same legislation, such as the homebuyer tax credit, applied to all localities while NSP applied only to some. We use this geographic discontinuity to identify the impact of NSP.

We measure the impact using two different methods in order to ensure that our results are robust. First, we run a logistic regression to estimate the probability that a property that was sold out of REO is vacant conditional on buyer type and whether it is in an NSP1 or 2 census block. Also included in this part of the analysis are property and neighborhood characteristics, the time elapsed since the property has been out of REO and whether the seller was a local bank, nonlocal bank or a government agency (VA, FHA, housing GSEs). A complete list of variables is in Table 1.

Our second method accounts for the fact that real estate markets are highly localized and there may still be unobservable differences that cannot be captured by the covariates we have included in the logistic regression. Table 2, Panel A shows the REO property characteristics inside and outside the NSP areas. REO properties in NSP areas

tend to be older, cheaper, and located in the city of Cleveland and in high-minority areas. To get around this problem of unobserved characteristics, we take all our REO sales in NSP areas and match them with REO sales in non-NSP areas if the properties meet the following conditions:

- The matched property must be sold out of REO within 90 days of the sale of the NSP property
- Both properties must have the same property tax delinquency status.
- The non-NSP properties must be in census blocks within 1 mile of the properties in NSP- targeted census blocks
- Both properties must be purchased out of REO by the same type of buyer

Note that as we vary the definition of NSP areas, as in Figure 1, the excluded properties (properties that received some NSP money but not covered by the particular NSP definition we are interested in) are not available as a match.

We do not always get a unique match with this procedure. Some properties have more than 40 matches that meet these conditions. To find the best match for NSP properties with multiple matches, we calculate the distance between the NSP and the matched non-NSP properties based on total usable area of the property, age of the property and the sale price out of REO. We choose the property with the minimum distance as the best match (procedure described in Bergstralh et al., 1996). Table 2, Panel B shows the REO property characteristics inside and outside NSP areas in the matched sample.

Note that the properties are now very similar even in characteristics that were not used in the matching procedure.

After the matching, we compare the average vacancy rates of NSP and non-NSP properties based on the type of buyer and whether the property has been sold again.

3. Results

Table 3, Panel A presents the results from a univariate analysis. Investors are the most common buyers of REO properties inside and outside NSP 1 areas. Results are similar for NSP 2 (not shown). Nonprofits buy very few properties, but they also have the highest vacancy rates. This is possibly because they purchase properties in the worst markets of the county. Panel B confirms that properties bought by nonprofits have by far the lowest prices, are likely to be older, and are more likely to be in the minority-dominated areas of Cleveland.

Vacancy rates are higher for all types of REO buyers in NSP areas. But once again, this could be because NSP areas are in worse shape than non-NSP areas to begin with. Our logistic regressions take into account the disparities in neighborhood and property characteristics. The results are in Table 4. Current vacancy rates are still likely to be highest among nonprofit REO buyers, followed by investors, and lowest among individuals. The presence of NSP dollars reduces vacancy rates only if the REO has been purchased by an individual and only in NSP 1 areas. NSP 2 had no impact on vacancies although its more recent history may be the culprit. That is, if NSP dollars are

stabilizing the areas they are invested in, one may have to observe these areas for a longer period than we did, to see the impact of greater stability.

The other control variables appear with the expected signs. Lower-priced, smaller, older, tax delinquent properties inside the city in high minority neighborhoods are more likely to be vacant today.

In Table 5, we compare NSP properties with matched non-NSP properties. While we lose some observations for which there is no match, the property and neighborhood characteristics of the observations that drop out of the sample are not statistically different from those of the observations that remain in the sample (results not shown).

At first glance, the NSP does not seem to have made a difference. Under the *All* column, vacancy rates inside and outside NSP areas are statistically indistinguishable. However, once we take the buyer heterogeneity into account, the matched dataset confirms that the vacancy rates decline if a property is purchased out of REO by an individual and only if the property is in an area targeted by NSP 1. These results also show that vacancy rates are higher in NSP 1 areas if the property is purchased by an investor.

