

Foreclosure Metrics

Timothy Dunne and Guhan Venkatu

As the foreclosure crisis deepens, increased attention is being paid to foreclosure statistics, which are often used to judge the intensity of foreclosure problems both within and across regions. However, these statistics need to be interpreted carefully; different foreclosure statistics embed different information, and making informative comparisons with various metrics requires understanding how each is constructed.

Much has been written about the severity of the foreclosure crisis in Cleveland. Many observers cite weak economic conditions and above-average subprime-mortgage issuance as central factors in Cleveland's high rate of foreclosures.

While these factors undoubtedly play a role in driving foreclosure rates higher, another variable is often overlooked, namely, the length of time properties typically remain in foreclosure. Properties in the Cleveland area remain in foreclosure considerably longer than those in other large metropolitan areas in Ohio, and this raises Cleveland's overall foreclosure rate substantially.

This longer time in foreclosure has economic consequences, as well. Properties that remain in foreclosure a long time are likely to face substantial depreciation and bring down the value of neighboring properties. Moreover, a drawn-out foreclosure process may raise the cost of loans in an area by increasing the cost of foreclosure to lenders.

In this *Commentary*, we explain how the foreclosure rate captures two distinct features of the foreclosure process—the flow of new foreclosures and the length of time it takes foreclosures to transit out of the foreclosure process. When making comparisons across areas, either of these factors could be behind the differences we observe in the respective foreclosure rates. We show how this matters by comparing foreclosures from 2005 to 2008 in the Cleveland, Cincinnati, and Columbus metropolitan areas.

Measuring Foreclosures

A number of foreclosure statistics are reported by private firms and associations in the United States. One measure used to gauge the magnitude of foreclosure activity is the foreclosure rate. It tells us the fraction of all outstanding loans that are in the foreclosure process at a given point in time.

From an accounting point of view, the foreclosure rate changes over time for two reasons: The rate at which properties enter the foreclosure process changes or the rate at which properties exit the foreclosure process changes. We refer to the rate of flow into the foreclosure process as the foreclosure start rate, and the rate of flow out of foreclosure as the foreclosure transition rate. These concepts are similar in spirit to the ones used by labor economists when analyzing unemployment. Labor economists are interested in knowing both the number of people entering and exiting unemployment over some period of time—the flow—and the number of people unemployed at a point in time—the stock.

While the foreclosure rate and the foreclosure start rate are typically reported in the media, the foreclosure transition rate is not. A higher transition rate means that loans spend less time in the foreclosure process. Mortgages can exit or transition out of the foreclosure process through several channels, including a bank reinstating the mortgage, a borrower paying off the mortgage, or a bank repossessing the home or selling it to a third party.

The foreclosure transition rate directly impacts the foreclosure rate in the following way. If a location has a relatively low transition rate, then mortgages that enter the foreclosure process there spend a longer time in foreclosure than mortgages in places with a higher transition rate; that is, they transition out of foreclosure slowly. This ends up increasing the stock of loans in foreclosure at any point in time and thus elevates the foreclosure rate. In fact, under certain simplifying assumptions, a doubling of the foreclosure transition rate means the foreclosure rate will be cut in half, even with no change in foreclosure starts. Two locations, thus, could potentially have very different foreclosure rates simply because the transition rates vary across the locations, and not because one has a higher incidence of foreclosure than the other.

1. Average Monthly Foreclosure Rate, January 2005–June 2008 (percent)

	Ohio	Cincinnati	Cleveland	Columbus
Prime loans				
Fixed rate	1.55	1.15	2.33	1.24
Adjustable rate	2.48	1.82	3.22	1.88
Subprime loans				
Fixed rate	7.03	4.10	10.54	4.58
Adjustable rate	12.54	10.09	16.83	11.32

Sources: LPS, Inc., and authors' calculations.

2. Average Monthly Foreclosure Start Rate, January 2005–June 2008 (percent)

	Ohio	Cincinnati	Cleveland	Columbus
Prime loans				
Fixed rate	0.19	0.17	0.22	0.17
Adjustable rate	0.31	0.27	0.34	0.26
Subprime loans				
Fixed rate	0.78	0.65	0.95	0.63
Adjustable rate	1.47	1.46	1.59	1.44

Sources: LPS, Inc., and authors' calculations.

