2010

A Look at the Indiana Housing Market

A Report for the Indiana Association of REALTORS®

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A Look at the Indiana Housing Market in 2010

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Executive Summary

As the U.S. housing slump enters its fifth year, it is easy to become numb to the steady stream of grim news accounts and statistics. And given the mixed signals in the broader economy of late, one might understandably overlook the present housing trends. However, the near-term direction of the housing market seems as uncertain as ever.

While other states have grabbed the national headlines, the housing downturn has hit Indiana as well. **Table 1** highlights the state's recent performance in several key indicators. Indiana's 2010 existing home sales declined faster than the national average yet Indiana's house prices performed better than most states (though still depreciating slightly). The share of Indiana's mortgages that are seriously delinquent (i.e., 90 days overdue or in foreclosure) matched the U.S. average but was also the 10th highest mark in the country. Building permit activity ticked up for both Indiana and the U.S. in 2010, breaking a four-year slide for both. More recent monthly permit data, however, indicate that construction activity is declining yet again.

Table 1: Indiana's Housing Market by the Numbers

	U.S.	Indiana	Indiana's Rank
Number of Existing Home Sales, Percent Change 2009 to 2010	-4.8%	-6.7%	34
House Price Appreciation, 2009:4 to 2010:4	-4.0%	-1.1%	13
Value of Residential Building Permits, Percent Change 2009 to 2010	5.9%	2.9%	28
Share of Mortgages that Are Seriously Delinquent, 2010:4	8.6%	8.6%	10
Distressed Sales as a Share of all Sales, November 2010	29.7%	18.9%	26

Note: This table uses National Association of Realtors data on home sales to compare Indiana to the United States. All other data in this report on local home sales come from the Indiana Association of Realtors, which shows a slightly different change in sales.
Sources: National Association of Realtors, Federal Housing Finance Agency, U.S. Census Bureau, Mortgage Bankers Association, CoreLogic

By contrast, other areas of the economy are showing some signs of life. For instance, July labor force data show that Indiana employers added more than 40,000 jobs over the last 20 months. Add in very favorable affordability conditions and some key pieces of a housing recovery are in place. However, improvements in the economy remain tenuous at this point and the housing slump will continue so long as distressed properties weigh on the market and many potential buyers remain on the sideline.

This report marks the first publication in what will be an annual effort to gauge Indiana's housing market. The first section presents a detailed overview of market conditions with a focus on home sales and prices, mortgage delinquency and foreclosure, and affordability. The next section examines the demographic drivers of the housing market like household formation rates, migration, racial and ethnic diversity, and the aging population. Finally, we consider the role of

housing in Indiana's economy with a look at construction activity, the impact of home sales and mortgage refinancing trends.

