

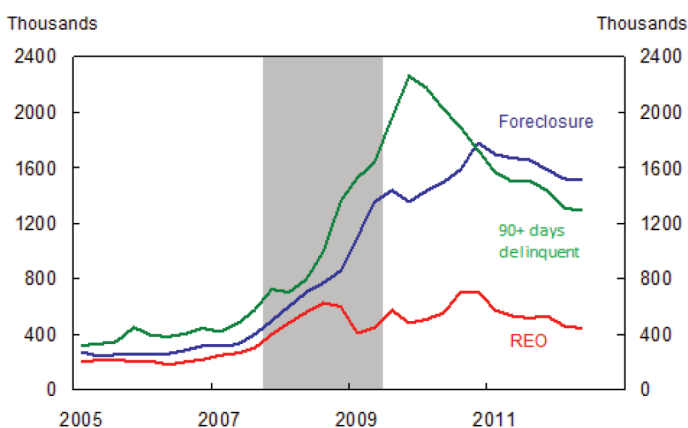
**Session I:
Estimating the Volume in the Foreclosure/REO Pipeline**

Assessing the Volume in the Distressed Residential Real Estate Pipeline¹

Dick Peach, Senior Vice President, Federal Reserve Bank of New York

- Recent indicators suggest that, at the national level, the housing market may finally be on the mend. Housing starts and sales of new and existing single-family homes are trending up gradually. Home prices have stabilized and begun to rise modestly after falling roughly 30 percent from their 2006 peak. Serious (90+ day) first mortgage delinquencies have declined to a little under 3 percent as of 2012Q3 from a peak of 5 percent in 2010Q1.
- While these are certainly positive developments, the nation is confronted with a very large “pipeline” of loans which are 90+ days delinquent and in foreclosure. As shown in Chart 1, as of 2012Q2 there were about 1.3 million loans 90+ days delinquent, about 1.5 million properties in the foreclosure process, and about 450,000 properties on lenders’ balance sheets as real estate owned (REO).

Chart 1. Stock of Properties in Foreclosure and REO: National



Source: CoreLogic

Note: Shaded areas denote NBER recessions.

- Table 1 presents a ranking of states by two criteria—the state’s share of the total number of properties held as REO and the number of properties held as REO as a percent of the total number of first mortgage loans in the state. Large states at the center of the housing boom and bust such as California and Florida account for a large share of the total REO inventory. However, in other states, such as Michigan and Illinois which are not typically associated with the boom and bust, properties in REO represent a large share of the stock of outstanding mortgages.

¹The views expressed in this article are those of the author and do not necessarily reflect the views of the Federal Reserve Bank of New York or the Federal Reserve System.

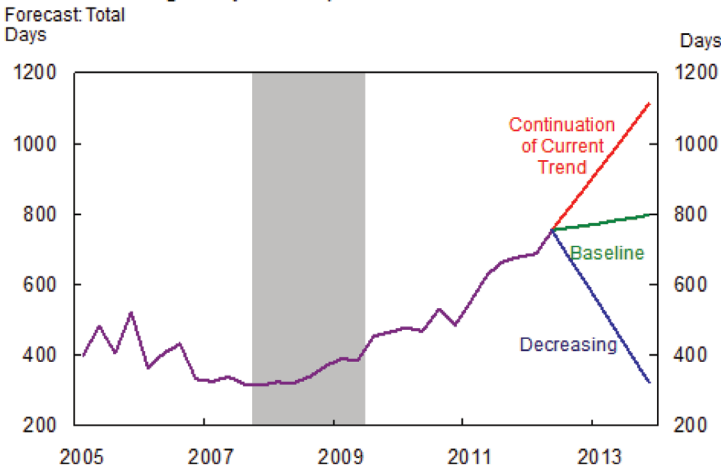
- Nationally, the average number of days a mortgage loan is seriously delinquent and in foreclosure before becoming REO (days delinquent at foreclosure start) has increased dramatically as the housing crisis has unfolded. As shown in Chart 2, that average increased from around 300 days in 2007 to nearly 800 days by mid-2012. The increase has been most pronounced in “judicial foreclosure” states.

