As the foreclosure crisis has spread, the term “REO property” has gone from something only specialists were familiar with to nearly a household word. With foreclosures at epidemic levels and foreclosure sales daily events, the number of REO properties has skyrocketed. The increasing number has affected housing markets and neighborhood stability throughout the United States. This article will explore the effects of these lender-owned properties, and how those effects are likely to change in the future as the nature of the foreclosure trajectory changes and the potential of a looming “shadow inventory” of properties that are in default or foreclosure—but not yet REO—grows. While much of the analysis in this article is based on the author’s research into these issues in the area of Phoenix, Arizona, the article’s findings and conclusions apply nationwide.

REO Properties, Housing Markets, and Neighborhoods
Since the onset of the foreclosure crisis in 2006, mortgage defaults and foreclosures have steadily increased, and with them the number of properties reacquired and put back on the market by lenders. Because those houses have come on the market at a time of sharply reduced overall housing demand, they have had a dramatic effect on housing markets throughout the United States.

REO sales are as much arm’s-length transactions between willing buyers and sellers as any other sales. Large numbers of them can, however, drastically distort market conditions relative to what would take place in their absence. REO properties are often in poorer condition than properties with similar physical or locational features in the traditional market, and—once the property finally reaches the market—REO sellers are highly motivated to sell as quickly as possible, often dumping or unloading properties in substandard or uninhabitable condition to buyers who have no intention of occupying or improving them. Evidence of such activity is most likely to be seen in weak-market areas. REO sellers are subject to few of the psychological or economic pressures that deter homeowners from lowering their prices to reflect market realities, or the practices that have made lenders reluctant to approve short sales by homeowners. REO sellers also engage in bulk sales of properties rather than individual transactions, where, in return for lower transaction and holding costs, they may accept a substantial discount on the price of properties sold individually.

The market effect of REO properties is almost always negative. REO property sales pulled prices down in 31 of 34 states analyzed by the author with data from LPS Applied Analytics using a repeat sales model. As figure 1 shows, the larger the share of REO properties in the market, the greater the effect on the area house price index. We also see, however, a few outliers. The price effect of REO sales in the District of Columbia and the State of Virginia is much less than would be suggested by the national picture. The reason is likely to be found in the relative market strength of these areas, rather than in any differences in the character or condition of the housing stock. Although rapid appreciation in those areas during the bubble years has led to high levels of foreclosures and REO inventory, the continued strong housing-market demand...
in the District of Columbia and Northern Virginia appears to have mitigated the price effect of REO sales on the rest of the market. These are exceptions to an otherwise largely consistent pattern of declines in house prices due to high numbers of REOs.

The price-depressing effect of REO sales has a second impact on the real estate market. REO sales drive out non-REO sales. If REO properties are priced lower than similar non-REO properties on the market, rational buyers are more likely to seek out these lower-priced properties. As a result, REO properties sell faster than non-REOs. These dynamics are visible in the Phoenix housing market. In May 2009, the listing success rate, defined as the percentage of listings that closed with a sale rather than expiring or being cancelled within a defined period, was 90 percent for REO sales, 41 percent for traditional sales, and 37 percent for short sales. Thus the share of REO sales will generally be greater than the share of REO properties on the market, further depressing prices. As figure 2 shows, when demand began to increase in the Phoenix market during 2008, the increase in sales was concentrated in the REO market. Most non-REO sellers, in contrast, saw no improvement in their properties’ marketability from the overall increase in sales activity.

**Figure 1**
Effect of REO Sales on House Prices by State*
January – June 2009

*Each square represents a different state. In some cases, state data represent market area in major metropolitan areas only.
Source: Analysis by author based on data from LPS Applied Analytics

**Traditional Sales**
Property transactions between buyers and sellers where no distress is associated with the transfer

**Foreclosure Sales**
The end of the foreclosure process (also called a sheriff’s sale in some states). Can lead to REOs if properties are not purchased by a third party

**REO Sales**
When REO properties are offered for sale by the lender

**Short Sales**
Property transactions where the selling price is less than what is owed on the mortgage; often the only way for an underwater mortgagee to avoid foreclosure. Short sales require the approval of the lender
Figure 2
House Sales, Phoenix Metropolitan Area
June 2007 – February 2009