Key Findings

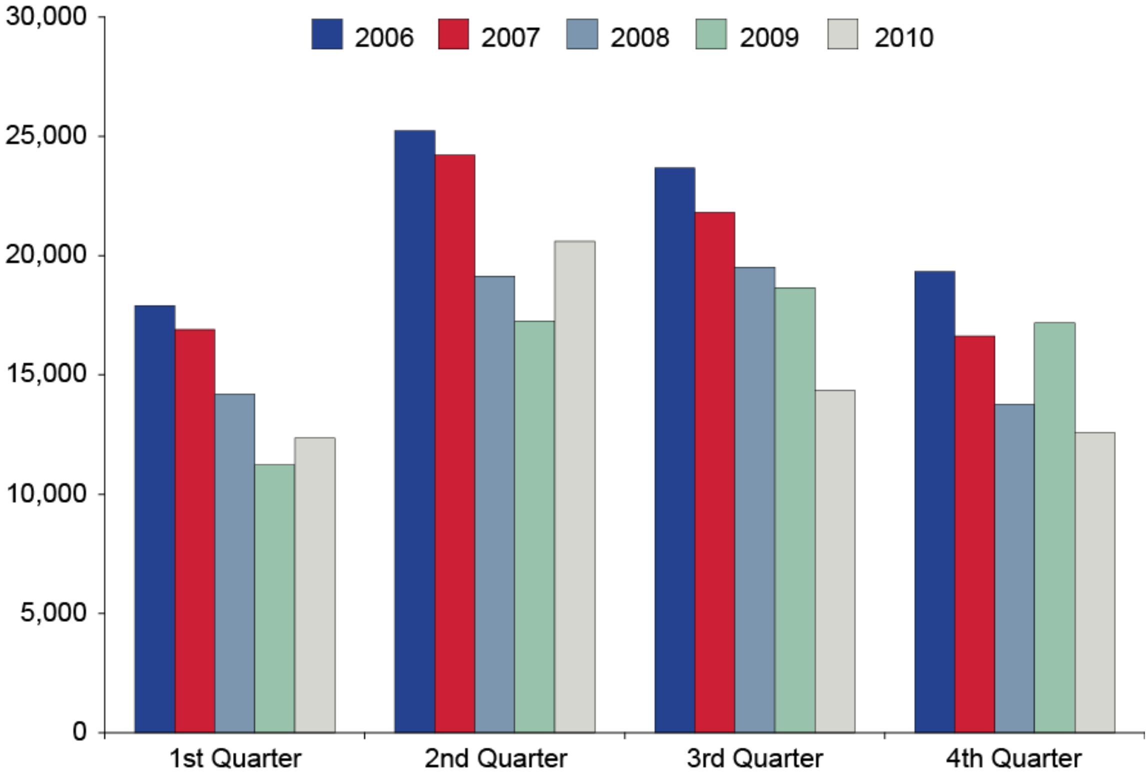
- Existing home sales in Indiana increased year-over-year in the first half of 2010. After the expiration of the federal homebuyer tax credits, however, sales in the second half of the year dropped to a five-year low. All told, the 2010 sales tally was nearly 7 percent below the 2009 mark and 30 percent below Indiana's peak level of sales set in 2006.
- Indiana's house prices appear to be on the mend. The state's median sales price in 2010 for existing homes jumped by nearly 2 percent over the previous year. The Federal Housing Finance Agency's House Price Index, which features a different conceptual measure of price changes, paints a slightly different picture, showing the state's home values down 1 percent over the year. Despite the decline, Indiana is outperforming most states in terms of house price changes.
- The largest threat to the housing market continues to be mortgage delinquency and foreclosure. As of the fourth quarter of 2010, Indiana had the ninth-highest foreclosure rate in the country at 4.75 percent. This is the state's highest mark on record. An additional 3.8 percent of Indiana's mortgages were at least 90 days past due. The inventory of distressed properties must be reduced before the state sees a true rebound in home prices and residential construction.
- Indiana's homeownership rate declined from a peak of 75.8 percent in 2004 to 71.2 percent in 2010. Only three other states had a larger percentage point drop over this period. By contrast, Indiana had the nation's fifth-greatest homeownership rate increase between 1991 and 2004. This sharp rise and equally stark decline suggests that homeownership in Indiana—even more than in most states—rose to unsustainable heights prior to the housing bust.
- Indiana ranked third among states in housing affordability in 2010, according to Moody's Economy.com. Affordability has boomed in recent years as prices have fallen and mortgage rates are at historic lows.
- The recent economic and housing downturn has dampened household formation. Between 2005 and 2009, new Hoosier households formed at half the rate seen in the first part of the decade and just one-third of the pace set during the 1990s. Lower levels of migration contribute to these depressed rates. Net migration to Indiana in 2009 was the state's second-lowest mark in nearly two decades. A jumpstart in household formations are needed to help boost housing demand.
- The value of Indiana's building permits did increase slightly in 2010 after falling for four straight years. This is welcome news, yet construction has fallen to such an extent that the value of 2010 permits—even when measured in nominal terms (i.e., not adjusted for inflation)—was a shade below the level seen in 1990. In terms of the number of permitted units, this figure edged up in 2010 as well but was roughly one-third of the level seen in 2005.