Table 1. State Rankings

Rank	State	% in REO	Rank	State	% of National REO
1	MI	2.33%	1	CA	11.12%
2	GA	1.87%	2	FL*	10.08%
3	MN	1.61%	3	MI	8.63%
4	IL*	1.51%	4	IL*	7.57%
5	NV	1.41%	5	GA	7.56%
6	RI	1.35%	6	TX	5.08%
7	NH	1.25%	7	OH*	4.18%
8	FL*	1.20%	8	MN	3.78%
9	WV	1.18%	9	AZ	2.81%
10	AL	1.15%	10	NC*	2.71%
11	TN	1.15%	11	MO	2.44%
12	MO	1.13%	12	TN	2.38%

Note: Data for June 2012. * indicates a Judicial Foreclosure state.

Chart 2. Average Days Delinquent at Time of REO Start



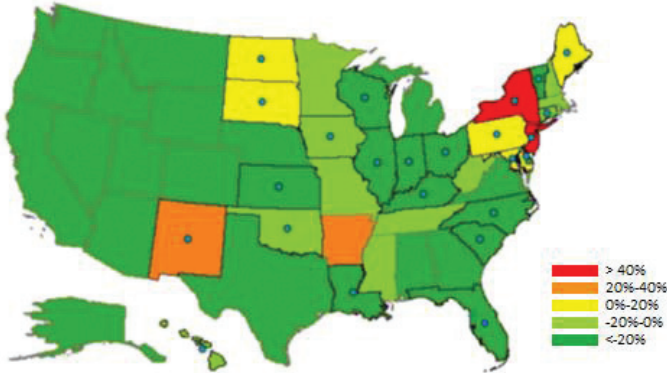
Source: CoreLogic

Note: Shaded areas denote NBER recessions.

- Going forward, a key determinate of the number of properties flowing into REO will be what happens to the average number of days seriously delinquent prior to REO. Shown here are maps of the United States depicting three possible scenarios for what could happen: First, if the recent trend for the length of time in serious delinquency continues through the end of 2013; second, if the trend stabilizes near mid-2012 levels; and third, if the overall trend is a decline toward pre-crisis levels. For each scenario, we project the change in the number of properties in REO from mid-2012 through the end of 2013.

- Under the first scenario, shown in Chart 3, most of the country would experience declines in the number of properties in REO through the end of 2013. However, New York and New Jersey would experience increases of 40 percent or more.

Chart 3. Projected percent change in REO inventory: Jun '12 to Dec '13
Current Trend

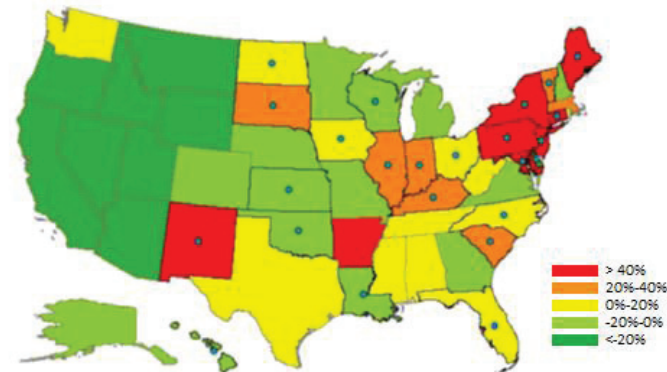


Source: CoreLogic

Note: Blue dot indicates judicial foreclosure state.

- Under the second scenario, shown in Chart 4, an increasing number of states would see sizeable increase in REO inventories, particularly the states of the Northeast and Midwest.

Chart 4. Projected percent change in REO inventory: Jun '12 to Dec '13
Flat Trend



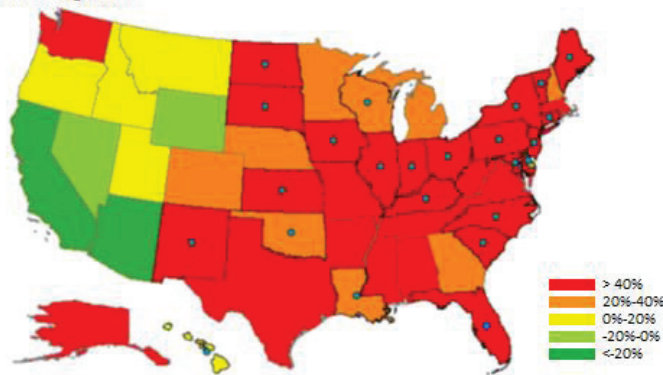
Source: CoreLogic

Note: Blue dot indicates judicial foreclosure state.