![Graph showing the number of sales from June 2007 to February 2009.](image)

Source: The Cromford Report/data from Arizona Multiple Listing Service

Figure 3
Distribution of Real Estate Sales, Phoenix Metropolitan Area
March – December 2009

![Graph showing the distribution of real estate sales from March to December 2009.](image)

Source: The Cromford Report/data from Arizona Multiple Listing Service
During 2009, however, the picture became more complicated, as the market share of short sales increased—paralleling the increase in short sales—while the REO share decreased. By the end of 2009, the number of short-sale MLS listings in Maricopa County exceeded the number of REO listings. Between March and December, as the local housing market showed tentative signs of stabilization, short sales jumped from 8 percent to 29 percent of all real estate sales in the Phoenix Metropolitan Area. During the same period, as shown in figure 3, REO sales plummeted and traditional sales rebounded, although they grew at a more modest rate than short sales. As will be discussed below, short sales increased nationwide during the same period, although at a less dramatic pace.

In sum, the wave of REO properties that hit metropolitan real estate markets with the collapse of the housing bubble and the rise of foreclosures has contributed significantly to the collapse of house prices, although many markets were so overpriced that a significant correction would arguably have been inevitable. Even in regions where the overall effects of REO properties may be less pronounced, their effects can nonetheless be far more intense in specific areas within those regions. For example, the Northside neighborhood in Minneapolis and Brooklyn Center, an inner-ring suburb of that city, have been affected far more heavily than the Twin Cities region as a whole.

Measuring the effects of REO properties on neighborhood stability is more complicated. The neighborhood impact of an increase in REO properties stems less from the number of properties than from what happens to them once they go through foreclosure. The impact of an REO property that sits vacant and boarded up for a year after a foreclosure sale is far more damaging than that of a property that is quickly fixed up and sold at an affordable price to a homebuyer. While it is hard to pin down what is happening in neighborhoods across the country, a few observations can be made.

In most parts of the United States, few REO properties, once put on the market, simply sit. During the first five months of 2009, some 20,000 properties were sold at foreclosure sales in Maricopa County, of which 1,000 to 2,000 were bought by parties other than the lender, thus escaping the REO inventory. During the same period, nearly 23,000 REO properties were purchased in the same area, leading to a significant drop in the inventory of REO properties on the market. Similar increases in purchases of REO properties have been seen in many different market areas nationwide. What happens to these properties?

Where an REO property is acquired by an individual homebuyer, it is likely that any neighborhood impact is transitory. The magnitude of that impact, as noted above, is largely a function of how long the property sat vacant prior to resale. The shorter the period from initial notice to foreclosure sale, and from then until the property is resold and reoccupied, the less the impact. In many areas, however, most REO purchases are made by investors who will not actually occupy the property themselves. In fact, the level of investor activity dwarfs public sector and CDC investment. We estimate that total absentee-buyer investment in one- to four-family houses in the Phoenix metropolitan area during the second half of 2009 alone was between $1.5 and $1.8 billion, vastly exceeding public-sector and CDC investment during the same period.

In such cases, neighborhood impacts vary widely. In areas where responsible investors plan to hold and rent properties for an extended period, the impact may be modest. One might prefer to see those properties bought by owner-occupants, but that is often not a realistic alternative. The most likely alternative to an investor purchase is that the property will remain empty. This buy-and-hold strategy appears to be common in Sunbelt cities like Phoenix, where most investors appear to be planning to keep their properties for five years or more. The picture is very different in other weak-market locations, including many
parts of Detroit and Cleveland, and in very low-value neighborhoods in other cities, such as Atlanta’s Pittsburgh neighborhood.11 These areas are attracting short-term investors, whose speculative actions are far more destructive to neighborhood stability than those of longer-term buy-and-hold investors.