Market Conditions

Indiana's Housing Market Tries to Regain Footing

Indiana's housing market saw its share of ups and downs in 2010. On the upside, there were substantial year-over-year sales gains from the fourth quarter of 2009 to the second quarter of 2010 as consumers moved to take advantage of low mortgage interest rates and meet deadlines for the federal government's homebuyer tax credits (see **Figure 1**). Hoosiers bought more than 20,000 homes in the second quarter of 2010 making this the highest quarterly total since mid-2007 and a 19 percent improvement over the same period in 2009. After the June 2010 tax credit deadline,[1] however, home sales in the third and fourth quarters dropped to five-year lows on a year-over-year basis. Looking at annual figures, Indiana home sales continued to slide as the 2010 sales tally was nearly 7 percent below 2009 and 30 percent below the 2006 high watermark.

Figure 1: Indiana Home Sales by Quarter, 2006 to 2010



Source: Indiana Association of Realtors

As **Figure 2** illustrates, 38 of Indiana's 92 counties had an increase in home sales from 2009 to 2010, yet most of the state's largest markets posted declines. In fact, the 53 counties with

[1] Congress eventually moved the deadline to close sales contracts to September 2010, but most eligible transactions had already closed by June.

declines accounted for 80 percent of the state's total sales. Indianapolis-Carmel metro area sales dropped 10 percent in 2010 to just below 21,000 homes. Among the state's other large metropolitan statistical areas (MSAs), sales in the Gary area were down 5 percent while Fort Wayne and Evansville fell 7 percent and 8 percent, respectively. Anderson's 17 percent drop in sales in 2010 was the largest decline among Indiana's MSAs.

A handful of metro areas bucked this trend and showed sales growth in 2010 led by Elkhart and Columbus—each posting an 11 percent increase. Sales also improved in Kokomo and Michigan City-LaPorte by 2 percent apiece. The rebounds in the Elkhart and Kokomo markets are particularly noteworthy given that the recent recession hit these manufacturing-dominated areas as hard as anywhere in the country. While neither employment nor home sales in these metros are anywhere near pre-recession levels, this uptick in transactions reflects a brightening economic situation in these communities.

Figure 2: Change in Home Sales by County, 2009 to 2010

9.1% to 70%
0.1% to 9%
-4.9% to 0%
-9.9% to -5%
-40.5% to -10%

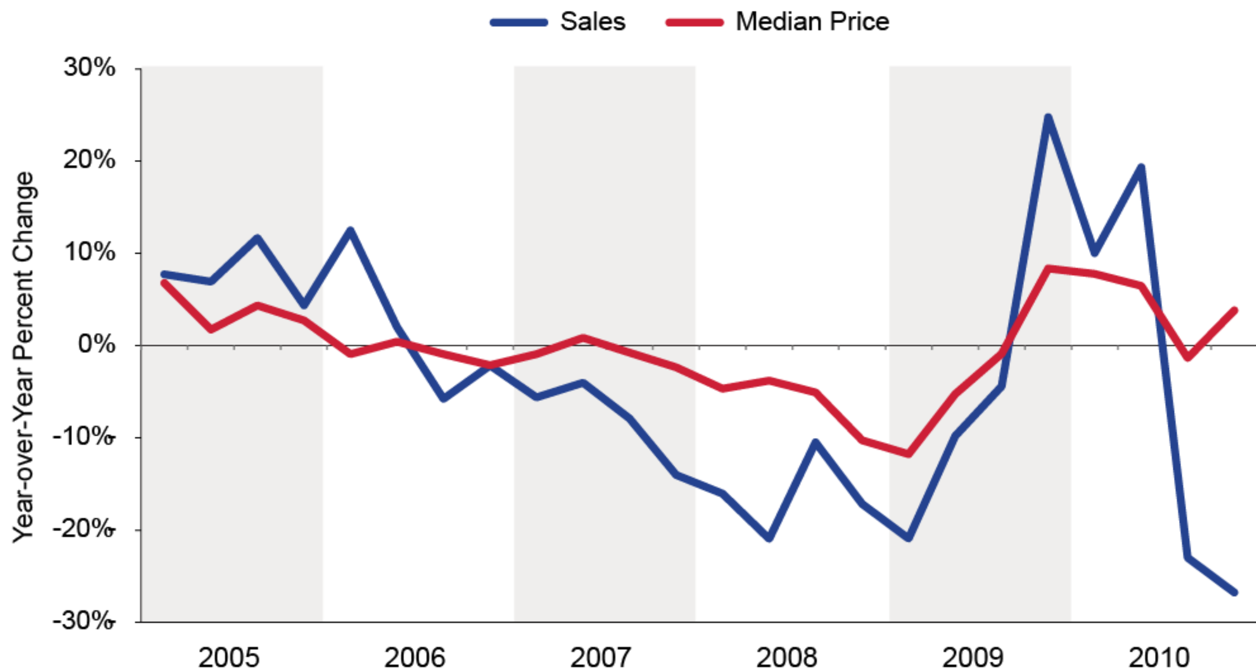
Note: Home sales data are not available for Wayne County
Source: Indiana Association of Realtors

