Data Shop

Separating the Good From the Bad From the Ugly: Indicators for Housing Market Analysis

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Introduction

In the years before the current housing crisis, the Urban Center at Cleveland State University regularly produced housing indicators for the city of Cleveland, Ohio, and other geographic subareas within the Cleveland metropolitan area. As the housing market deteriorated into crisis, traditional market price and volume indicators became less useful, and analysts at the Center faced the fundamental challenge of determining what was occurring in these local housing markets.

Many local jurisdictions are undoubtedly exploring this same, uncharted territory. Those who analyze local housing markets need to gauge the (sometimes volatile) health of that market. Although national and regional indicators (for example, the S&P/Case-Shiller® Home Price Indices) are available for analysis, they provide no information on *local* market performance, and information at the municipal or neighborhood level is often crucial to making strategic planning decisions.

This article presents four lessons the Center learned about Cleveland's local housing market and the data and tools used to identify the lessons. Although these approaches may not be as useful in every market, they may serve as a starting point for similar analyses and discussion.

Lesson #1: Geography Matters

Actually, geographic submarkets matter. Within Cuyahoga County, Cleveland and its suburbs are the broadest submarkets analyzed. Exhibit 1 shows the unadjusted median price for these submarkets since 1976, which is an indicator we update regularly. The exhibit illustrates three important trends. First, the median price in the city of Cleveland is typically about one-half of that in the suburbs. Second, despite the simplicity of this split (city versus suburbs), the comparison reveals distinct market features, as do subsequent divisions of the market, whether they are individual suburbs or city/suburban neighborhoods. Third, the recent price changes that motivated concern among city and suburban residents are obvious.

The analysts' data task for exhibit 1, which was straightforward, involved receiving the transaction data directly from the Cuyahoga County auditor. Attributes included in the data were sales price, parcel number, and address, including municipality. The only necessary recoding was identifying all non-Cleveland sales as suburban.

Tracking foreclosure filings became a near-obsession among analysts in our region. Exhibit 2, which includes an additional geographic submarket of interest in Cuyahoga County—east versus west, shows the number of foreclosure filings on single-family properties among the four resulting submarkets—east, west, city, and suburb. It reveals a substantial east/west/city/suburb divide in the pattern of foreclosure filings—the problem is not simply between the city and the suburb. Further, although attention was largely focused on the city of Cleveland, particularly its east side, single-family foreclosure filings in the suburbs generally outnumbered those in the city, on both the east and west side.

Exhibit 1

Median Single-Family Home Sales Price, Cuyahoga County, Ohio, 1976–2010
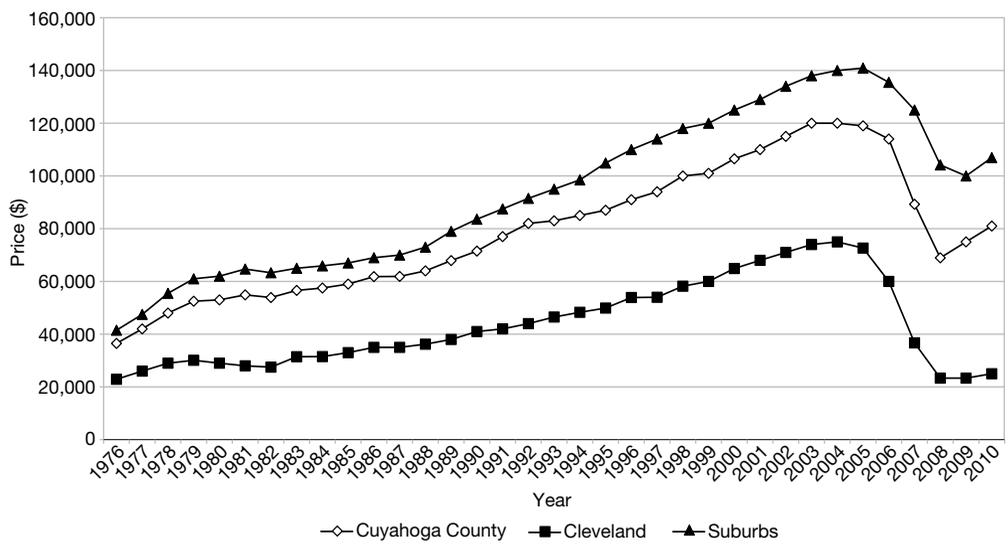
Exhibit 2

