

# Economic Outlook

October 24, 2012

## This Housing Boom is Different

BY JASON M. THOMAS

It is now widely recognized that the U.S. housing market is recovering rapidly and will likely contribute meaningfully to growth in 2013. Less understood are the ways that this housing boom will differ materially from the one experienced from 2000 to 2006. The most salient feature of the prior boom was unsustainable house price appreciation. Increases in housing prices enabled homeowners to significantly increase indebtedness, which drove faster growth in consumer spending. With household debt levels and loan-to-value ratios still near record levels, this housing boom, by contrast, will be based on a sustained increase in residential investment that could add more than one percentage point of GDP per year over the next four years.

### Residential Investment: the Bust was Twice the Size of the Boom

Between 1947 and 2000, “fixed residential investment” – the total dollar value of construction spending on new and existing single-family homes and multifamily housing units (apartment buildings, condominiums, etc.) – grew at a compound annual rate of 3.5%, after inflation.<sup>1</sup> As shown in Figure 1, residential investment has exhibited a number of boom-and-bust cycles, none larger than that experienced over the past decade. At its Q4-2005 peak, housing investment equaled \$917 billion in 2012 dollars, about \$228 billion (or one-third) more than would be consistent with the 1947-2000 trend. While a large correction was surely in order, the contraction in investment witnessed between 2007 and 2011 was actually twice as large as necessary to correct for the prior overinvestment. Today, annual fixed residential investment is \$490 billion less (3.1% of GDP) than would be expected based on the 1947-2000 trend. Fixed residential investment could double from current levels and still be below levels consistent with historical experience.

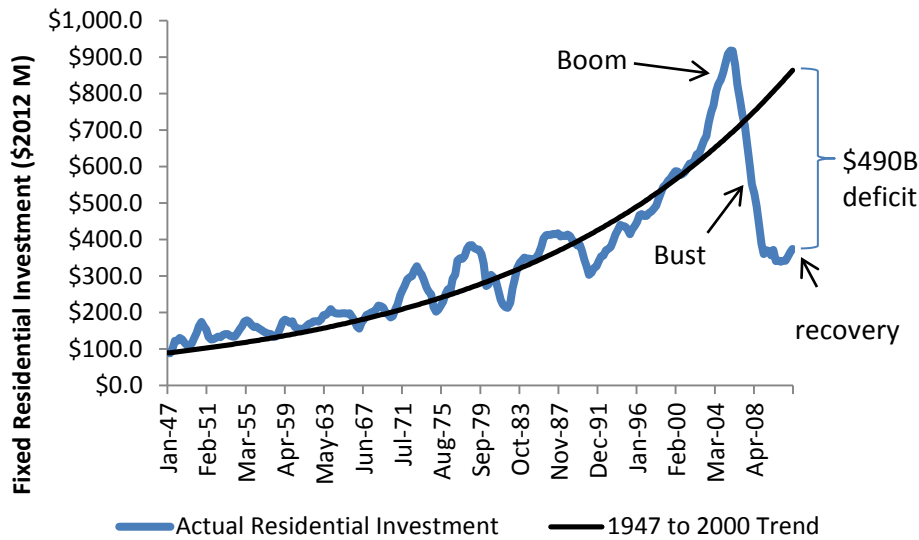
The decline in housing investment cannot be explained by either slowing population growth or a secular shift away from “owning” towards renting. Between 1959 and 2000, the housing stock grew at a rate of one new single-family home for every 2.1 people added to the working-age population and one multifamily structure for every 5.7 additional people.<sup>2</sup> As of August 2012, the construction rate for single-family homes remains 55% lower than would be consistent with growth in the working age population, while multi-family construction is off by 53%. Since January 2008, the number of new single-family houses started has been

<sup>1</sup> During this time, residential investment has accounted for 4.7% of quarterly GDP, on average. Bureau of Economic Analysis.