House Prices Looking Up

While home sales declined for the fourth straight year, the median price of homes sold in Indiana rebounded in 2010. At $112,000, last year's median price was a 1.8 percent improvement over 2009 and two-tenths of a percent above 2008. The turning point for this price indicator coincided with the spike in demand to beat the original homebuyer tax credit deadline in November 2009.

In the fourth quarter of 2009, Indiana home sales and median price showed their first year-over-year increases in some time (see **Figure 3**). Sales and median price continued to improve in the first half of 2010 as the tax credit program was extended through April. The sharp decline in sales in the second half of the year, however, suggests that the tax credits influenced the timing of home sales more than underlying demand. The state's median price also decreased year-over-year in the third quarter of 2010 but posted an increase in the fourth quarter, indicating that prices are stabilizing even without the aid of federal stimulus. That said, prices are still well below the levels seen prior to the housing slump.

Figure 3: Change in Median Sales Price and Home Sales, 2005:1 to 2010:4



Source: Indiana Association of Realtors

In all, 2010 median sales prices improved in roughly two-thirds of Indiana's counties. Among Indiana's larger markets, Boone (9.4 percent increase), Morgan (9.4 percent) Vanderburgh (9.0 percent), Hamilton (7.7 percent) and Allen (7.0 percent) counties posted the largest increases in median sales price in 2010. Elkhart (-5.6 percent), Porter (-2.8 percent), Madison (-2.6 percent) and Clark (-1.1 percent) counties were the largest to show a median price decline last year.[2]

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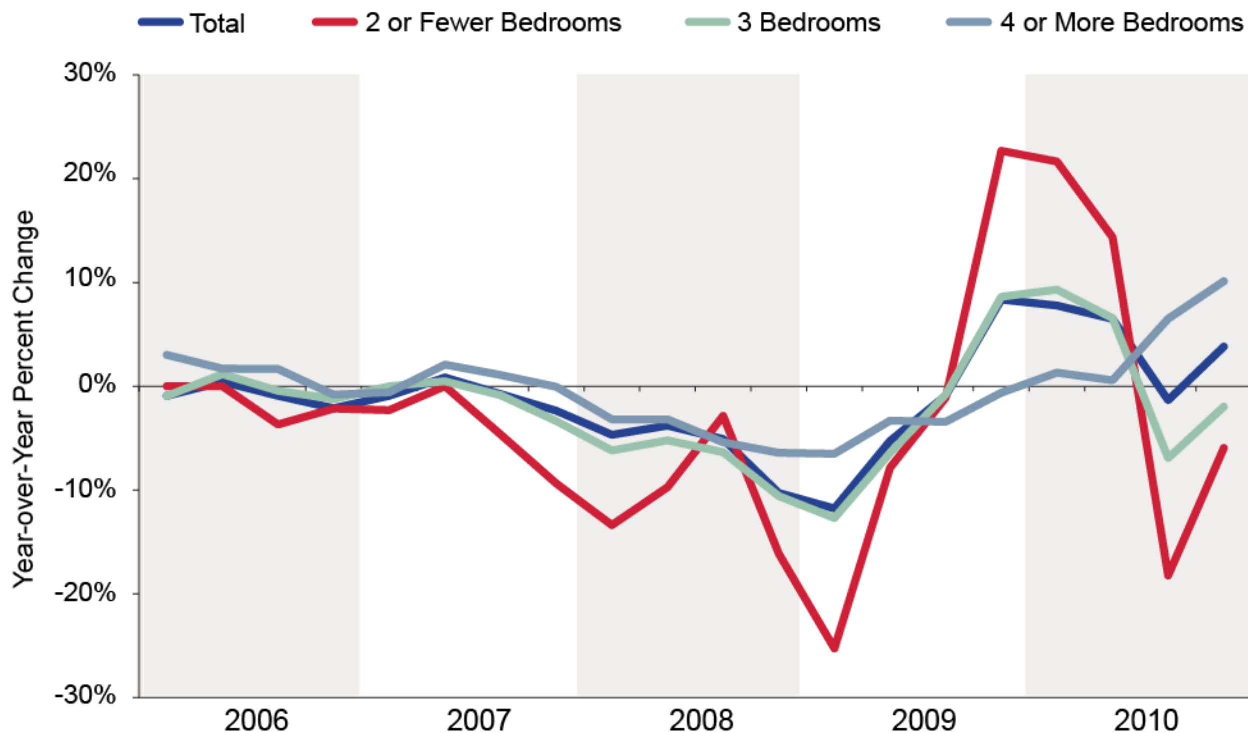
[2] See the appendix for home sales and median sales price data for all Indiana counties.