Single-Family Home Foreclosure Filings, Cleveland, Ohio, and Suburbs, East and West, by Quarter, 2006–2010
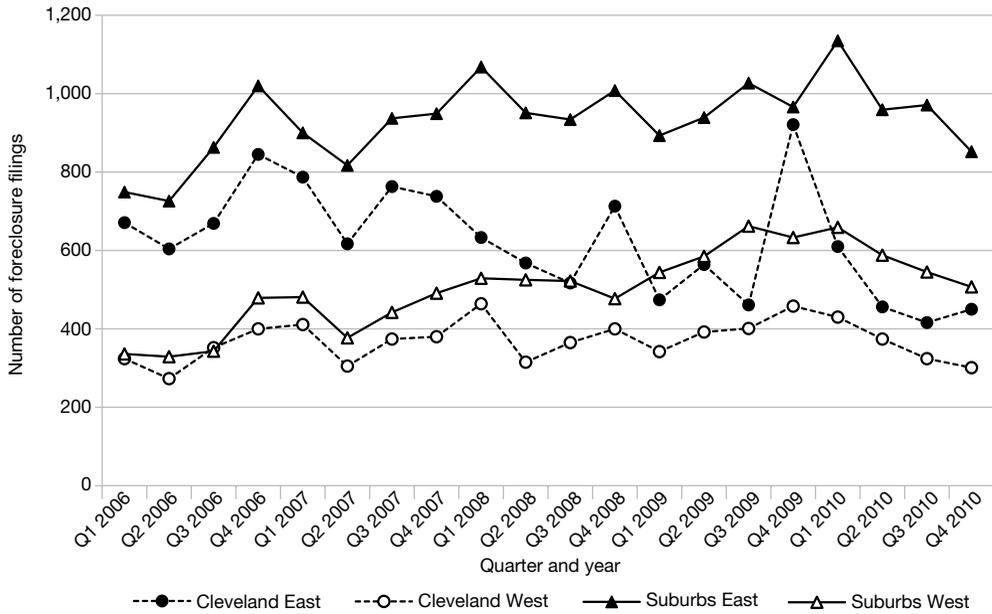
Foreclosure filing data are available online through the Cuyahoga County Clerk of Courts. They include the filing date and parcel number. This analysis used parcel number ranges to assign parcels to neighborhoods and municipalities, which themselves are designated as east or west side.[1]

Lesson #2: The Market Is Fundamentally Different Now

What many people failed to realize about the trends illustrated in exhibit 1 was that, although the price of the median sale had dropped, in some cases dramatically, the median sale itself had changed. Before the crisis, the median single-family house sale was an arms-length transaction between owner-occupiers. During the crisis, the median sale is much more likely to be a distressed sale, one affected directly by foreclosure. Thus, analysts at the Center identified, and examined separately, these two markets. They defined a sale as "directly affected" by the crisis if one of the following conditions was met:[2] (1) the sale was a sheriff's sale, (2) the house had sold at a sheriff's sale in the past 2 years, or (3) the house had a foreclosure filing against it in the past 2 years.

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[1] These geographic assignments can also be made through geocoding in a Geographic Information System.

[2] In this article, we do not address the question of indirectly affected houses, which occur when foreclosed houses affect the sales price of surrounding houses.

If the sale met none of these conditions, the analysts considered it to be not affected by the crisis. Exhibit 3 shows the percent of single-family home sales that fell into the directly affected category by year. In 2004, when prices were at (Cleveland) or near (suburbs) their peak, the percentage of affected sales hovered near 35 and 10 percent, respectively. As the percentage of affected houses climbed, house prices declined, and, by the first quarter of 2009, 85 percent of the sales in Cleveland and two-thirds of the sales in the suburbs were affected. These data reflect a dramatic change in the market—arms-length sales numbered fewer than one in five in the city and fewer than one in three in the suburbs. The median sale was now an affected sale and the median prices, shown in exhibit 4, clearly reflect that.

Prices in the affected market have been substantially lower since 2004; houses are selling at roughly 50 percent of the price in the nonaffected market. Because affected sales constitute a larger component of the market over time, the median price of all sales continues to drift closer and closer to the affected price. Through 2008, however, houses selling in the arms-length market had seen only modest declines. Compared with the data in exhibit 1, the data in exhibit 4 are much more illustrative of actual market conditions.