3. Average Monthly Foreclosure Transition Rate, January 2005–June 2008 (percent)

	Ohio	Cincinnati	Cleveland	Columbus
Prime loans				
Fixed rate	11.11	13.72	8.93	12.33
Adjustable rate	10.09	12.19	7.94	11.36
Subprime loans				
Fixed rate	9.58	14.15	7.70	11.85
Adjustable rate	10.17	13.00	7.75	11.17

Sources: LPS, Inc., and authors' calculations.

Foreclosure in Ohio's Major Metropolitan Areas

We can see the importance of considering all three foreclosure measures, as opposed to only the foreclosure rate, by comparing foreclosure statistics in Ohio's major metropolitan areas. To compute these statistics, we use data from LPS, Inc., a private company that collects information from mortgage servicers. The data cover a large fraction of outstanding mortgages, but they are neither a complete census nor a random sample.

Cleveland's average foreclosure rates lie well above the state averages, and well above the rates for Cincinnati and Columbus, across all loan categories (figure 1). Not surprisingly, adjustable-rate and subprime mortgages have higher foreclosure rates than fixed-rate and prime mortgages, respectively.

Cleveland's higher foreclosure rates could be explained by high foreclosure start rates—meaning the flow of mortgages into the foreclosure process could be higher—or a lower transition rate—meaning foreclosed properties could remain in the foreclosure process longer—or a combination of both.

Cleveland's foreclosure start rates were in fact higher than those for the other Ohio metro areas across all mortgage categories (figure 2). The percentage differences, however, are far smaller than in the case of foreclosure rates. For instance, Cleveland's foreclosure start rate is 10 percent higher than Columbus's and 9 percent higher than Cincinnati's for subprime, adjustable-rate loans. By contrast, Cleveland's foreclosure rate was 39 percent higher than Columbus's and 50 percent higher than Cincinnati's for the same loan category. In general, foreclosure start rates vary less across these metropolitan areas than the overall foreclosure rate.

This pattern suggests that foreclosure transition rates differ substantially across the metropolitan areas, and indeed, we find that Cleveland's foreclosure transition rates are noticeably lower than Columbus's or Cincinnati's across all mortgage categories (figure 3). Mortgages in foreclosure exited the foreclosure process more slowly in Cleveland than in the other major Ohio metro areas over the period we studied. When we translate these transition rates into the average number of months a mortgage is in foreclosure (calculated directly from the transition rates), we find that in Cleveland, prime, fixed-rate loans spent an average of 11 months in the foreclosure process, compared to roughly 7 months in Cincinnati and about 8 months in Columbus.

These differences in transition rates are important for explaining the differences we observe in overall foreclosure rates. For example, Cleveland's average foreclosure rate for prime, fixed-rate mortgages is roughly twice that of Cincinnati's. But the foreclosure start rates for the two areas are more similar, differing by about 25 percent. Cleveland's higher foreclosure rate for this group of loans reflects, in part, the fact that its mortgages tend to stay in the foreclosure process longer. Suppose instead that Cleveland had Cincinnati's average foreclosure transition rate for this category of mortgages. Its average foreclosure rate would decline by about a third. This general pattern holds true in the other mortgage categories as well, and if we compare Cleveland to Columbus.

While Cleveland's above-average start rates and below-average transition rates drive up foreclosure rates, another important factor contributing to the intensity of foreclosure activity in Cleveland is its higher proportion of subprime loans relative to Columbus and Cincinnati. Both the LPS data used above and other data sources (e.g., American Core Logic's LoanPerformance) indicate a higher fraction of subprime loan originations in Cleveland compared to Cincinnati, Columbus, and Ohio, as a whole. Unfortunately, our data do not allow us to quantify the magnitude of the difference. We believe it is an important contributor to the overall differences observed in foreclosure activity across these metropolitan areas, since subprime loans have markedly higher foreclosure start rates than prime loans.