Price Changes by the Number of Bedrooms

Some data collected through the housing bust indicate that price declines have been greatest at the lower end of the market. The Case-Shiller Tiered Home Price Index, for instance, shows that the bottom third of the market (based on sales price) has displayed the greatest price depreciation in each of the 17 metropolitan areas that it covers. Comparable data for Indiana are not available but the change in median sales price by the number of bedrooms suggests a similar trend is at play in the state. **Figure 4** shows that Indiana homes with two or fewer bedrooms have had the most volatile price fluctuations in recent years. These homes generally had the largest year-over-year price declines leading up to mid-2009 but then saw the most dramatic (although short-lived) price increases while the tax credits were in effect. The median sales price for this class of homes plummeted in the second half of 2009.

In contrast, Indiana homes with four or more bedrooms had comparatively mild price declines through the economic downturn. Moreover, this class of homes has posted four straight quarters of improved prices and is responsible for Indiana's total median price increase in the fourth quarter of 2010. Price changes for three-bedroom homes, until just recently, have mirrored the trend seen for all homes.

Figure 4: Change in Median Sales Price by Number of Bedrooms, 2006:1 to 2010:4



Source: Indiana Association of Realtors

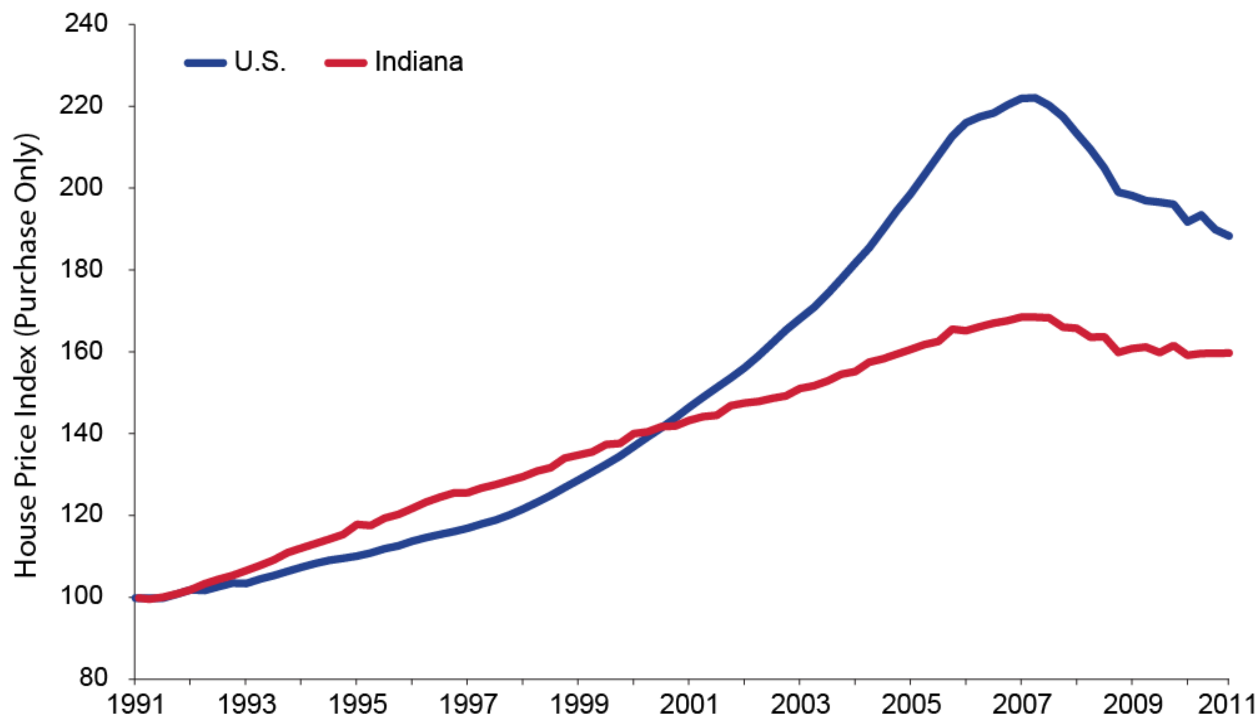
Indiana House Prices in Perspective

Indiana's house price trends remain a concern but the situation pales in comparison to most other states. According to the Federal Housing Finance Agency's House Price Index (HPI), the

state's house prices have declined by 5 percent from their peak in early 2007 to the fourth quarter of 2010.[3] The U.S. index value is down 15 percent over this same period (see **Figure 5**).