The distinction between the affected and arms-length market also plays out at the neighborhood level. Exhibits 5 and 6 show the sales counts and median prices for each segment in Cleveland's Ward 12, which includes Slavic Village, a neighborhood that received much attention for its role in the housing crisis, both nationally and in Cleveland. From the beginning of 2004 to the end of 2007, affected sales increased five fold. At the same time, arms-length sales, which were increasing from 2003 to 2005, began to slide, and they have yet to recover. Prices in the arms-length market

Exhibit 3

Percent of Single-Family Home Sales Identified as "Affected," Cuyahoga County, Ohio, by Quarter, 2004–2010
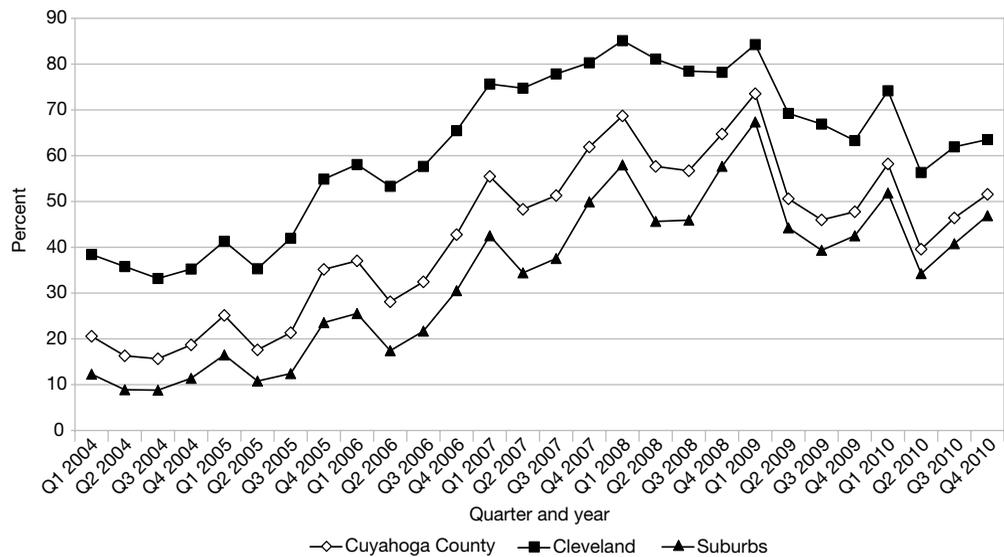
Exhibit 4

Median Single-Family Home Sales Price by Market Segment, Cuyahoga County, Ohio, by Quarter, 2004–2010
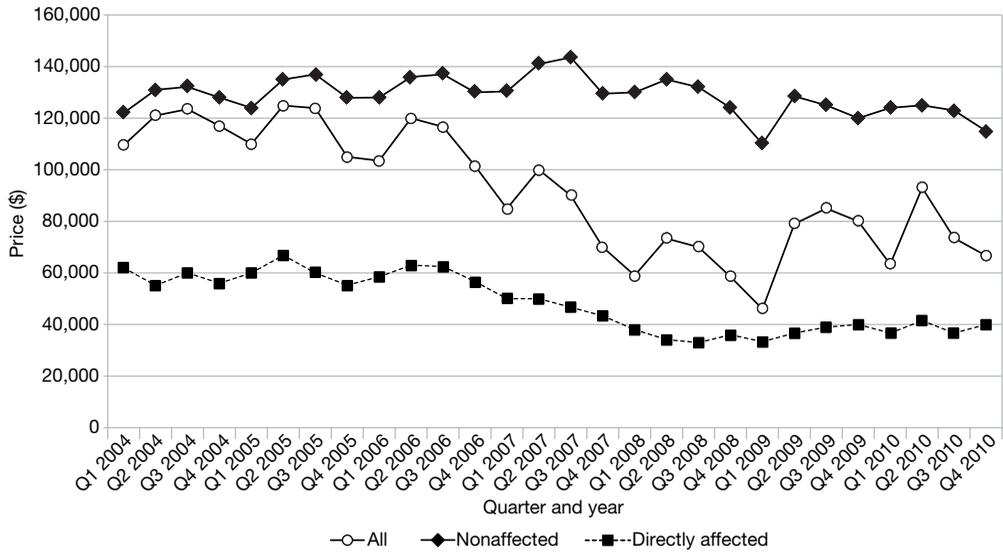
Exhibit 5