Explaining Cleveland's Lower Transition Rates

There are several possible explanations for why Cleveland's mortgages spend more time in the foreclosure process. Certainly, economic conditions could explain the difference in foreclosure transition rates across metropolitan areas. Cleveland experienced somewhat weaker housing and labor markets over the period we studied, and this may have increased the chances that a loan entering the foreclosure process stayed in foreclosure. For example, a weak housing market might reduce the likelihood a property will be sold before the foreclosure is complete.

Another reason Cleveland's transition rates are lower could be that its home loans are different. Specific features of the loans themselves or characteristics of the borrowers might matter. For example, properties with less owner equity or properties owned by borrowers with weaker credit may be more likely to remain in the foreclosure process. Under such circumstances, loan modifications and refinancing options may not be feasible.

However, our statistical analysis of the underlying loan-level data shows that while these factors are correlated with the likelihood of a loan exiting foreclosure, they do not explain the variation in foreclosure transition rates that we see across the three metropolitan areas. Cleveland still has much lower transition rates even after we control for differences in loan, borrower, and economic characteristics.

If these factors cannot explain Cleveland's lower transition rate, what is a likely alternative? One possibility is differences in administrative timelines in the handling of foreclosures across the metropolitan areas. Indeed, a report by Cleveland State University documented the fact that properties in Cuyahoga County, the central county in the Cleveland metropolitan statistical area, spent a relatively long time, on average, in the foreclosure process. According to the report, the number of annual foreclosure filings in Cuyahoga

County rose rapidly from 1995 to 2005, and the backlog of cases swelled. In response, the County initiated a program in late 2005 involving several agencies to improve its handling of foreclosures. As a result of these improvements, the average number of days to dispose of a foreclosure case fell by 45 percent from the end of 2005 to 2007.

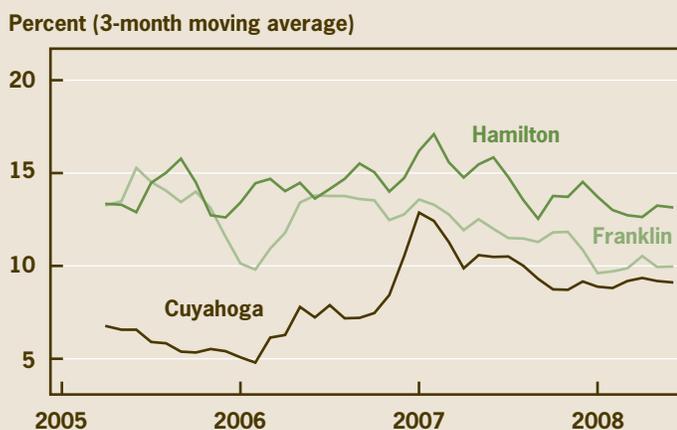
These different periods are reflected in our data: Initially, transition rates are much lower for Cuyahoga County than for Hamilton and Franklin counties, the central counties in the Cincinnati and Columbus metropolitan areas, and then they improve. Cuyahoga County's transition rate for prime fixed-rate mortgages, for example, has been below that of Hamilton's and Franklin's since 2005 at least, though the gap in transition rates has been narrowed over time (figure 4). Moreover, the timing agrees with the reported changes in Cuyahoga County's policy. Beginning in early 2006, there is a marked rise in foreclosure transition rates in Cuyahoga County, while transition rates for Hamilton and Franklin counties remain relatively stable between 2005 and early 2007.

These movements in foreclosure transition rates affect how one views the changes in foreclosure rates over time for a location, as well. For example, the foreclosure rate for Cuyahoga County declined from early 2006 through the middle of 2007, but this period of decline occurred even as the foreclosure start rate was rising (figure 5). Behind these movements in the foreclosure rate were changes in the foreclosure transition rate. Prior to 2006, the transition rate was falling, indicating that loans were remaining in foreclosure longer in Cuyahoga County. This tended to elevate foreclosure rates. But as the foreclosure transition rate began to rise after the beginning of 2006, the foreclosure rate then trended down.