Most encouraging for Hoosier homeowners is that this entire decline occurred by the end of 2008. Since that point, Indiana's house prices have been in a holding pattern, showing no sustained movement up or down. In contrast, the U.S. HPI—though declining at a slower rate in recent years—continues to fall steadily.

Figure 5: House Price Index, Indiana and the United States, 1991:1 to 2010:4



Source: Federal Housing Finance Agency

Indiana and the U.S. also had drastically different housing appreciation trends leading up to the housing bust. While U.S. house prices increased moderately through much of the 1990s before accelerating rapidly, Indiana's rate of appreciation before the housing bust was steady but slow. In fact, Indiana's 69 percent appreciation rate from 1991 to its peak in 2007 was the slowest 1991-to-peak increase of any state. Ranking just ahead of Indiana were Ohio (75 percent increase to its peak in 2006), Texas (92 percent) and Kentucky (93 percent).

Nationwide, house prices increased 122 percent from early 1991 to mid-2007 before starting the well-documented slide. The District of Columbia had the greatest 1991-to-peak appreciation rate

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[3] House price indexes (HPI) like this one from FHFA are conceptually different from the median sales price indicator discussed earlier. The HPI is a "repeat-sales" index meaning that it measures the price changes of properties that have been sold multiple times. A median sales price simply indicates the median price of all homes sold in a given period and, thus, is influenced by the mix of homes sold in that period. The FHFA HPI tracks only conventional mortgages that are purchased or securitized by Fannie Mae or Freddie Mac. Researchers used the "Purchase Only" index in this report (meaning that no appraisal data are included).

at 256 percent, followed by Oregon, Montana, Utah, Arizona, Wyoming and Florida. Each of these states was also above 200 percent.