Single-Family Home Sales by Market Segment, Ward 12, Cleveland, Ohio, by Quarter, 2003–2010
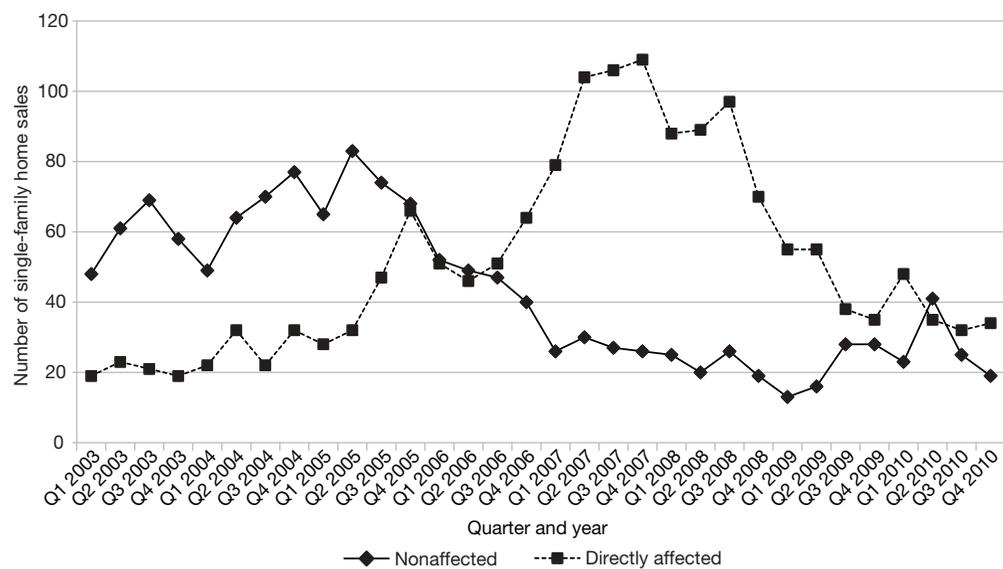
Exhibit 6

Single-Family Home Median Sales Prices, Ward 12, Cleveland, Ohio, by Quarter, 2003–2010
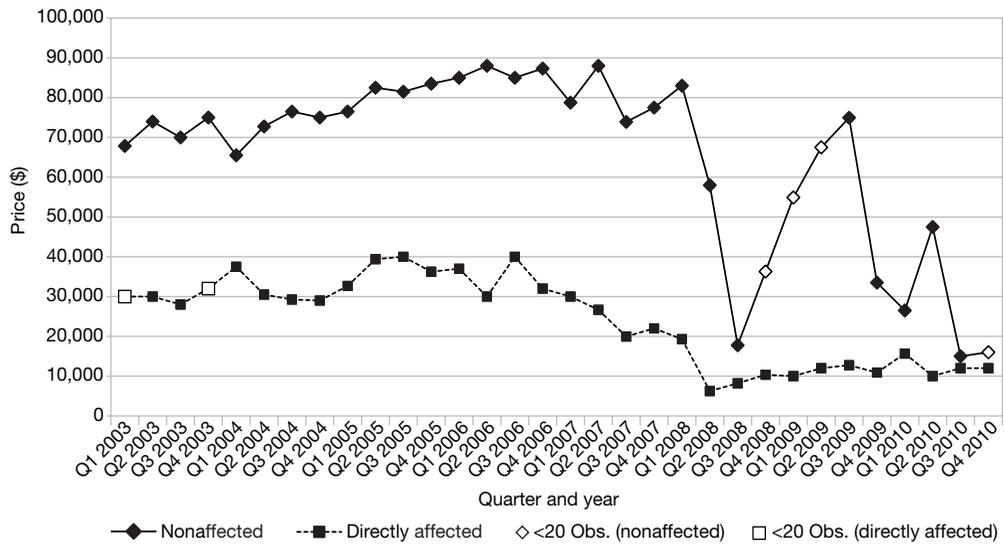
Obs. = observations.

remained strong (hovering around $80,000) until early 2008, when affected sales began flooding that market. Sales prices since then have been erratic (partly because of the sparse number of sales).

Using this sales dichotomy at the neighborhood level can identify locations where arms-length activity is still occurring, or, at the other end of the spectrum, identify when neighborhoods hit a turning point in which the market fails to distinguish between affected and nonaffected properties. In Ward 12, the arms-length market seems to have held on in volume until early 2005 and in sales price until 2008.