Table 6 re-examines the data based on other transactions that may have taken place after the REO sale. We do not track transactions beyond the second one. If a property is returned to a bank or government agency, it is assumed to have gone through a new foreclosure. If a sample has fewer than 10 observations, we do not run a difference of

means test, as the sample is too small to be meaningful. Because properties acquired by nonprofits and individuals have not gone through foreclosure in the second transaction, those columns are omitted from the tables.

Once again, NSP 1 emerges as the program with a potential impact on vacancies. Properties that were purchased by investors and remained unsold are more likely to be vacant as of June 2011 if they were in an area targeted by NSP 1. One could speculate that these are properties purchased with the expectation of a recovery in targeted areas, but that expectation has not paid off. Individuals, on the other hand, seem to have benefited from NSP 1. Those who have not resold their properties are less likely to have abandoned their properties in NSP 1 areas. In other words, NSP 1 may have succeeded at stabilizing the housing market for individual homeowners.

An important question, however, is whether various types of buyers changed their behaviors as a result of NSP. In other words, if REO properties purchased by individuals in NSP 1 areas always had lower vacancy rates, our results are not a result of NSP but possibly the manifestation of some unobservable geographic characteristic.

We address this issue in Table 7, albeit imperfectly due to data constraints. Table 7 is a replica of Tables 5 and 6 but it includes REO properties purchased only before September 2008 in NSP 1 areas. The data constraint is that our vacancy data goes as far back as March 2010. That is, we can observe vacancies as early as 18 months after the

last REO transaction in September 2008. By contrast, in Table 5, we observe vacancies as of June 2011, six months after the last REO transaction in December 2010.[2]

With this caveat in mind, Table 7 shows that the vacancy outcomes of REO properties purchased before NSP 1 are indeed different. Properties purchased by investors are significantly less likely to be vacant if they are located in an area that will be targeted by NSP 1. There is no significant impact on REO properties purchased by individuals. We can only *speculate* that the expectation that the NSP would provide stability may have caused less cautious behavior among investors.

4. Conclusion

NSP funds were intended to stabilize declining housing markets by assisting communities in dealing with the REO problem. Our analysis shows that ignoring REO buyer heterogeneity can be misleading. NSP 1, in particular, seems to have reduced the incidence of vacancies in targeted areas. However, it may also have caused less cautious behavior among the investors, who are currently sitting on a large number of vacant properties inside NSP 1 areas.

[2] The period of time until the vacancy status is observed for a given property will vary based on when the property exits REO.

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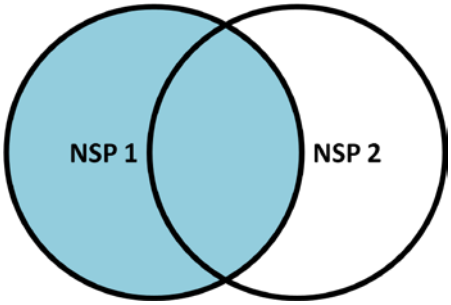
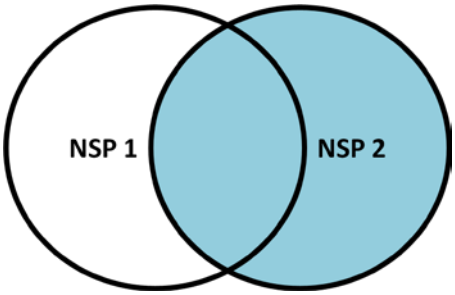
Figure 1