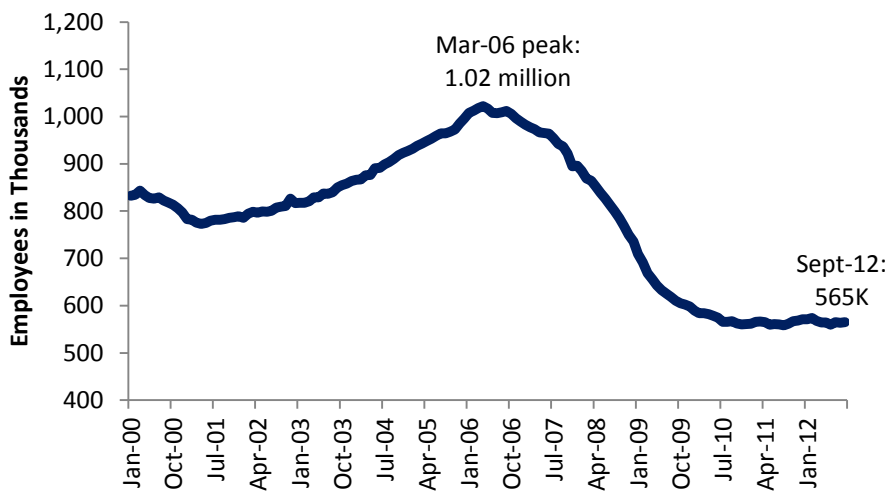
<sup>2</sup> Census Bureau. Single-family is used to describe 1-4 unit structures. The “working age” population is defined as people 16 years of age and older residing in the 50 states and the District of Columbia, who are not inmates of institutions (e.g., penal and mental facilities, homes for the aged), and who are not on active duty in the Armed Forces.

56% below levels consistent with population growth since that time; the number of multi-family structures constructed has been 60% less than would be expected based on population growth.

**Figure 1: Growth in Real Fixed Residential Investment, 1947-2012<sup>3</sup>**



**Figure 2: Total Residential Construction Employment<sup>4</sup>**



While most housing investment involves the construction of new units, some level of investment is required simply to offset the physical depreciation of the existing housing stock. Including maintenance expenses, the U.S. housing stock depreciates at an estimated annual rate of 2.5%.<sup>5</sup> With the replacement cost of the existing residential housing stock valued at \$14.2 trillion, approximately \$350 billion in annual investment is required simply to keep the net value of the housing stock from declining.<sup>6</sup>

<sup>3</sup> Bureau of Economic Analysis.

<sup>4</sup> Bureau of Labor Statistics.

<sup>5</sup> Harding, et al. (2007), "Depreciation of Housing Capital, Maintenance, and House Price Inflation: Estimates from a Repeat Sales Model," *Journal of Urban Economics*.

<sup>6</sup> Fed Flow of Funds, B.100, Line 44.

To return to the 1947-2000 trend by mid-2016, real housing investment would have to grow at a 24% annual rate over the next four years – a growth rate without historical precedent. In this scenario, housing investment growth would add 4.0% to GDP, or about one percent per year, and result in the creation of more than 500,000 jobs (see Figure 2). While an increase of this magnitude may seem improbable, it was not long ago that many observers, including those at the Fed,<sup>7</sup> viewed any decline in national house prices as unlikely. The 30% peak-to-trough fall in national house prices – with declines of more than 60% in the hardest hit markets – should have heightened awareness of the magnitude of the shifts possible in housing markets. Moreover, even if investment were to grow by 24% per year, annualized growth over the 10 years ending in June 2016 would be just 1.2%, making 2006-2016 the longest ten-year period of sub-3.5% annualized growth in history.

### House Prices: the Prior Boom and Current Outlook

It is unlikely that house prices will “snap back” in the same manner as residential investment. The increase in house prices between 2000 and 2006 was of a completely different character than the increase in investment, particularly in certain “bubble” markets like Miami, Phoenix, Las Vegas, and parts of California. Whereas the sharp drop in residential investment since 2006 was more than twice as large as necessary to return to trend, the national house price declines witnessed since then have been roughly in-line with “fundamentals.”

The best measure of house price fundamentals is the “Owners’ Equivalent Rent” series from the Bureau of Labor Statistics. Owners’ Equivalent Rent is the estimated cash payment a household could receive if it moved out of its current residence and rented it out at current market rates. The series strives to replicate the rental equivalent value of the owners’ occupied housing stock, which can be of a different character than rental properties.<sup>8</sup> Sustained deviations in the growth rates of house prices and equivalent rents can create anomalous situations where the same housing services – location, amenities, square feet, etc. – can be acquired at substantially different prices in the rental and for-sale markets. Such situations generally presage dramatic reversals in house prices to restore equilibrium.

For example, between January 2000 and May 2006, average house prices in Miami had grown at a compound annual rate of over 15%. Although rapid house price appreciation led many to express concerns about housing “affordability,” the real cost of housing actually *declined* during this period, as per capital personal income increased by 33% while the shelter component of the local consumer price index (CPI) increased by 31%. By 2006, “buying” cost over twice as much as renting (as measured relative to 2000). Miami-area house prices predictably collapsed thereafter.

