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CAPITAL MANAGEMENT
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AMHERST CAPITAL MARKET COMMENTARY | AUGUST 2, 2016

Housing market remains healthy – why some indices don't think so

- We believe home prices were actually up 0.3% from April to May while broadly followed indices reported them flat to negative
- We believe that homes transacted between investors and consumers create false signals when they are included in home price indices resulting in overstated volatility and seasonal adjustments
- In the last few years, consumer-to-consumer volume has risen while investors/consumer volume has declined, which we believe is causing these indices to produce erroneous signals
- The Amherst home price indices[1] control for these factors and conclude that there is no shift in housing momentum in recent months. Of the top 20 MSAs, 18 continue to show monthly increases in home prices in May, with San Francisco and New York the only two areas declining. Many other areas like Portland, Seattle and Dallas continue to grow strongly

Introduction

The Case-Shiller Home Price Index has for many years been the best and most widely held indicator of the health of the U.S. housing market. It has been used as an input for many models across the industry including at Amherst. Since it is widely followed, it is necessary to point out how the housing crisis has impacted the index - potentially causing it to provide misleading signals in certain market conditions.

The underlying thesis of the Case Shiller index was revolutionary in that it compared buys and sells of the same home at different times. This intended to handle the asset-level idiosyncrasies that other indices could not detect. For years, this methodology worked well, but the 2008 housing collapse and recovery created a set of "wholesale" observations (usually sales to and from investors) that are not representative of the overall housing market. This caused the "same asset" structure of the index to potentially overstate volatility and confuse seasonal adjustments. Last month, these issues conspired to present what we believe to be a misleading headline of a weakening housing market.

Wholesale Transactions Produce Noise in the Signal

To appreciate how wholesale transactions can produce noise in the signal, it is important to understand what happens at the end of a foreclosure and thereafter. The final step of a foreclosure is the open auction sale of the home. The buyer in that transaction could be an investor but is usually the mortgage lender. The mortgage lender typically buys the home at a price equal to the loan balance, which is well above the clearing level for the home (it is really just the first step of taking possession before hiring a real estate agent to market the home). Then, after the realtor is engaged, most homes are sold to investors because they are rarely in "move in condition". These investors often invest in repairs, clean the home up and make it ready for a retail buyer. These "flippers" usually earn a fairly large mark-up on their risk and labor.
Understanding this is important as a deluge of distressed sales can create several transactions for the same home in a fairly short period of time (there were 7 million foreclosures in the U.S. during the housing

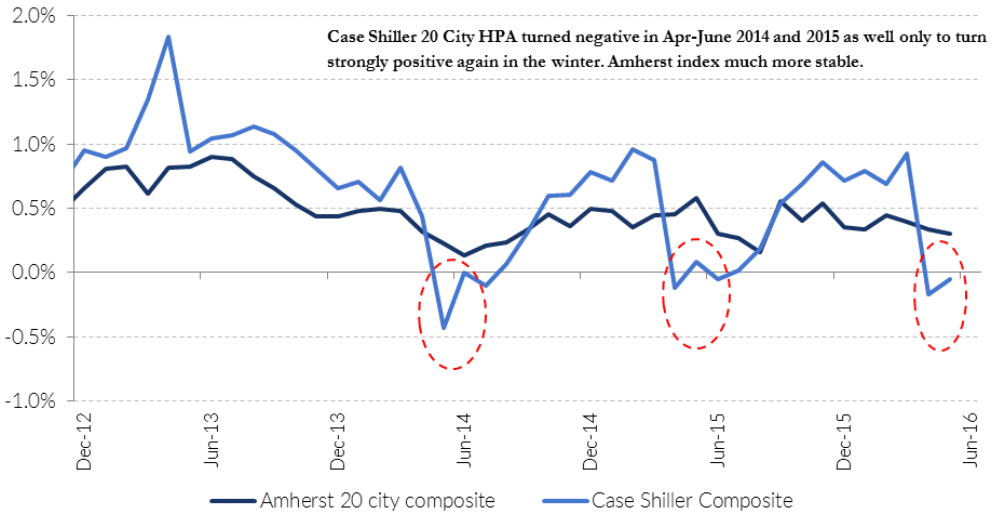
crisis[2]). In the appendices to this article, we show an actual home working its way through foreclosure and then back to the consumer market. When the home is sold into the wholesale market (bought by investors) it seems to show extreme "depreciation," while it "appreciates" at a 126% annualized rate when "flipped" to an end-buyer. In both cases, the wholesale vs. retail pricing difference could be confused with actual price movement and indices that include these transactions are likely to show very sharp downward and upward movements overstating volatility of home prices for regular consumer-to-consumer transactions. Most home price indices today exclude real estate owned ("REO") sales but still include other distressed sales (portfolio, shortsales) and more importantly include flip-up sales creating distortion in the reported indices.