NSP 1



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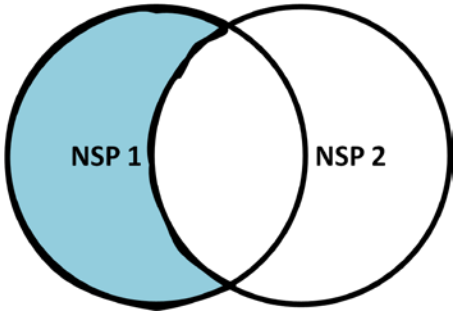
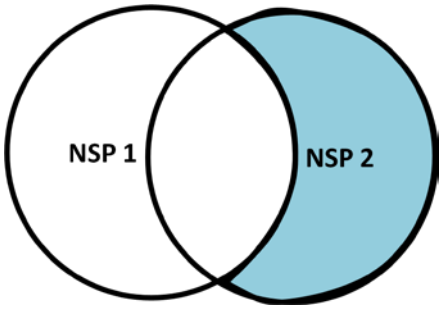
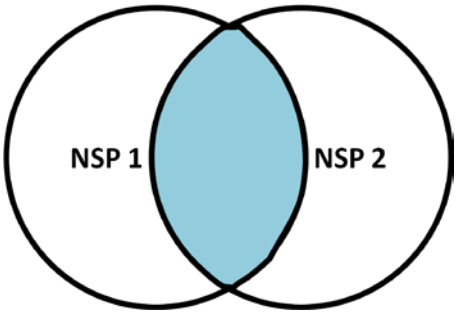


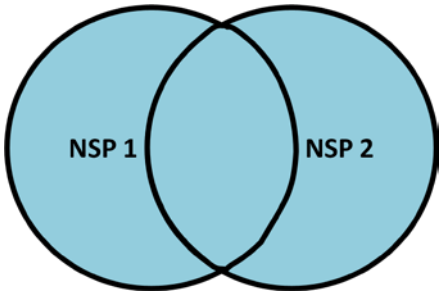
NSP 1 only



NSP 2 only



NSP 1 and 2



NSP 1 or 2

Table 1 – Variable Definitions

Variable	Description
REO Seller: Local Bank	Binary variable that equals one if the bank selling the REO property has a branch in Cuyahoga County
REO Seller: Non-Local Bank	Binary variable that equals one if the bank selling the REO property does not have a branch in Cuyahoga County or is a securitization trustee
REO Seller: Government	Binary variable that equals one if the REO seller is the VA, FHA, or the housing GSEs
Post REO Conveyance Amount	The sale price of the REO property out of REO; used in regressions in logged-form
Tax Delinquency	Binary variable that equals one if the property has been property tax delinquency in the six months prior to REO sale
Age of Property (Years)	Used in regressions in logged-form
Property Size (SqFt)	Area of the parcel; used in regressions in logged-form
Neighborhood Vacancy Rate	Vacancy rate of the census block in 2000 Census
Neighborhood: Educational Attainment Less than High School	Percentage of the census block population with less than a high school degree in 2000 Census
Neighborhood African American Population	Percentage of the census block population that is African American in 2000 Census
Neighborhood in Cleveland	Binary variable that equals one if the property is located in the City of Cleveland

Table 2 – Panel A: Sample Statistics

(In percentages unless indicated otherwise)			PANELA–Full Sample		PANELB-Matched	
			NSP1	NSP2	NSP1	NSP2
	Non-NSP	N	12,331	13,446	4,811	3,994
	NSP		5,905	4,790	4,811	3,994
REO Seller: Local Bank	Non-NSP	Mean	13	12	13	13
	NSP		12	14	12	14
		Means Test: t	2.57	(2.63)	0.56	(1.40)
REO Seller: Non-Local Bank	Non-NSP	Mean	62	62	67	66
	NSP		65	65	66	66
		Means Test: t	(3.96)	(4.01)	0.60	(0.17)
REO Seller: Government	Non-NSP	Mean	25	26	21	21
	NSP		23	21	22	20
		Means Test: t	2.46	6.57	(1.15)	1.39
Post REO Conveyance Amount ($)	Non-NSP	Mean	44,165	42,471	16,889	15,248
		Median	25,800	25,000	8,500	9,000
		Std.Dev.	60,724	59,010	24,253	20,993
		Min	1	1	1	1
		Max	1,215,000	1,215,000	604,135	390,000
	NSP	Mean	17,177	15,649	16,857	15,611
		Median	9,000	9,500	8,500	9,672
		Std.Dev.	21,029	18,425	21,092	17,626
		Min	1	1	1	1
		Max	218,500	285,000	218,500	212,500
		Means Test: t	33.21	30.92	0.07	(0.84)
Tax Delinquency	Non-NSP	Mean	24	25	24	23
	NSP		28	27	24	23
		Means Test: t	(5.15)	(3.88)	0.00	0.00
Age of Property (Years)	Non-NSP	Mean	76	76	87	89
		Median	82	81	90	90
		Std.Dev.	24	25	20	18
		Min	3	3	6	9
		Max	210	210	150	150
	NSP	Mean	86	89	87	89
		Median	90	90	90	90
		Std.Dev.	22	20	22	20
		Min	4	5	4	5
		Max	210	200	210	170
		Means Test: t	(27.91)	(33.87)	(1.56)	1.20