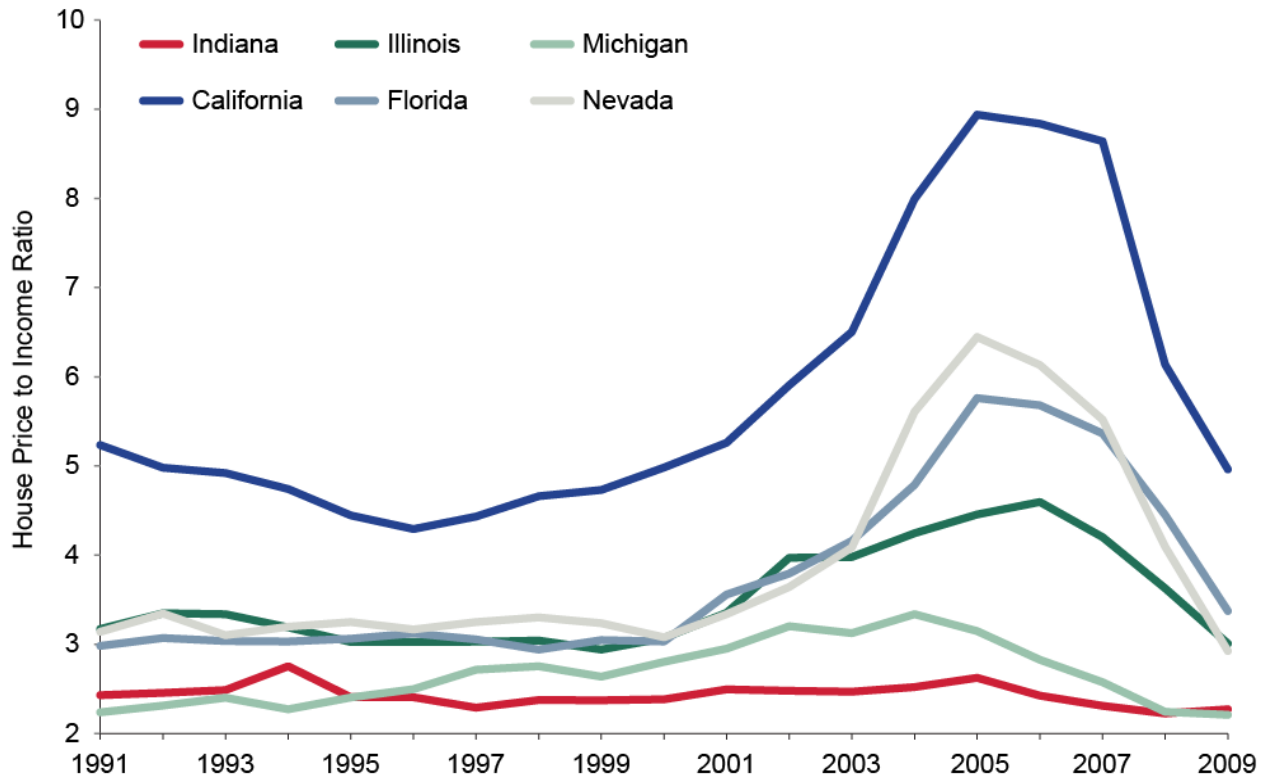
Was There a Price Bubble in Indiana?

When viewing the Indiana market in terms of prices, it's reasonable to question whether the state was part of the real estate bubble. After all, the data indicate that Indiana home prices did little more than keep pace with nominal growth in household incomes over the last two decades. Between 1991 and 2007, the HPI value for the U.S. grew at an average annual rate of 4.9 percent per year while the nation's median household income climbed at a rate of 3.2 percent. In contrast, Indiana's 3.2 percent annual house price appreciation over this same period was in step with its 3.5 percent growth rate for median household income.

Another way to identify a housing price bubble is to compare an area's median household income to its median home sales price. Such a comparison shows that while many states experienced a run up in home prices relative to incomes in the early 2000s, California, Nevada and Florida truly headlined this trend (see **Figure 6**). The price-to-income ratios more or less doubled in Florida and Nevada between 2000 and 2005 while prices in California soared to nine times its median household income. Among some of Indiana's neighbors, Illinois also saw a significant jump in this measure and even struggling Michigan's ratio climbed modestly.

Since the onset of the housing slump, however, the price-to-income ratio in each of these states tumbled back to the more sustainable levels seen during the 1990s. All the while, Indiana's ratio held steady rising just two-tenths of a percentage point between 2000 and 2005—a smaller increase than all but four states. Indiana's ratio has come down as both prices and nominal median household incomes have dipped in recent years. Indiana, Ohio and Michigan had the nation's lowest price-to-income ratios in 2009.