- Under the third scenario, shown in Chart 5, most of the eastern two thirds of the country would see increases of 40 percent or more.

Chart 5. Projected percent change in REO inventory: Jun '12 to Dec '13

Decreasing Trend



Source: CoreLogic

Note: Blue dot indicates judicial foreclosure state.

- Table 2 presents the top 12 states ranked by the percentage change in REO inventory under the three scenarios. Again, the largest increases under all three scenarios would be in the states of the Northeast and Midwest. What is interesting is that the states typically associated with the housing boom and bust—California, Florida, Arizona, and Nevada—do not appear on this list.

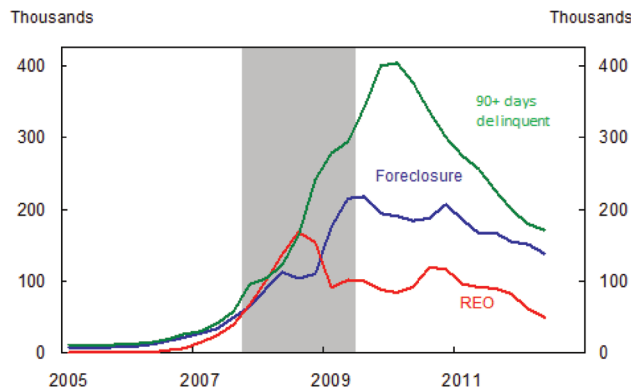
Table 2. State Rankings: Percent change in REO stock, June-12 to Dec-13

Continuing Trend			Flat Trend			Decreasing Trend		
Rank	State	%change	Rank	State	% change	Rank	State	% change
1	NY*	117.6%	1	NY*	167.6%	1	NY*	212.2%
2	NJ*	48.9%	2	MD*	99.3%	2	AR	186.6%
3	NM*	39.4%	3	NJ*	94.9%	3	MD*	180.7%
4	AR	30.6%	4	CT*	86.6%	4	NM*	172.4%
5	ME*	18.9%	5	NM*	84.1%	5	CT*	163.2%
6	MD*	17.7%	6	AR	73.9%	6	NJ*	139.9%
7	ND*	9.2%	7	ME*	62.0%	7	ME*	115.9%
8	PA*	2.5%	8	PA*	44.8%	8	PA*	109.7%
9	SD*	0.3%	9	KY*	39.6%	9	IN*	105.9%
10	CT*	-1.4%	10	IL*	34.8%	10	KY*	103.8%
11	IA*	-4.5%	11	SC*	32.8%	11	SC*	96.7%
12	WV	-5.8%	12	IN*	32.4%	12	SD*	92.2%

Note: * indicates a Judicial Foreclosure state.

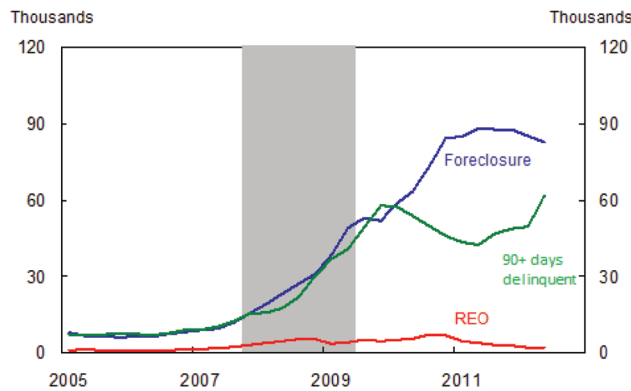
- To get some insight into why California is not on the list of the top 12 states while New Jersey is, Charts 6 and 7 look at the situations in those respective states. While California saw a surge in serious delinquencies and foreclosures in 2008 and 2009, since then the numbers of loans in each category have been declining. While average number of days in serious delinquency and in foreclosure did increase in California—to 683 days as of 2012Q2—the increase was considerably less than in New Jersey—to 932 days. Thus, while the current volume of REO in New Jersey is quite low, the number of loans in serious delinquency and foreclosure remain relatively high. Thus, under all three scenarios discussed above, New Jersey experiences large percentage increases in REO.