Areas that draw these longer-term buy-and-hold investors appear to have two key features. First, acquisition costs, although low enough to permit a positive rental cash flow, are still high enough to require due diligence by the buyer and to make flipping—reselling just-bought properties at higher prices with no improvements—a less attractive strategy. Second, the area has strong enough rental demand for a landlord to maintain a stable tenant base. This is true in Phoenix, where a large part of investors’ tenant pool consists of former homeowners who have lost their homes to foreclosure.12 In other areas, where the market has collapsed and houses are being unloaded to investors for nominal amounts, the instability of the market draws short-term speculative investors, who may buy houses in bulk, sight unseen, and pursue quick-return strategies that further undermine already deeply distressed communities.

Thus, the neighborhood effect of REO properties is a function of their volume, the dynamics of the market where they are present (including time left on the market), and how those dynamics affect buyer behavior. While this subject needs closer study, we can add one more observation. Local governments affected by destructive investor behavior are not powerless to influence that behavior. Licensing ordinances, inspections, and other regulatory tools, as well as incentives for responsible property ownership, are all opportunities for local officials and CDCs to influence investor behavior in order to minimize neighborhood destabilization.

The Future Course of REO Properties and the Looming Shadow Inventory

Few observers believe that the foreclosure crisis has run its course. Although the rate of decline has slowed and the volume of overall sales transactions has increased, house prices in many areas are still dropping. In addition, unemployment remains at dangerously high levels. Data from the Mortgage Bankers Association’s National Delinquency Survey indicate that the numbers of delinquent mortgages and foreclosure filings have continued to grow, with no sign of leveling off. It would seem logical, therefore, that the flow of REO properties onto the market should also increase.

This does not appear to be happening. During 2009, the relationship between the number of delinquencies and foreclosure filings and the number of completed foreclosures—the best available indicator of the size of the REO inventory—shifted markedly. As the number of new REO properties entering the market stayed level or declined, speculation arose that servicers, seeking to keep house prices from falling even further, had begun to ration the flow of properties coming onto the market. That, in turn, suggested—assuming those properties eventually had to make their way onto the market—a backlog was accumulating that might lead to a sudden influx of REO properties, further destabilizing markets and neighborhoods.

Although it can’t be ruled out entirely, there appears to be no evidence to support an explicit rationing theory. There are, however, solid explanations for why the REO inventory has not kept pace with delinquencies and foreclosure filings. Some of these arise from the way the foreclosure process has gradually evolved, and others from changes in lender and servicer behavior, which may indeed be intended in part to reduce or slow the flow of properties into REO inventory. While some of these trends may help some properties avoid REO status entirely, others could lead to potentially destabilizing future property flows into the REO inventory.

Foreclosure is no longer a speedy and predictable process in many states. Figure 4, a generalized representation of the foreclosure process from initial filing to foreclosure sale, shows that there are many points in the process
at which a property can be temporarily or permanently diverted from becoming an REO property. Around these diversion points, steps have been added to the foreclosure process, including moratoria or forbearance periods enacted by many states in order to promote loan modifications, which increase the lag between initial filing and the ultimate outcome by 60 days to six months. While a successful loan modification or short sale diverts the property from REO inventory, unsuccessful attempts add to the time between the filing and the sale. In cases where a borrower has received a loan modification and subsequently redefaulted, the property returns to the foreclosure track, but only after a year or more.\(^{13}\)

Short sales and third-party purchases at foreclosure sales both divert significant numbers of properties from the REO inventory. They reflect not only increased market demand for residential properties, but also servicers’ greater readiness to accommodate alternatives to foreclosure and taking properties into REO inventory. As figure 3 shows, short sales grew from 8 percent to 29 percent of all sales transactions in Phoenix during 2009. National data show a significant, though less dramatic, increase in short sales during the same period, with short sales nearly doubling from the fourth quarter of 2008 to the third quarter of 2009.\(^{14}\) During the same period, the number of properties that were bought by end users at foreclosure sales rose from 5 percent to 20 percent. We estimate that at the end of 2008, a foreclosure filing in Phoenix had a 60 percent probability of becoming an REO property. By the end of 2009, that probability had declined to 39 percent. Assuming a constant level of foreclosure filings, these changes alone would reduce the number of properties added to the foreclosure inventory by more than a third.\(^{15}\)

REO flow is further reduced by the slower pace of the foreclosure process and changes—both intentional and capacity-related—in servicers’

---

**Figure 4**

The Foreclosure Process and the Diversion of Properties from the REO Inventory

---

---

---
behavior. Changes include a greater readiness to defer foreclosure in situations where mortgage holders remain in the property, and a reluctance to put tenant-occupied REO properties on the market until after the tenants have vacated them; the delay can lead to a property’s not being listed until many months after the foreclosure sale. In extremely weak markets, servicers even forgo finalizing foreclosures and simply walk away from properties, leaving them in legal limbo.