To further complicate factors, the share of these types of transactions changes throughout the year and over time. In 2009-2011, large volumes of homes were being sold into the wholesale market (indices including shortsales/portfolio sales would still notice downward pressure on prices). More recently, a large number of homes are being flipped up and sold back into the consumer market (putting erroneous upward pressure on indices that do not exclude those transactions). Given distressed transactions are not significantly affected by time of the year, they tend to be a larger share of sales in the winter months, while the transactions where investors flip homes to end-buyers usually coincide with the summer buying season. We believe this difference in timing of sales has exaggerated the seasonal adjustments in the last few years (including 2016) for indices that do not exclude such transactions.

Housing is healthy and home prices growing

Given resources that are now available, it is possible to remove all of these wholesale transactions and get a cleaner picture of home prices. The Amherst home price indices use property transaction data to identify and remove all such transactions that we believe do not represent regular transactions between end-consumers.

Figure 1 Amherst vs Case Shiller m-o-m seasonally adjusted Home Price Appreciation ("HPA")



Source: Amherst InsightLabs, S&P Corelogic Case Shiller indices, as of July 2016

[1] The Amherst home price index is generated and maintained by Amherst InsightLabs LLC ("AIL"). Amherst Capital has an exclusive license with AIL in the asset management industry. AIL is an affiliate of Amherst Holdings, LLC. Please see find a description of the index and important disclosures at the end of this paper. [2] RealtyTrac data, Amherst InsightLabs as of May 2016.

Figure 1 compares the month-over-month home price appreciation on the seasonally adjusted 20-city Case-Shiller composite index with the equivalent Amherst 20-city composite Index. The Amherst index shows that home prices continue to grow at a modest pace with appreciation in the month of May of about 0.3%. This is in contrast to the -0.05% reading in May on the Case Shiller Index following an even more negative reading in April. The Amherst Index also mitigates the problems with the seasonal adjustments to the Case Shiller Index, which has weakened between April-June in the last 2 years as well - only to recover with higher than average appreciation in the winter months. We believe the latest negative reading is yet another misleading signal – much like the last 2 years – that we anticipate will likely be reversed in the winter months.

Home Prices continue to grow in 18 of the top 20 metro areas

During the month of May, Amherst home price indices saw a marked weakness only in the San Francisco market (-0.9% m/m) and a more modest decline in New York (-0.2% m/m) – the other 18 top Metropolitan Statistical Areas ("MSAs") have positive May readings (Figure 2). Portland, Seattle and Dallas continue to grow strongly. In contrast, the S&P Case Shiller indices seem to indicate more widespread declines with as many as 8 of the top 20 MSAs in the negative territory in May. Overall, housing remains healthy and we do not see any significant shift in momentum (please see The Case for U.S. Housing , July 2016 for more details).

Figure 2 Amherst home price indices show modest home price growth in May

	May 2016 M-o-M Seasonally Adjusted		May 2016 Y-o-Y	
REGION	AMHERST	CASE SHILLER	AMHERST	S&P CASE SHILLER
Portland	1.01%	0.69%	11.4%	12.5%
Seattle	0.99%	0.27%	10.0%	10.7%
Dallas	0.88%	0.48%	7.8%	9.0%
Washington	0.77%	0.21%	2.0%	2.4%
Boston	0.72%	-0.04%	4.9%	5.6%
Miami	0.63%	0.35%	5.2%	6.6%
Detroit	0.57%	-0.06%	5.1%	5.6%
San Diego	0.55%	0.19%	6.3%	6.4%
Denver	0.52%	0.38%	9.2%	9.5%
Tampa	0.52%	-0.01%	7.8%	7.7%
Minneapolis	0.52%	0.31%	4.9%	5.2%
Charlotte	0.49%	0.20%	4.1%	5.0%
Chicago	0.48%	0.10%	1.8%	3.7%
Las Vegas	0.44%	0.19%	5.1%	5.2%
Phoenix	0.37%	0.22%	5.6%	5.4%
Atlanta	0.36%	-0.14%	5.3%	6.3%
Los Angeles	0.20%	-0.17%	5.1%	5.4%
Cleveland	0.07%	-0.18%	1.8%	2.5%
New York	-0.25%	-0.48%	1.3%	2.0%
San Francisco	-0.92%	-1.29%	4.9%	6.5%
Composite-20	0.30%	-0.05%	4.5%	5.2%

Source: Amherst InsightLabs, S&P Corelogic Case Shiller indices, as of July 2016
Note: The columns labelled S&P Case Shiller show m-o-m and y-o-y changes in the seasonally adjusted S&P Corelogic Case Shiller home price indices for the top 20 metropolitan areas and the composite. The columns labelled Amherst show m-o-m and y-o-y changes in the seasonally adjusted Amherst home price indices for the top 20 metro areas and the composite.