Exhibits 3 through 6 relied on combining sales data with foreclosure filing data, linking the two sets of data by parcel number. For each sale, we checked to see if there had been a sale in the last 2 years with a deed type that indicated a sheriff's sale. The analysis also cross-referenced the fore-closure filing data to determine if the sold property had a foreclosure filing in the previous 2 years.

Lesson #3: What Is Selling Now Is Not the Same as What Was Selling Previously

Tracking the median home sales price over time implicitly assumes measuring the same market from one year to the next, so that a 5-percent price increase represents a change in the value of the market, not a change in its composition. For example, if in one year all the houses that sold in a

neighborhood were below average size and in the next year they were all above average size, one would anticipate a price increase from one year to the next simply because the larger houses were selling.

Exhibit 7 shows a change in value-composition occurring gradually since 1999, but accelerating since 2004, in the eastern suburbs of Cuyahoga County. For each year, the county auditor provides the estimated market value of each property (used for taxation purposes). Analysts at the Center then divide the entire housing stock into quartiles based on those values. For the transactions in each year, they run a frequency distribution on the value quartile and calculate the percentage of all houses that sold from each of the four value quartiles. If sales were balanced, they would expect 25 percent of all sales to come from each value quartile, as was roughly the case, for example, in 1993.

By 2008, however, the top 25 percent of all valued homes constituted only 17 percent of all sales. Similarly, one-third of all houses sold came from the lowest 25 percent value quartile. Thus, part of the downward pressure on median prices came from the fact that lower valued houses made up a larger portion of the overall market. This finding builds on the information displayed in exhibit 4. Not only are different market segments at work, but also larger numbers of lower valued houses are entering into each of those markets.

Exhibit 7

Single-Family Home Sales by Value Quartile, Eastern Suburbs, Cuyahoga County, Ohio, 1993–2009
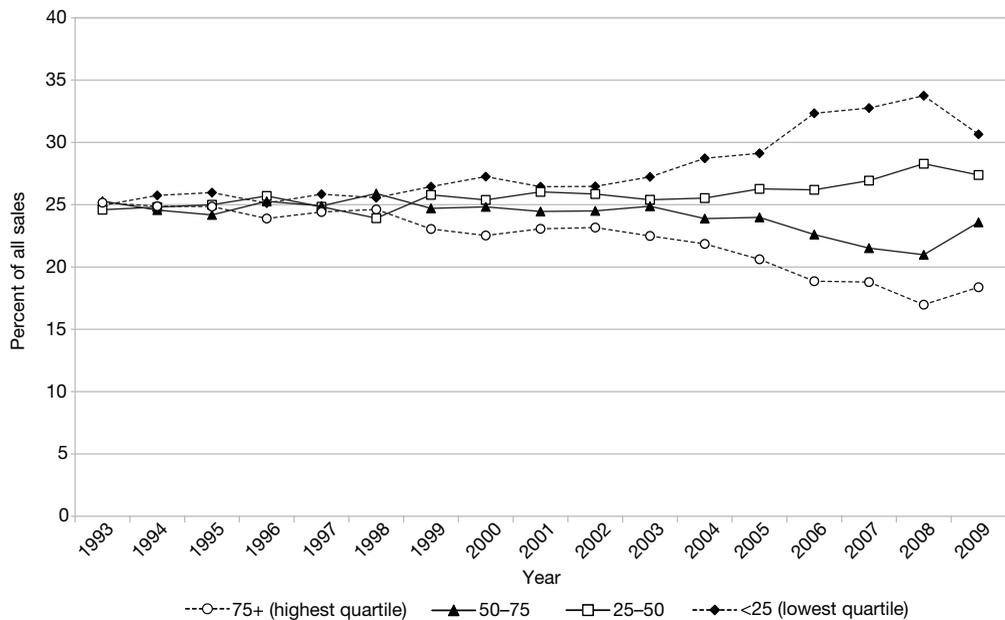
Lesson #4: "Flipping" Went From a Red Flag to Worse

Before the housing crisis, the region's housing market experienced its fair share of "flipping," which is when a homebuyer purchases a house and then resells it very quickly (within 90 days, by the Center's definition) at a substantially higher price (25 percent higher, by the Center's definition). The analysts tracked and reported on these quick resales because the large price changes over such a short period of time were a concern. Under some flipping scams, very little, if any, renovation was done, but the house would be appraised and resold to an unsuspecting buyer for much more than its true value. This scenario was ripe for subsequent mortgage default. The Center created lists of those individuals involved with these transactions, and the analysts profiled the activities of those individual actors, over time, by price level and location.