The effect of these changes can be seen in figure 5, which compares the trends in completed foreclosures, new foreclosure filings, and the number of properties in the foreclosure process since the beginning of 2008. While foreclosure completions have stayed roughly level and filings have grown moderately, the number of properties in the pipeline has skyrocketed, highlighting the greater duration of the foreclosure process. From an average of five months at the beginning of 2008, the length of time from initial filing to resolution (through foreclosure, short sale, loan modification, or otherwise) had grown to nine months by the fall of 2009. While some of the practices leading to this trend may be constructive—and others, like walkaways, highly destructive—none reduces the ultimate REO inventory. They only constrain its apparent growth by putting it off to a later day.

The housing market has major problems that, coupled with continued high unemployment and uneven economic growth, could undo what little stability some markets have achieved and further exacerbate the weakness of still-unstable areas. Looking forward, three separate factors suggest a high risk of future increases in the REO inventory.

Large numbers of loans in the foreclosure process will ultimately be liquidated. Although increased use of short sales will remove many properties from the foreclosure process, ultimately the still-rising tide of defaults and foreclosure filings is likely to lead

Figure 5
U.S. Foreclosure Trends by Quarter
2008 – 2009

<table>
<thead>
<tr>
<th>Quarter/year</th>
<th>Foreclosures completed</th>
<th>New foreclosures filed</th>
<th>Foreclosures in process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 2008</td>
<td>100,000</td>
<td>250,000</td>
<td>300,000</td>
</tr>
<tr>
<td>Q2 2008</td>
<td>120,000</td>
<td>270,000</td>
<td>320,000</td>
</tr>
<tr>
<td>Q3 2008</td>
<td>130,000</td>
<td>290,000</td>
<td>330,000</td>
</tr>
<tr>
<td>Q4 2008</td>
<td>140,000</td>
<td>310,000</td>
<td>340,000</td>
</tr>
<tr>
<td>Q1 2009</td>
<td>150,000</td>
<td>330,000</td>
<td>350,000</td>
</tr>
<tr>
<td>Q2 2009</td>
<td>160,000</td>
<td>350,000</td>
<td>360,000</td>
</tr>
<tr>
<td>Q3 2009</td>
<td>170,000</td>
<td>370,000</td>
<td>370,000</td>
</tr>
<tr>
<td>Q4 2009</td>
<td>180,000</td>
<td>390,000</td>
<td>380,000</td>
</tr>
</tbody>
</table>

Source: The Cromford Report/data from Arizona Multiple Listing Service
* Sample represents roughly 60 percent of all mortgages
to an increase in foreclosures and in the REO inventory. This overhang of potential additions to the inventory of REO properties has been estimated at 7 million properties nationwide.17 This is particularly likely if, as was true through mid-2010, few defaults are cured, few loan modifications become permanent, and those that are modified have a high re-default rate. The movement of these foreclosures through the pipeline will be slow, but barring major public policy changes, they are unlikely to be removed from the pipeline. This could easily result in an increase in the REO inventory during 2010.

Demand may be unstable. Two factors could potentially dampen homebuyer demand: the federal homebuyer tax credit’s expiration in April 2010 and the possibility that the Federal Reserve may begin to raise interest rates in 2010. While these factors have much less impact on investors, the housing market overall could be affected by rising rental vacancy rates and dropping rent levels. Average rents fell 12.5 percent in the Las Vegas area from the end of 2008 to the end of 2009, and nearly as much in the Phoenix area.18 While part of this reflects the near-collapse of the multifamily rental market in these areas as a result of single-family rentals flooding the market, it also suggests that the latter market—Phoenix’s—may be approaching saturation.19 Lower rents and higher vacancy rates could deter investors, particularly responsible ones, from continuing to buy REO properties, while pushing prices downward. If demand from both homebuyers and investors declines significantly, that could undermine the nascent positive trend toward higher volumes of short sales.