Appendix 1

Distressed and flip-up transactions overstate declines and appreciation

To see how different treatment of distressed and flip-up transactions can overstate declines and appreciation, let us consider a real-world example. Below we show 4 transactions reported in the county records on an actual property:

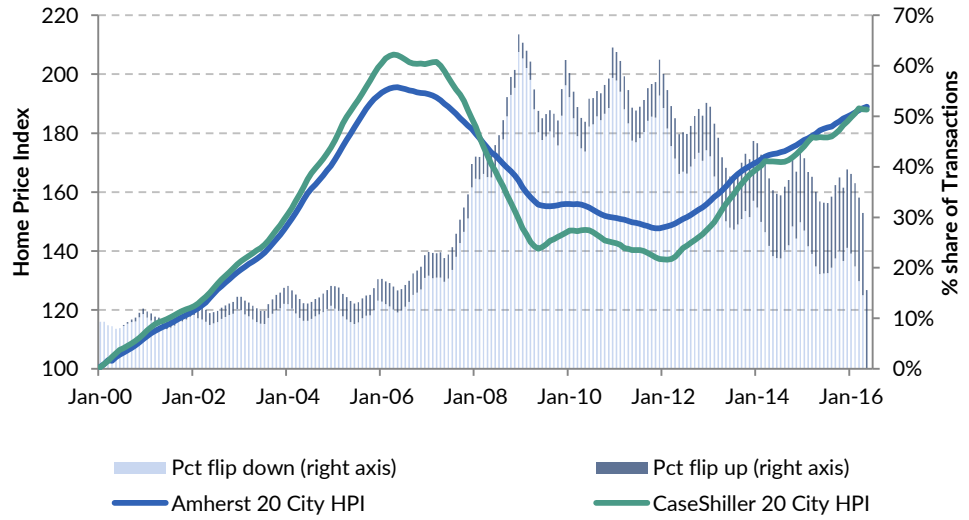
A. A house was sold on September 1, 2003 for $94,000 in Bakersfield, CA (Normal arms-length transaction). The borrower cashed out equity a few times with a final mortgage balance of about $202,500 in September 2006.
B. The mortgage borrower was delinquent on their mortgage and on March 19, 2012 the bank re-possessed the house (Non-arms-length transaction)
C. The bank sold the house in distress for $63,000 on July 09, 2012. (Distressed arms-length transaction)
D. The house was sold again for $111,500 on March 22, 2013. (Normal arms-length transaction)

An index that does not exclude distressed and flip-up transactions would in effect use the distressed transaction on both the way down and on the way up. So such an index would see the A->C transaction pair that shows a 33% decline in prices and the C->D transaction which sees a 77% increase in prices over just 9 months (or a 126% annualized appreciation).

An index that excludes REO sales (Case Shiller) but does not exclude flip-ups would only see the C->D transaction and would report much higher appreciation for the 9 months between July 2012 and March 2013.

An index that excludes pairs (Amherst index) where either sale is distressed, would exclude both the A->C and the C->D pair. Such an index would use only the A->D pair, which shows a 19% rise in prices over 9.5 years. As a result, this methodology yields an index that is less prone to overstating the declines and appreciation in home prices in bust or boom periods (Figure 3)