Chart 6. Stock of Properties in Foreclosure and REO: California



Source: CoreLogic Note: Shaded areas denote NBER recessions.

Chart 7. Stock of Properties in Foreclosure and REO: New Jersey



Source: CoreLogic Note: Shaded areas denote NBER recessions.

- About the data: The national and state level data on number of properties in 90+ days delinquency, in the foreclosure process, and in REO were provided by CoreLogic under contract with the Federal Reserve Bank of New York. The projections of future REO inventories were conducted by CoreLogic under a range of alternative assumptions about average days in 90+ days delinquency and average days in foreclosure. Aside from changes in those two variables, all other state and loan category roll rates were held constant at their second quarter 2012 averages. These roll rates were also based on the existing CoreLogic state level home price projections through the end of 2013.

Measuring the Size and Distribution of the Distressed Residential Real Estate Inventory in CT, NJ, and NY

James R. Follain, *Senior Fellow, Rockefeller Institute*ⁱ

The purpose of the presentation at the Federal Reserve Bank of New York Conference is to offer estimates of the size of the distressed residential real estate inventory. The estimates pertain to Single Family Residential (SFR) properties among the largest counties in the three states within the Federal Reserve Bank of New York District: CT; NJ; and NY. This brief summary references many of the exhibits contained in the presentation, which can be viewed at the Rockefeller Institute website.ⁱⁱ

The terminology and analysis underlying this presentation builds upon a widely accepted framework used to discuss and measure distressed real estate. This framework discusses three stages of distress. The first stage (Stage 1), as defined in this presentation, identifies those properties in which borrower equity is negative.ⁱⁱⁱ The second stage (Stage 2) includes those properties in which the foreclosure process has begun but not yet been completed. The third stage (Stage 3) measures the foreclosure or REO (real estate owned) inventory, which consists of SFR properties that have been foreclosed upon by the lender or its representative and await sale back to the regular market via REO sales.

This presentation focuses on estimates of Stage 1 and Stage 3. The analysis also offers insights about the speed at which these inventories dissipate and the wide variation in the sizes of these inventories among local housing markets within the three-state area. The analysis uses public records-based data provided by Collateral Analytics and builds upon previous work by Norman Miller and Michael Sklarz in their monthly articles entitled Lessons from the Data.^{iv}

The literature on the distressed real estate inventory is relatively recent and growing. In a recent paper for the Lincoln Institute of Land Policy, Follain (2012) demonstrates a strong empirical connection between the Stage 3 inventory and growth rates in house prices at the county level for 2005-2010.^v The larger the REO inventory, the slower the growth in house prices holding constant a variety of other traditional drivers of house prices. As such, learning about this inventory and ways to reduce the size of this inventory is important to promoting a complete recovery of the housing market.

ⁱ Follain is also the principal of James R. Follain LLC, a consultant to Collateral Analytics (<https://collateralanalytics.com/about/>), and an advisor to FI Consulting (www.ficonsulting.com).

ⁱⁱ http://www.rockinst.org/pdf/public_policy_forums/NYFRB%20Forum_10022012_follain_final.pdf.

ⁱⁱⁱ An alternative definition of Stage 1 distress is the number of borrowers who are delinquent in their mortgage payments. This is the definition discussed in the presentation by Richard Peach.

^{iv} See Lessons from the Data at: <http://www.proteckservices.com/homevalueforecast/hvf-lessons/>.

^v See "A Search for the Underlying Structure Driving House Prices in a Distressed Environment": http://www.lincolnst.edu/pubs/2158_A-Search-for-the-Underlying-Structure-Driving-House-Prices-in-a-Distressed-Environment.