The future of millions of underwater borrowers remains unresolved. The largest question mark for the housing market is the vast number of underwater borrowers. At the beginning of 2009, estimates of the total number of underwater borrowers nationwide ranged from 11 to 15 million. A Deutsche Bank study estimated that the number may reach 25 million by 2011, by which time 80 percent or more of borrowers in 20 metropolitan areas will be underwater.20 By mid-2009, there were 49 different metropolitan areas where 40 percent or more of all mortgage holders were underwater, largely in the most heavily affected Sun Belt states, like Nevada, and Rust Belt states, like Michigan and Ohio. Nearly 70 percent of all mortgages in the Las Vegas area were underwater, as were more than 50 percent of the mortgages in the Detroit area.21

While owing more on one’s mortgage than the house is worth does not necessarily lead to foreclosure, it both increases the likelihood of default and reduces the owner’s motivation to avoid foreclosure, particularly when the value of the property falls so far below the mortgage amount that the owner can see no realistic prospect of ever regaining a meaningful equity stake in the home. Forty-five percent of all mortgage holders in Nevada, and a quarter of all mortgage holders in Arizona and Florida, have more than 25 percent negative equity; from that level, it would take 10 years of modest but steady appreciation to reach a point where the owner might hope to begin building equity.

Right now, the majority of underwater mortgages are not in default. However, large numbers of strategic defaults (decisions by underwater borrowers to default on mortgages despite being economically capable of making the payments) are a real possibility. One study estimated that 588,000 such defaults took place in 2008, or 18 percent of all delinquencies of more than 60 days during the year.22 For an owner with a $250,000 mortgage on a Phoenix– or Miami–area home that is now worth $100,000 or less, the strategic default option can look compelling. While some argue that such behavior is morally reprehensible, others consider it a rational move, not only for the mortgage holder but also for the economy.23 Should large numbers of underwater borrowers choose that course over the next few years, the number of foreclosures could rise sharply, further swelling the REO inventory.
Conclusion
Finally, the economy itself remains unsettled, with unemployment rates and uncertainty about the future both remaining high. In this climate, it would be foolish to attempt to predict the future; few people, after all, predicted the changes to the market that would emerge during the course of 2009. Looking forward to the next two years, however, it appears that risk factors are accumulating and that the shadow inventory is a looming reality. If, as a result, a significantly larger volume of properties start to come through the foreclosure pipeline in 2010 and 2011, there is a serious question whether a still-fragile market will be able to absorb them, or whether they will lead to renewed declines in house prices and increased destabilization of American neighborhoods.


Endnotes
1 The process by which a foreclosure is completed, and the property is either sold or taken back by the lender, goes by different names in different states—foreclosure sale, sheriff’s sale, trustee sale, or foreclosure auction; in a few states, such as Connecticut, title is transferred by judicial decree rather than by sale. In the interest of consistency, the process will be referred to as a “foreclosure sale” throughout this article.

2 Even before the accumulation of evidence from current market conditions, a body of scholarly literature had emerged in support of this point; it is summarized in Anthony Pennington-Cross, “The Value of Foreclosed Property,” Journal of Real Estate Research 28(2): 193–214. As Pennington-Cross shows, a number of separate papers have indicated that the “foreclosure discount”—the deviation between the expected price or appreciation of typical or average property and the price or appreciation of foreclosed property—is in the range of 22–24 percent. This appears consistent with the author’s findings in Phoenix, discussed below.

3 While there is little literature focused exactly on this point, see Claudia Coulton, Michael Schramm, and April Hirsh, “Beyond REO: Property Transfers at Extremely Distressed Prices in Cuyahoga County, 2005–2008,” Cleveland, Oh.: Center on Urban Poverty and Community Development, Case Western Reserve University, 2008; and Alex Kotlowitz, “All Boarded Up,” New York Times Magazine, March 4, 2009, for two strongly suggestive assessments, one statistical and the other vividly reportorial.