The Implications

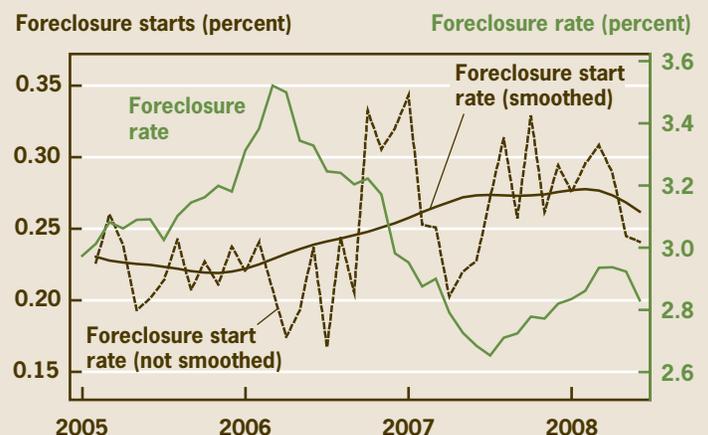
There are a number of reasons why it's important to understand how quickly mortgages transition out of the foreclosure process. The length of time a property remains in foreclosure can have economic consequences. A study by Karen Pence showed that

4. Foreclosure Transition Rate for Prime, Fixed-Rate Mortgages



Note: Starts rates smoothed using locally weighted regression, bandwidth = 0.7.
Sources: LPS, Inc., and authors' calculations.

5. Foreclosure Start Rate and Foreclosure Rate for Prime, Fixed-Rate Mortgages in Cuyahoga County



Sources: LPS, Inc., and authors' calculations.

lenders factor in foreclosure costs into loan terms at origination and notes that an important driver of differences in foreclosure costs across areas is the length of time a property remains in foreclosure. Thus, borrowers in areas with higher foreclosure costs may ultimately pay higher prices for loans or have reduced access to credit.

In addition, properties that remain in foreclosure a long time may lower the value of nearby properties or cause problems for their owners. This is not to say that the optimal length of the time in foreclosure should be very short. Cutts and Merrill (2008) argue that a reasonable timeline balances the opportunity to allow a borrower adequate time to bring the mortgage current, against the losses a lender incurs from accumulating administrative costs and possible deterioration to the property.

Finally, from a measurement perspective, one needs to recognize that the foreclosure rate is determined by both the foreclosure start rate and the foreclosure transition rate. Accordingly, the foreclosure rate may vary across locations or across time because of differences in these two flows. The experience of the Cleveland area offers an example of how transition rates can have substantial effects on foreclosure rates and on the interpretation of their movements.

Recommended Reading

“Interventions in Mortgage Default: Policies and Practices to Prevent Home Loss and Lower Costs,” by Amy Cutts and William A. Merrill. Freddie Mac, working paper #08-01, 2008.

“Foreclosing on Opportunity: State Laws and Mortgage Credit,” by Karen Pence. *Review of Economics and Statistics*, vol. 88 (February 2006), pp. 177–182.

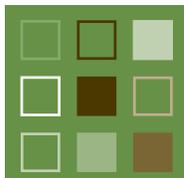
“An Analysis of Foreclosure Rate Differentials in Soft Markets,” by Francisca Richter. Federal Reserve Bank of Cleveland, working paper, no. 08-11, 2008.

“Responding to Foreclosures in Cuyahoga County: An Assessment of Progress,” by Alan C. Weinstein, Kathryn W. Hexter, and Molly Schnoke. Prepared by Cleveland State University for the Cuyahoga County Board of Commissioners, 2006.

“Responding to Foreclosures in Cuyahoga County: A Pilot Initiative (Interim Report),” by Alan C. Weinstein, Kathryn W. Hexter, and Molly Schnoke. Prepared by Cleveland State University for the Cuyahoga County Board of Commissioners, 2008.

Timothy Dunne is a senior research economist at the Federal Reserve Bank of Cleveland and Guhan Venkatu is an economist at the bank. The views they express here are theirs and not necessarily those of the Federal Reserve Bank of Cleveland or the Board of Governors of the Federal Reserve System or its staff.

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