The estimates of the Stage 1 inventory indicate that over 800,000 SFR properties in the counties examined have negative equity; specifically, the values of the properties are no more than 95 percent of the outstanding debt on the properties. About 485,000 of these properties are in New Jersey. Three counties in New Jersey—Ocean, Camden, and Essex—each have over 40,000 properties with negative equity (See Table 1). The size of this stage of the inventory is, on average, six times larger than the inventory in 2005.

One goal of the analysis is to depict the wide variation in the sizes of this inventory among submarkets within the three states. One exhibit does so by presenting a map of the percent of the SFR stock that has negative equity at the county level (See Figure 1) in 2012. An even more geographically focused exhibit examines the variations at the ZIP code level within Nassau County, NY (See Figure 2). Note that the “hot spot” for properties with negative equity are in or near Hempstead, NY, where over 38 percent of the SFR inventory has negative equity.

Table 1: Number of SFR Stock with Negative Equity*

State and County Name	2005	2012	Change (%)
CT	29,232	144,285	394%
HARTFORD	8,651	37,169	330%
NEW HAVEN	6,007	36,535	508%
FAIRFIELD	7,621	28,129	269%
NEW LONDON	2,822	13,734	387%
LITCHFIELD	1,077	8,902	727%
NJ	87,872	484,064	451%
OCEAN	6,938	47,401	583%
CAMDEN	6,817	46,993	589%
ESSEX	15,237	43,851	188%
UNION	9,813	35,027	257%
BERGEN	3,800	34,062	796%
NY	22,129	205,048	827%
NASSAU	2,234	38,842	1639%
SUFFOLK	4,074	32,394	695%
QUEENS	1,373	18,805	1269%
ERIE	3,750	18,577	395%
WESTCHESTER	1,874	17,926	857%

* These are the five counties with the largest number of SF properties with negative equity in 2012 and with data for both 2005 and 2012. Negative equity implies that the value of the property is less than 95 percent of the outstanding mortgages on the property.
Data source: Collateral Analytics

Figure 1: Negative Equity by County

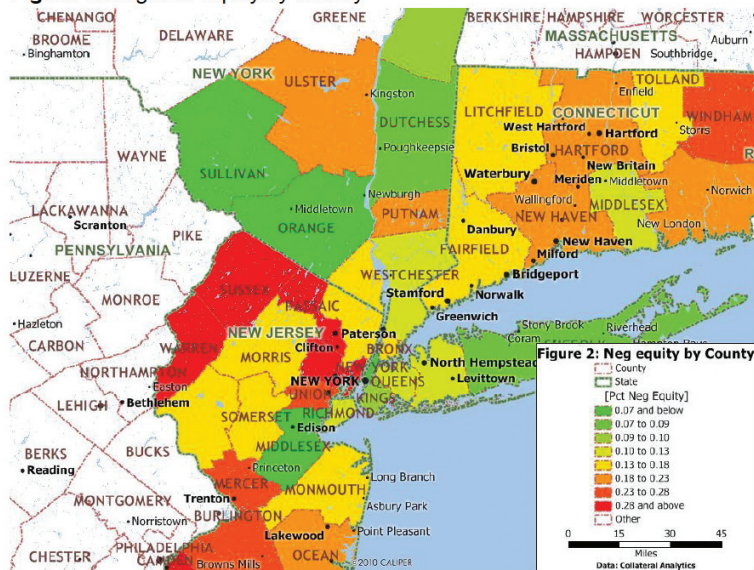
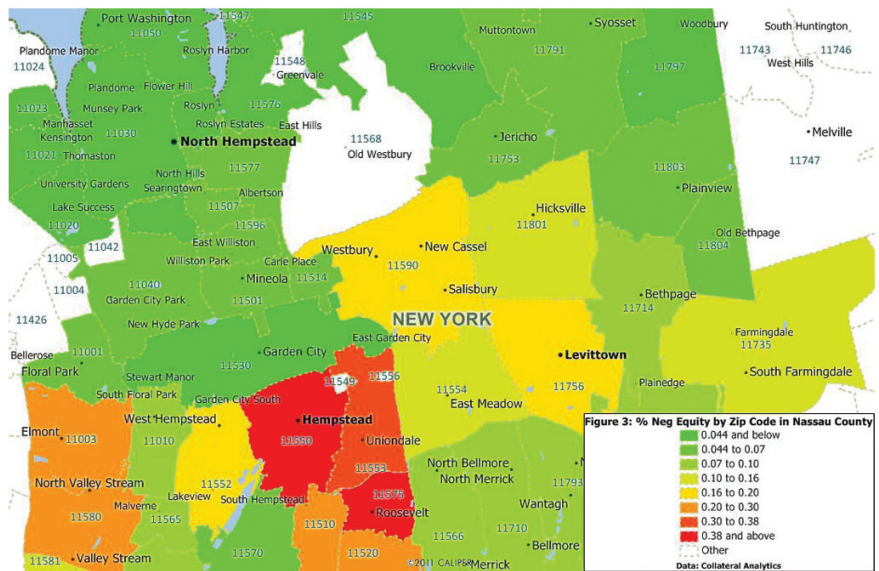