(In percentages unless indicated otherwise)			PANELA–Full Sample		PANELB-Matched	
			NSP1	NSP2	NSP1	NSP2
	Non-NSP	N	12,331	13,446	4,811	3,994
	NSP		5,905	4,790	4,811	3,994
Property Size(SqFt)	Non-NSP	Mean	1,550	1,529	1,510	1,496
		Median	1,393	1,372	1,404	1,395
		Std.Dev.	624	612	501	526
		Min	340	340	504	504
		Max	8,610	8,610	5,612	5,612
	NSP	Mean	1,519	1,569	1,522	1,543
		Median	1,390	1,440	1,400	1,412
		Std.Dev.	541	560	528	539
		Min	429	480	429	480
		Max	4,995	4,995	4,995	4,995
		Means Test: t	3.18	(3.96)	(1.13)	(3.91)
Neighborhood Vacancy Rate	Non-NSP	Mean	8	8	11	10
		Median	6	6	10	10
		Std.Dev.	5	6	6	5
		Min	0	0	1	1
		Max	41	31	31	28
	NSP	Mean	12	12	12	12
		Median	11	13	12	12
		Std.Dev.	6	5	6	5
		Min	1	1	1	1
		Max	41	41	41	41
		Means Test: t	(50.24)	(44.21)	(13.59)	(11.14)
Neighborhood: Educational Attainment Less than High School	Non-NSP	Mean	23	22	29	31
		Median	21	19	29	31
		Std.Dev.	13	13	13	12
		Min	0	0	0	0
		Max	76	76	76	66
	NSP	Mean	28	31	28	32
		Median	28	30	29	30
		Std.Dev.	13	11	13	11
		Min	5	2	5	2
		Max	76	68	76	68
		Means Test: t	(25.95)	(47.08)	0.31	(1.92)

(In percentages unless indicated otherwise)			PANELA–Full Sample		PANELB-Matched	
			NSP1	NSP2	NSP1	NSP2
	Non-NSP	N	12,331	13,446	4,811	3,994
	NSP		5,905	4,790	4,811	3,994
Neighborhood African American Population	Non-NSP	Mean	40	40	60	61
		Median	16	18	81	89
		Std.Dev.	40	39	39	40
		Min	0	0	0	0
		Max	100	100	100	100
	NSP	Mean	63	66	64	66
		Median	70	93	75	94
		Std.Dev.	36	37	36	38
		Min	0	2	0	2
		Max	100	100	100	100
		Means Test: t	(37.99)	(39.44)	(4.61)	(5.14)
Neighborhood in Cleveland	Non-NSP	Mean	49	39	60	84
	NSP		57	88	60	88
		Means Test: t	(10.54)	(58.60)	0.10	(5.02)

Table 3 - PANEL A: Vacancy Rates by Buyer Type in NSP 1 Areas

		Number of Purchases	Vacancy Rate (Percent)
Non-NSP	Investor	6,005	21
	Nonprofit	254	48
	Individual	5,869	10
NSP	Investor	3,765	30
	Nonprofit	300	64
	Individual	1,717	18