4 See endnote 8.

5 The baseline of the index is January 2000.

6 The author is currently conducting research into trends in REO sales to investors in the Phoenix and New Haven, Connecticut, housing markets and into the effect of investor purchases on neighborhood conditions, with support from the Local Initiatives Support Corporation. The Phoenix data presented in this paper were collected by the author as part of that research.

7 Traditional sales are those where there is no distress associated with the transaction; they typically exclude REO sales, foreclosure sales, and short sales.

8 The Cromford Report, based on data from the Arizona Multiple Listing Service. Short sales, in which the selling price is less than the amount owed on the mortgage, are often the only way for a homeowner who is underwater to sell her home and avoid foreclosure. Such sales require the approval of the lender. Although data on this point are lacking, it is reasonable to assume that short sales are likely to reflect greater price reductions than other non-REO transactions. In theory, the success rate should be higher for short sales than for normal transactions because the seller’s motivation should make the pricing more realistic; the price effect, however, is counteracted by the obstacles to a successful transaction imposed by the need to obtain lender approval of the transaction. Widespread reports indicate that lender approval is often either denied or is delayed to such an extent that many potential transactions fall through; however, there are strong indications that lenders are becoming more supportive of short sales as they recognize that such sales are often preferable to foreclosure.

9 Arizona Real Estate Investors Association, based on data from the Cromford Report.

10 DataQuick provides data on the median sales price by month for the Phoenix MSA as well as an estimate of investor-buyers, using files where the address of record for tax purposes is different from the property address. The latter, however, significantly overrepresents the number of investors, since the Phoenix market includes large numbers of second-home buyers. To make this estimate, we have assumed that only 80 percent of the DataQuick files actually represent absentee investors, and that their average purchase price was 65–80 percent of the MSA median price.

11 See Alyssa Katz, “There Goes the Neighborhood,” The American Prospect, September 10, 2009, for a powerful depiction of destructive investor activity in Atlanta’s Pittsburgh neighborhood.

12 This point was made separately by a number of informants, who cited two particular reasons. First, the strong preference of former homeowners for single- rather than multi-family rentals; and second, the fact that landlords with smaller numbers of properties are less likely to be strict about a tenant’s credit score and more willing to overlook the foreclosure in light of a strong job...
history and other factors, compared to the more formal ownership and management structure of most apartment complexes.

13 Of all loan modifications made during the second half of 2008, 53 percent had re-defaulted; that is, were at least 60 days delinquent, within nine months after the modification. Office of the Comptroller of the Currency, OCC and OTS Mortgage Metrics Report, Third Quarter 2009.


15 For purposes of the analysis, we made these assumptions: 1) 30 percent of defaults in which an initial foreclosure filing is made are cured; 2) the rate of loan modifications increased over the course of the year from 5 percent to 8 percent of filings; and 3) the re-default rate after loan modifications held constant at 60 percent.

16 Under federal law, effective April 2009, entities taking tenant-occupied properties through foreclosure must honor the terms of outstanding leases and allow tenants without leases 90 days to vacate. Some lenders and realtors speed up the process by offering tenants “cash for keys” as an incentive to vacate early.


18 Data from RealFacts, quoted in Hubble Smith, “If you’re looking to rent, now is the time: Prices down 8.2 percent in Las Vegas,” Las Vegas Review-Journal, February 3, 2010.

19 One Phoenix informant estimated that the vacancy rate for garden apartments in that area was in the vicinity of 25 percent.


21 Data from loan performance. Weaver and Shen estimate that the percentage of underwater homeowners in the Las Vegas area was 81 percent in the first quarter of 2009.

22 The study was conducted by Experian, a credit reporting firm, and the consulting firm Oliver Wyman, and was reported by Kenneth Harney, “Homeowners who ‘strategically defaults’ on loans a growing problem,” Washington Post, September 20, 2009.

23 See, for example, a column by Dean Baker of the Center for Economic Policy Research, “Walking away from negative equity,” the Guardian, February 1, 2010. The comments on this column offer a microcosm of the spectrum of opinion on this subject; see http://www.guardian.co.uk/commentisfree/cifamerica/2010/feb/01/goldman-sachs-negative-equity.