Figure 2: SFR Properties with Negative Equity (%)



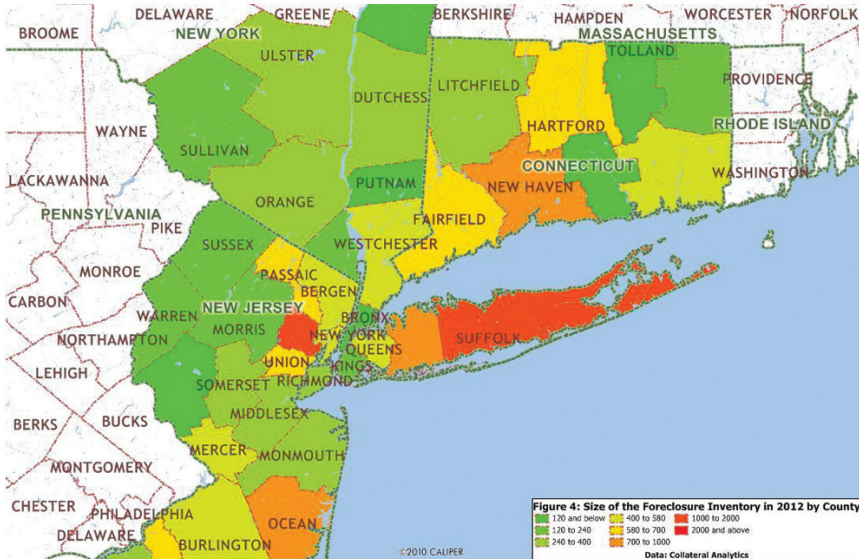
Measures of the size of the Stage 3 inventory are presented in Table 2 and Figure 3. A key point is that this inventory is much smaller in absolute size than the Stage 1 inventory. About 20,000 properties are in the REO inventory among the three states. These constitute about 0.4 percent of the SFR properties in the counties examined. Erie County in the Rochester area has both the highest percent at 0.9 percent and the highest absolute number at 2,065 in 2012. The inventories in NJ and NY are about the same size in absolute terms, about 8,300 each (See Table 2). Again, maps highlight the wide variation in this stage of distress among the counties in and around the New York Metropolitan area (Figure 3). Suffolk County, NY, and Essex, NJ, have inventories of 1,360 and 1,143, respectively, in 2012.

Table 2: Size of the Foreclosure Inventory by State and County*

State and County Name	2005		2012	
	Foreclosure Inventory	Percent of SF Stock in Foreclosure Inventory	Foreclosure Inventory	Percent of SF Stock in Foreclosure Inventory
CT	803	0.11%	3281	0.4%
NEW HAVEN	275	0.15%	877	0.5%
HARTFORD	172	0.09%	666	0.3%
FAIRFIELD	72	0.04%	584	0.3%
NEW LONDON	79	0.11%	497	0.4%
LITCHFIELD	84	0.15%	242	0.7%
WINDHAM	32	0.11%	186	0.6%
MIDDLESEX	57	0.12%	115	0.2%
TOLLAND	33	0.09%	114	0.3%
NJ	3240	0.19%	8204	0.4%
ESSEX	426	0.29%	1143	0.8%
OCEAN	344	0.15%	778	0.3%
UNION	483	0.37%	696	0.5%
CAMDEN	171	0.11%	636	0.4%
PASSAIC	240	0.23%	613	0.6%
BURLINGTON	157	0.12%	505	0.4%
MERCER	106	0.10%	443	0.4%
HUDSON	256	0.35%	428	0.6%
NY	2621	0.18%	8395	0.4%
ERIE	736	0.32%	2065	0.9%
SUFFOLK	475	0.11%	1360	0.3%
NASSAU	175	0.05%	909	0.3%
WESTCHESTER	114	0.07%	428	0.3%
QUEENS	90	0.06%	421	0.3%
ORANGE	197	0.22%	356	0.4%
NIAGARA	190	0.32%	297	0.5%
ULSTER	127	0.26%	297	0.6%