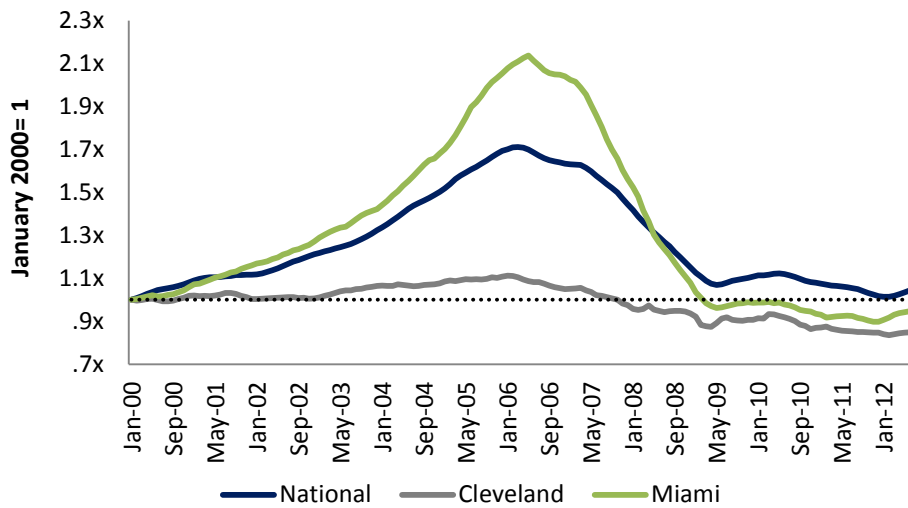
Figure 3 plots the relationship between house prices (as measured by the S&P Case-Shiller Index) and owners’ equivalent rents for the entire U.S. and Miami and Cleveland metro areas. Miami house prices peaked at 2.14x equivalent rents in May 2006, returned to parity by December 2008, and now sell at a 6% discount to equivalent rents. This pattern is broadly similar to that experienced in other “bubble” markets like Phoenix, Las Vegas, and parts of California. For the U.S. as a whole, house prices peaked at 1.71x equivalent rents, but have remained near parity since 2009. Finally, house prices in Cleveland, which proxy for those in many Midwestern and Southern housing markets, rose to just 1.11x equivalent rents in 2006. Despite this lower ratio, prices in Cleveland and other Midwestern cities nevertheless followed the drop in national house prices from 2006 to 2011. As a result, house prices in Cleveland are currently priced 15% below equivalent rents. Although average house prices in many markets have increased substantially from

<sup>7</sup> Greenspan, (2005), quoted in *The Economist*, available at: <http://www.economist.com/node/11453745>.

<sup>8</sup> See BLS, “How the CPI measures price change of Owners’ equivalent rent of primary residence (OER) and Rent of primary residence (Rent).”

the 2011 lows – especially Phoenix where prices are up by 17% on a year-over-year basis – further increases are likely to be tied to increases in the cost of housing services more generally.

**Figure 3: House Price to Rent Ratios, 2000 to 2012<sup>9</sup>**



### Housing “Wealth Effects” Unlikely to Stimulate Household Spending

Observers often focus on house prices because of their hypothesized impact on household wealth and consumption expenditures. While under-construction in recent years could cause house prices to rise more rapidly than has been the case previously, house price appreciation tied to increases in equivalent rents is actually a form of inflation. Rather than generating incremental spending from “wealth effects,” increases in the cost of housing services are more likely to *reduce* non-housing consumption expenditures.

An increase in the rental value of a property increases the rental income of a landlord, but does nothing to boost the income of a household that chooses to continue to reside in that home.<sup>10</sup> If the rental value of a property increases from \$1,000 per month to \$1,500, the landlord pockets the additional \$500 but the owner-occupier consumes it. When equivalent rents increase, so too does the value of the non-housing consumption that the household foregoes by living in the current residence instead of renting it out.<sup>11</sup>

House price increases boost household spending through “collateral effects.” Residential real estate serves as collateral for mortgage loans; increases in house prices generate additional home equity collateral that can be pledged to increase indebtedness. Between 1999 and 2007, U.S. households used home equity loans, lines of credit, and cash-out refinancings to extract more than \$5.7 trillion in equity from their homes.<sup>12</sup> Much of this debt substituted for high-cost unsecured borrowing through credit cards.<sup>13</sup> At its peak, gross equity withdrawal reached \$200 billion per quarter, equal to 12% of personal consumption expenditures. In

<sup>9</sup> S&P Case-Shiller and Bureau of Labor Statistics.

<sup>10</sup> Iacoviello (2011), “Housing Wealth and Consumption,” *International Encyclopedia of Housing and Home*.