PANEL B: REO Property Characteristics by Buyer Type (Averages)

(In percentages unless indicated otherwise)	Investor	Nonprofit	Individual
REO Seller: Local Bank	13	5	14
REO Seller: Non-Local Bank	67	22	60
REO Seller: Government	20	73	27
Post REO Conveyance Amount	22,080	8,031	54,617
Tax Delinquency	27	22	23
Age of Property (Years)	84	90	73
Property Size (SqFt)	1,515	1,537	1,572
Neighborhood Vacancy Rate	10	12	7
Neighborhood: Educational Attainment Less than High School	27	29	21
Neighborhood African American Population	56	55	35
Neighborhood in Cleveland	59	76	41

Table 4 – Logistic Regressions

	NSP1	NSP2	NSP1 only	NSP2 only	NSP1 and 2	NSP1 or 2
Investor (1)	6.399***	7.994***	5.272***	7.202***	8.280***	6.604***
	(1.112)	(1.166)	(1.190)	(1.252)	(1.327)	(1.013)
Individual (2)	6.008***	7.568***	4.874***	6.771***	7.881***	6.198***
	(1.117)	(1.171)	(1.196)	(1.259)	(1.333)	(1.018)
Nonprofit (3)	6.991***	8.495***	5.934***	7.700***	8.687***	7.211***
	(1.113)	(1.165)	(1.188)	(1.246)	(1.321)	(1.018)
NSP*Investor	-0.098	-0.114	-0.051	-0.125	-0.079	-0.130
	(0.087)	(0.098)	(0.095)	(0.113)	(0.134)	(0.079)
NSP*Individual	-0.243**	-0.025	-0.305**	-0.054	0.054	-0.209**
	(0.121)	(0.133)	(0.137)	(0.155)	(0.200)	(0.106)
NSP*Nonprofit	0.250	-0.136	0.440	-0.536*	0.238	0.022
	(0.263)	(0.271)	(0.301)	(0.324)	(0.313)	(0.249)
LogExposure	-0.840***	-0.857***	-0.884***	-0.910***	-0.874***	-0.832***
	(0.049)	(0.051)	(0.052)	(0.054)	(0.057)	(0.045)
REO_Price	-0.230***	-0.252***	-0.221***	-0.261***	-0.290***	-0.220***
	(0.022)	(0.025)	(0.025)	(0.030)	(0.030)	(0.020)
Property_Size	-0.175**	-0.139*	-0.174	-0.135*	-0.207**	-0.129*
	(0.076)	(0.076)	(0.080)	(0.080)	(0.084)	(0.070)
Property_Age	0.504***	0.327***	0.590***	0.382***	0.356***	0.457***
	(0.115)	(0.109)	(0.125)	(0.119)	(0.125)	(0.103)
Useable_Area	-0.236**	-0.333***	-0.110***	-0.200*	-0.230*	-0.317***
	(0.102)	(0.106)	(0.112)	(0.116)	(0.121)	(0.093)
Tax_Delinq	0.100	0.167**	0.091**	0.174**	0.047	0.179***
	(0.176)	(0.046)	(0.181)	(0.012)	(0.113)	(0.122)
Local_Bank	0.075	0.080	0.082	0.088	0.093	0.068
	(0.115)	(0.121)	(0.126)	(0.134)	(0.138)	(0.104)
Non_Local Bank	0.150**	0.047	0.211	0.079	0.084	0.114*
	(0.076)	(0.079)	(0.082)	(0.087)	(0.090)	(0.069)
Block_Vacancy	3.157***	3.681***	3.110***	3.458***	2.795***	3.639***
	(0.773)	(0.827)	(0.860)	(0.946)	(1.002)	(0.681)
Block_Education	0.005	0.004	0.003	0.001	0.003	0.006*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)
Block_African	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
City	-0.284***	-0.444***	-0.263***	-0.432***	-0.492***	-0.284***
	(0.087)	(0.094)	(0.096)	(0.100)	(0.108)	(0.077)
Test: (1) vs. (2)	***	***	***	***	***	***
Test: (1) vs. (3)	**	**	***	**		***