* These are the eight counties with the largest number of properties in the foreclosure inventory in 2012 and with data for both 2005 and 2012.
Data source: Collateral Analytics

Figure 3: Size of the Foreclosure Inventory in 2012 by County



Another issue focused upon in this presentation pertains to the transition of the Stage 3 inventory via REO sales. This transition offers insights about the time it will take to eliminate the inventory. One such measure offered is the number of months it will take to eliminate the REO inventory via REO sales at the recent pace of REO sales (Table 3). These tabulations suggest the inventories would be eliminated in about one year in CT, two to three years in NJ, and five years or so among many counties within NY. A limitation of this measure is that it does not take account of new entries into the Stage 3 REO inventory generated by new foreclosures. Indeed, a very different and more somber picture emerges when this is done. These measures indicate that the entry rates are about the same size or slightly smaller than the exit rates (See Table 4). Hence, taking account of both entry and exit suggests that it will take a very long time for these inventories to dissipate absent new policies or the return of a strong housing market.

Table 3: Months remaining in Foreclosure Inventory*

State and County Name	Foreclosure Inventory/REO Sales	
	2005	2012
CT	11	10
NEW LONDON	15	16
MIDDLESEX	8	12
FAIRFIELD	10	9
LITCHFIELD	10	9
WINDHAM	15	9
HARTFORD	5	8
NEW HAVEN	6	8
TOLLAND	18	7
NJ	9	15
WARREN	8	29
UNION	8	22
SALEM	7	22
ATLANTIC	10	19
SOMERSET	7	19
CAMDEN	14	19
GLOUCESTER	6	16
SUSSEX	7	16
NY	15	39
NIAGARA	3	111
SCHENECTADY	Missing Data	81
ROCKLAND	30	70
SULLIVAN	20	63
ERIE	4	62
KINGS	14	55
WESTCHESTER	17	48
RICHMOND	9	41

* Top eight counties in 2012 by state
Data source: Collateral Analytics

Table 4: REO exit and entry rates*

State Name	Average of Exit Rate	Average of Entry Rate
CT	13%	13%
NJ	7%	10%
NY	4%	5%
Grand Total	7%	8%

Data source: Collateral Analytics

Several conclusions from the analysis and possible next steps are highlighted on the final two slides. First, distinguishing among the various stages of the distressed inventory is important. In the case of these three states (CT, NJ, and NY), the Stage 1 inventory is huge compared to the Stage 3 inventory and they have grown considerably since 2005. Second, there are wide variations in the sizes of these inventories among local housing markets. This suggests that a “one size fits all” policy to deal with these inventories is not optimal. This conclusion is also highlighted in the speech made at the conference by Governor Elizabeth Duke. Third, we have much to learn about the transitions that affect both the growth and the dissipation of the various inventories because the research documents wide variations in these transition rates within the counties in the three states.

The presentation concludes with some upbeat observations about the great potential of data sets with which to study the distressed inventory and its evolution. The geographical granularity of these data are extremely valuable and will allow policy makers to drill down to those areas in which the problems associated with the distressed inventory are most pronounced. Also, these new data sets provide an opportunity to study the problem at the property level. An example of what economists call “duration analysis” is presented for three ZIP codes in the three states. This work tracks properties from the time they enter into the Stage 1 inventory until the end of the data period or until they exit via foreclosure, short sale, regular sale or other relatively minor and miscellaneous reasons. More work of this type is possible and strongly recommended.