Figure 3 Amherst vs. Case Shiller HPI and Flip-Down/Flip-Up transactions



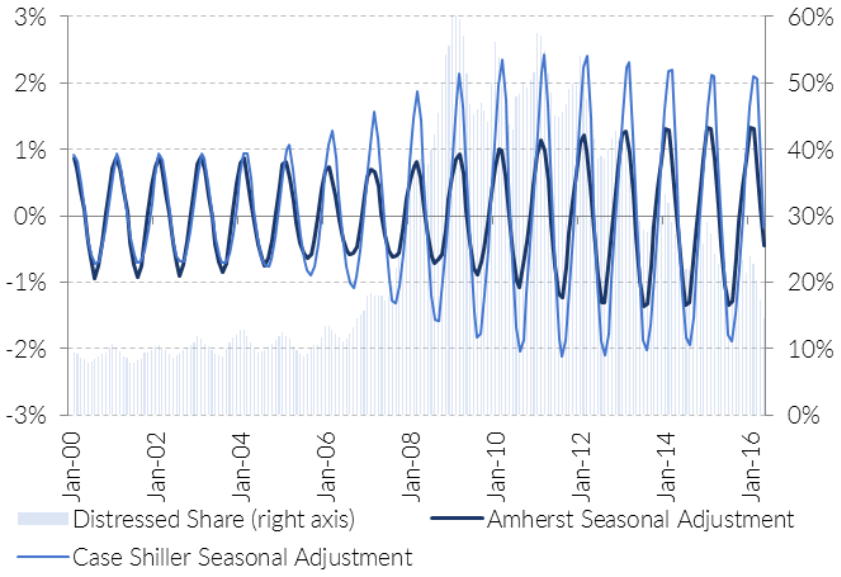
Source: Amherst InsightLabs, S&P Corelogic Case Shiller indices, as of July 2016

Appendix 2

Distressed and flip-up transactions also make seasonal adjustments worse

The change in share of these transactions also leads to improper seasonal adjustments for indices which does not exclude distressed and/or flip up transactions. This is because distressed sales do not change substantially through the year making them a larger proportion of winter sales, depressing winter home prices measured by the index. At the same time flip-up transactions usually are to end-consumers which coincide with the summer buying season, causing home prices to rise much more in the summer. This difference in timing of distressed and flip up transactions and changing mix over the years leads to seasonal adjustments being overstated/understated. For example, Figure 4 shows that seasonal adjustments for the Case Shiller Index have more than doubled vs. pre-crisis levels. The seasonal adjustments for the Amherst HPI, which removes these transactions, have increased as well but much more modestly and remain roughly in line with pre-crisis periods.

Figure 4 Amherst vs Case Shiller seasonal adjustments



Source: Amherst InsightLabs, S&P Corelogic Case Shiller indices, as of July 2016

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ABOUT THE AMHERST HOME PRICE INDEX

Amherst home price index is generated and maintained by Amherst Insightlasbs LLC. The index tracks price changes of single-family detached properties in 90 core-based statistical areas (CBSA) and 50 states in the US. The index is published monthly and is based on the Case Shiller repeated sales methodology. Unlike HPI published by S&P Case Shiller Weiss, Corelogic and Federal Housing Finance Agency (FHFA), Amherst HPI is a distressed-free index which does not include price changes due to foreclosures, short-sales, bank repossession and REO resale. The repeated sales HPI rely on tracking price changes in transactions of the same house over time. For each arms-length and distressed-free home sale transaction, a search is conducted to find information regarding previous arms-length and distressed free sales of the same house. If an earlier transaction is found, the two transactions are paired into a "sale pair." Sale pairs are designed to track price changes over time for the same house, while holding the quality and size of each house constant. After sales pairs are formed, the index is calculated under a weighted least square framework, in which weights are based on price anomalies and time interval within pairs.

ABOUT AMHERST CAPITAL MANAGEMENT

Amherst Capital Management LLC is a real estate investment specialist with approximately $6.3 billion[1] of Assets under management. Amherst Capital was established in 2014 as a majority-owned subsidiary of BNY Mellon, and is minority-owned by Amherst Holdings, LLC a financial services holding company with more than 10 year history of utilizing its mortgage expertise to assist clients in navigating the real estate capital markets. Amherst Holdings is not an affiliate of BNY Mellon. Texas Treasury Safekeeping Trust Company is a founding seed investor of Amherst Capital. [2] Amherst Capital offers traditional and alternative real estate investment strategies to private and institutional investors globally. Amherst Capital's investment strategies are grounded in deep intellectual capital and proprietary technology designed to help clients meet their portfolio needs. For more information please visit www.amherstcapital.com

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FOOTNOTES

(1) As of June 30, 2016. This amount includes assets pertaining to certain discretionary multi-sector fixed income clients of our affiliate Standish Mellon Asset Management Company, LLC ("Standish"), for which certain Amherst Capital employees provide advice acting as dual officers of Standish. In addition, discretionary portfolios with approximately $447 million are managed by certain of our employees in their capacity as dual officers of The Dreyfus Corporation. AUM includes gross assets managed in the single family equity strategy, which includes $245 million of leverage.(2)Seed capital Investor. It is not known whether the listed client approves or disapproves of the adviser or the advisory services provided.