As the local market worsened, these quick resale analyses unearthed a dramatic change in the quick resale market, as shown in exhibit 8. The median resale price was $90,000 in 2006, but it plummeted to less than $4,000 in 2008, and the volume of sales doubled from 2007. Although sales volume has since cooled, the 2010 median resale price is still less than one-fourth of its 2006 level.

Within a short period of time, the quick resale market focused on an entirely different type of structure. It went from what was likely questionable flipping of inhabitable housing to desperation sales—property-churning of dilapidated houses that are unlikely to be occupied again.

Exhibit 8

Quick Resale Price and Volume, Cleveland, Ohio, 2006–2010
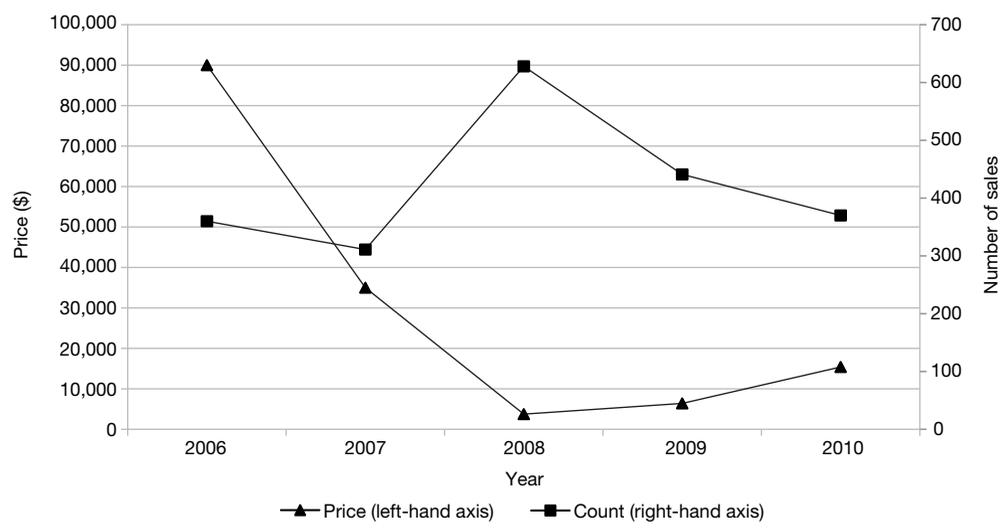
Conclusions

Any single indicator presented likely generates several questions regarding why it was selected over another. Although analysts at the Urban Center engaged in much learning-by-doing, they were guided by a handful of data goals in their analyses. They used data that were available monthly and at the parcel level—primarily sales and foreclosure filings. Because the market changed quickly in our region, they wanted the most disaggregate, recent, and helpful data available.

The analysts kept it simple, both methodologically and graphically. They were producing these analyses for busy people who were not housing experts. The consumers of our research would not have all day to mull over its methodological nuances. They made maps, but often only to investigate findings produced via the indicators they have shared here. On the other hand, the analysts produced most of their work at a variety of aggregation levels. A Geographic Information System (GIS) is not necessary to conduct these analyses. Spreadsheet (such as Microsoft Excel) skills are necessary, however, and it is essential to have a way to join data on a common field (typically, a parcel number), which can be accomplished with SAS, SPSS, or Microsoft Access. This opens up the possibility of linking different data sets that contain information on a common object, such as a house, parcel, or neighborhood.

Many of the analysts' data decisions appear, and, in fact, were arbitrary. Their analyses were exploratory, and they had little past research to guide them. It is, of course, possible to test these data decisions for robustness and to experiment with different indicators over shorter or longer periods of time. Finally, but by no means trivially, the analysts cleaned the data that they used, making their analyses slightly more involved than what they have shown in this article. They did not delve into these details because they anticipate that other analysts will have different data issues than the Urban Center analysts had. The Urban Center will provide these details to interested analysts.

At a time when many thought the entire Cleveland market was "the ugly," the Center's research goal was to identify the good (nonaffected sales), the bad (affected sales and changed value composition), and the ugly (the balance between affected/nonaffected sales and the change in nature of the quick-resale market) in a way that was useful for local policymakers. The goal in this article is to relate that process and its results in a way that can be useful for other housing analysts in markets facing similar challenges.

Acknowledgments

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