***, **, and * denote significance at 1, 5 and 10 percent respectively.

Table 5 – Vacancy Rates by NSP Category and REO Buyer

		NSP1				NSP2			
REO BUYER		All	Investor	Individual	Non-Profit	All	Investor	Individual	Non-Profit
Non-NSP	N	2,109	1,355	651	103	1,598	1,034	487	77
	Mean	29.5%	28.9%	25.5%	64.1%	25.4%	25.6%	20.3%	54.5%
NSP	N	2,109	1,355	651	103	1,598	1,034	487	77
	Mean	30.2%	33.3%	18.3%	65.0%	26.9%	28.5%	18.5%	58.4%
t		-0.47	-2.49	3.15	-0.15	-0.97	-1.48	0.73	-0.49

		NSP1 Only				NSP2 Only			
REO BUYER		All	Investor	Individual	Non-Profit	All	Investor	Individual	Non-Profit
Non-NSP	N	1,551	974	513	64	1,040	653	349	38
	Mean	29.3%	29.4%	24.6%	65.6%	22.8%	24.5%	16.9%	47.4%
NSP	N	1,551	974	513	64	1,040	653	349	38
	Mean	28.9%	33.2%	16.6%	62.5%	23.2%	25.6%	16.0%	47.4%
t		0.24	-1.81	3.17	0.37	-0.21	-0.45	0.31	0.00

		NSP1 and 2				NSP1 or 2			
REO BUYER		All	Investor	Individual	Non-Profit	All	Investor	Individual	Non-Profit
Non-NSP	N	558	381	138	39	3,149	2,008	1,000	141
	Mean	30.3%	27.6%	29.0%	61.5%	27.3%	27.4%	22.5%	59.6%
NSP	N	558	381	138	39	3,149	2,008	1,000	141
	Mean	33.9%	33.6%	24.6%	69.2%	27.9%	30.8%	17.5%	60.3%
t		-1.28	-1.81	0.82	-0.71	-0.51	-2.33	2.80	-0.12

Table 6 – Vacancy Rates by NSP Category, REO Buyer, and Second Buyer if Resold (We do not test for difference of means in extremely small samples.)

NSP 1

REO BUYER		Investor				NonProfit			Individual		
NEXT BUYER		Unsold	Foreclosed	Investor	Individual	Unsold	Investor	Individual	Unsold	Investor	Individual
Non-NSP	N	937	9	140	269	82	9	12	606	11	33
	Mean	29.6%	77.8%	46.4%	15.6%	72.0%	33.3%	33.3%	25.4%	81.8%	6.1%
NSP	N	949	15	177	209	99	2	2	608	13	30
	Mean	34.1%	53.3%	44.6%	16.7%	64.6%	100.0%	50.0%	18.1%	38.5%	13.3%
z		-2.13		0.32	-0.33	1.05			3.09	2.15	-0.98

NSP2

REO BUYER		Investor				NonProfit			Individual		
NEXT BUYER		Unsold	Foreclosed	Investor	Individual	Unsold	Investor	Individual	Unsold	Investor	Individual
Non-NSP	N	728	7	132	167	58	11	8	456	11	20
	Mean	24.0%	100.0%	43.9%	15.0%	65.5%	18.2%	25.0%	20.2%	63.6%	0.0%
NSP	N	725	10	134	161	65	6	6	455	6	25
	Mean	28.6%	30.0%	43.3%	14.3%	61.5%	50.0%	33.3%	17.6%	33.3%	28.0%
z		-1.95		0.11	0.18	0.46			1.00		-2.58