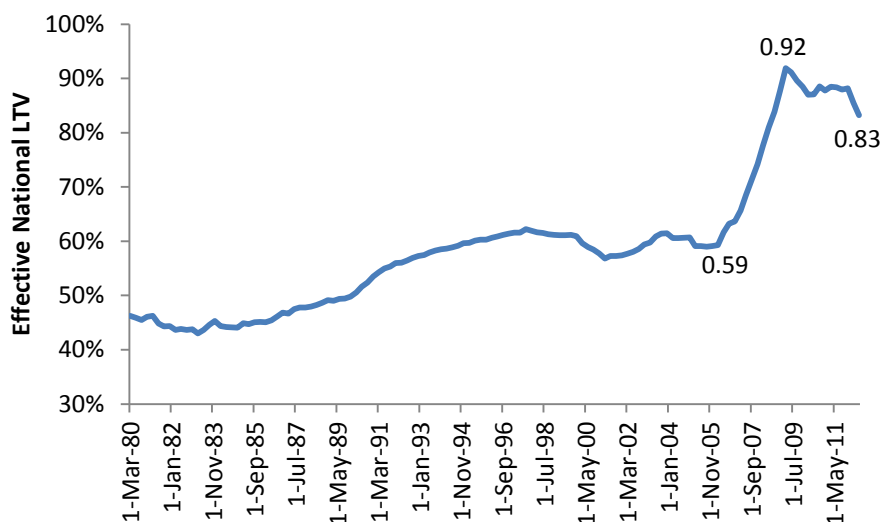
<sup>11</sup> In this example, the added \$500 of income foregone by the owner-occupier would be counted in GDP as imputed housing consumption expenditures. In 2011, the total rental income foregone by owner-occupants exceeded \$1.2 trillion. NIPA Table 7.4.5. Housing Sector Output, Gross Value Added, and Net Value Added.

<sup>12</sup> Greenspan and Kennedy (2008), “Sources and uses of equity extracted from homes,” *Oxford Review of Economic Policy*.

<sup>13</sup> Klyuev and Mills (2007), “Is Housing Wealth an ‘ATM’? The Relationship Between Household Wealth, Home Equity Withdrawal, and Saving Rates,” *IMF Staff Papers*.

2012 terms, borrowing of this magnitude would equate to an additional \$1.3 trillion in household spending. The added consumption opportunities provided by home equity withdrawal likely drew renters into the for-sale market, which increased prices well above equivalent rents, and solidified expectations that homeownership was a reliable path to wealth creation.<sup>14</sup>

**Figure 4: National Loan-to-Value Ratio on Mortgaged Properties<sup>15</sup>**



To attribute these dramatic increases in household spending to housing “wealth effects” would be a mistake. Households did not spend more of their income because they *felt* wealthier; homeowners took on nearly \$6 trillion in incremental debt to convert price gains directly into cash. Once housing prices collapsed, much of this debt could no longer be supported by the value of the housing collateral and mortgage credit losses spiked. As shown in Figure 4, the effective loan-to-value ratio on the nation’s mortgaged housing stock increased from 0.59 in 2006 to a peak of 0.92 in 2009. While housing price increases and debt reductions (largely through foreclosure) have reduced this ratio somewhat, loan-to-value ratios remain exceptionally high. The nation’s housing stock is simply much too leveraged to support another boom in household borrowing. As a result, those expecting a housing recovery to accelerate household spending growth are almost certain to be disappointed.

## Conclusion

Although most observers tend to focus on house prices and their impact on household spending, this housing boom is likely to be fueled by growth in residential investment rather than household leverage. Residential construction spending is currently \$490 billion, or 3.1% of GDP, below levels consistent with the 1947-2000, pre-“bubble” trend. If residential investment returns to its pre-2000 growth path, housing would add 4 percentage points to GDP over the next four years.

***Economic and market views and forecasts reflect our judgment as of the date of this presentation and are subject to change without notice. In particular, forecasts are estimated based on assumptions, and may change materially as economic and market conditions change. The Carlyle Group has no obligation to provide updates or changes to these forecasts.***

<sup>14</sup> Thomas and Savickas (2011), “House Price Variation and the Convenience Yield to Owning a Home,” *Papers from the 2012 Financial Management Association Annual Conference*.

<sup>15</sup> Federal Reserve Flow of Funds. Unencumbered housing assets estimated from Census Bureau data.

*Certain information contained herein has been obtained from sources prepared by other parties, which in certain cases have not been updated through the date hereof. While such information is believed to be reliable for the purpose used herein, The Carlyle Group and its affiliates assume no responsibility for the accuracy, completeness or fairness of such information.*

*This material should not be construed as an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. We are not soliciting any action based on this material. It is for the general information of clients of The Carlyle Group. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual investors.*

**Contact Information:**

Jason Thomas

Director of Research

Jason.Thomas@carlyle.com

(202) 729-5420