NSP1 Only

REO BUYER		Investor				NonProfit			Individual		
NEXT BUYER		Unsold	Foreclosed	Investor	Individual	Unsold	Investor	Individual	Unsold	Investor	Individual
Non-NSP	N	667	7	93	207	53		8	478	9	25
	Mean	31.8%	71.4%	41.9%	14.5%	71.7%		37.5%	24.1%	88.9%	8.0%
NSP	N	672	10	122	169	63		1	480	8	25
	Mean	34.7%	60.0%	45.9%	16.0%	63.5%		0.0%	17.1%	37.5%	0.0%
z		-1.12		-0.58	-0.40	0.94			2.67		1.44

NSP2 Only

REO BUYER		Investor				NonProfit			Individual		
NEXT BUYER		Unsold	Foreclosed	Investor	Individual	Unsold	Investor	Individual	Unsold	Investor	Individual
Non-NSP	N	458	5	85	105	29	5	4	328	9	12
	Mean	24.0%	100.0%	37.6%	12.4%	58.6%	0.0%	25.0%	16.2%	66.7%	0.0%
NSP	N	448	5	79	121	29	4	5	327	1	20
	Mean	25.9%	20.0%	44.3%	12.4%	55.2%	25.0%	20.0%	15.9%	0.0%	15.0%
z		-0.65		-0.87	0.00	0.27			0.09		-1.41

NSP1 or 2

REO BUYER		Investor				NonProfit			Individual		
NEXT BUYER		Unsold	Foreclosed	Investor	Individual	Unsold	Investor	Individual	Unsold	Investor	Individual
Non-NSP	N	1,395	14	225	374	111	14	16	934	20	45
	Mean	27.7%	85.7%	43.1%	14.7%	68.5%	21.4%	31.3%	22.2%	75.0%	4.4%
NSP	N	1,397	20	256	330	128	6	7	935	14	50
	Mean	31.5%	45.0%	44.5%	15.2%	62.5%	50.0%	28.6%	17.3%	35.7%	14.0%
z		-2.17	2.40	-0.31	-0.17	0.97			2.63	2.29	-1.59

NSP1 and 2

REO BUYER		Investor				NonProfit			Individual		
NEXT BUYER		Unsold	Foreclosed	Investor	Individual	Unsold	Investor	Individual	Unsold	Investor	Individual
Non-NSP	N	270	2	47	62	29	6	4	128	2	8
	Mean	24.1%	100.0%	55.3%	19.4%	72.4%	33.3%	25.0%	30.5%	50.0%	0.0%
NSP	N	277	5	55	40	36	2	1	128	5	5
	Mean	32.9%	40.0%	41.8%	20.0%	66.7%	100.0%	100.0%	21.9%	40.0%	80.0%
z		-2.27		1.36	-0.08	0.50			1.56		

Table 7 – March 2010 Vacancy Rates by NSP Category and REO Buyer (REO Exit: 2006 – September 2008)
(We do not test for difference of means in extremely small samples.)

		NSP1			
REO BUYER		All	Investor	Individual	Non-Profit
Non-NSP	N	2,678	1,867	792	19
	Mean	30.1%	33.8%	20.7%	63.2%
NSP	N	2,674	1,867	788	19
	Mean	27.7%	29.6%	22.5%	63.2%
t		1.95	2.78	-0.85	0.00

REO Buyer, and Second Buyer if Resold

		NSP 1									
REO BUYER		Investor				NonProfit			Individual		
NEXT BUYER		Unsold	Foreclosed	Investor	Individual	Unsold	Investor	Individual	Unsold	Investor	Individual
Non-NSP	N	1,008	47	369	442	13		4	685	26	77
	Mean	30.5%	40.4%	43.1%	33.0%	53.8%		75.0%	20.4%	23.1%	18.2%
NSP	N	1,035	34	424	367	14		3	709	15	54
	Mean	27.6%	26.5%	40.8%	22.1%	71.4%		0.0%	22.0%	33.3%	24.1%
z		1.41	1.30	0.65	3.45	-0.95			-0.71	-0.71	-0.82