Figure 6: Ratio of Median Home Price to Median Household Income, Indiana and Select States



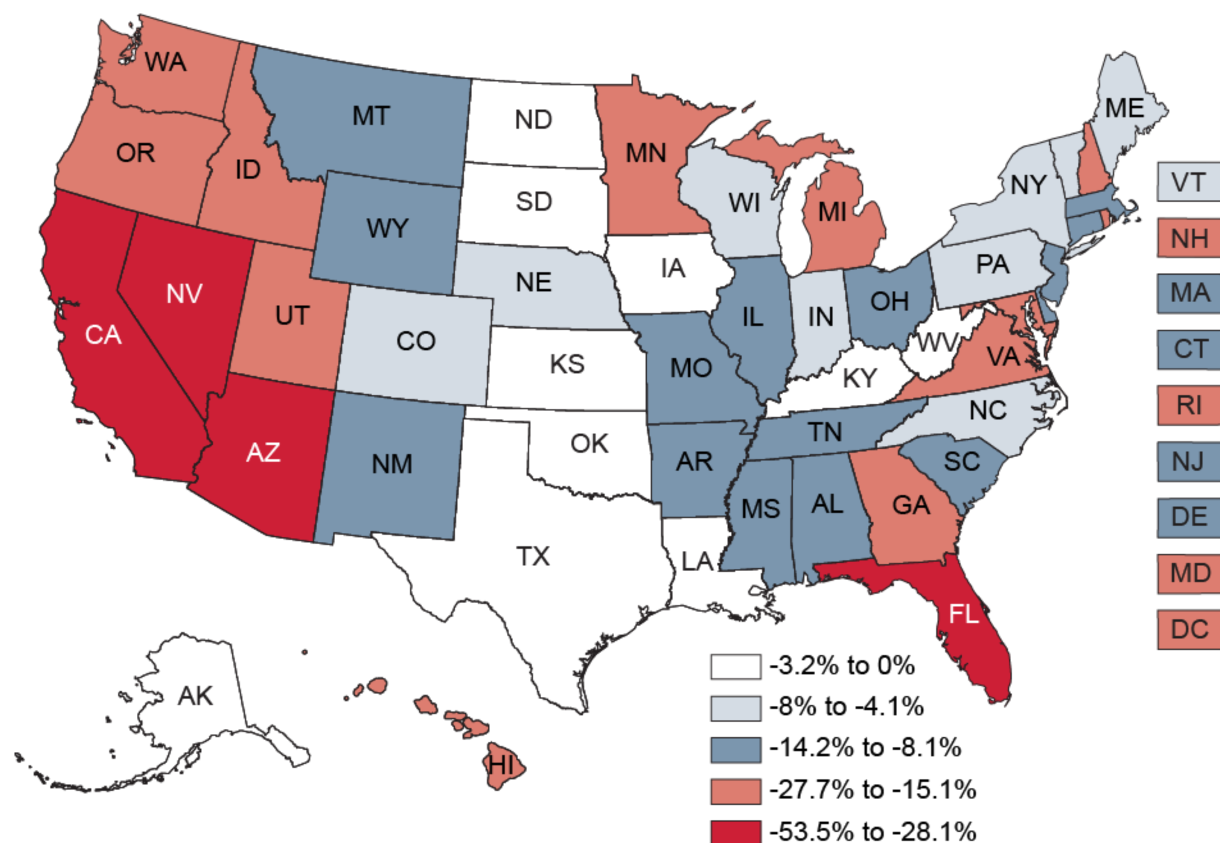
Source: U.S. Census Bureau and Moody's Economy.com

House Prices after the Crash

Despite the lack of a house price bubble, Indiana has been subject to many of the same forces that drove down prices nationally. These include a flood of distressed properties on the market and sluggish demand brought on by the economic downturn and tighter access to credit. These factors have pushed Indiana home prices down 5 percent from their peak in the first quarter of 2007 to the fourth quarter of 2010, based on the HPI. The state's decline ranks as the 12th best peak-to-current price change performance among states.

Figure 7 shows the price index changes for each state from their respective peaks to current values. Nevada led all states with a 54 percent decline followed by Arizona (-46 percent), California (-43 percent) and Florida (-42 percent). States rich in natural resources tended to weather this storm best as the likes of North Dakota, Oklahoma, Alaska and Texas have had some of the mildest price depreciations in the country.

Figure 7: Change in House Price Index by State, Peak Quarter to 2010:4



Source: Federal Housing Finance Agency

More recently, Indiana's HPI value increased for three straight quarters to close out 2010. Rhode Island is the only other state that matches this streak. The stabilized price index, coupled with the rebound in median prices we saw earlier, offer hopeful signs that the state's home prices are on the mend while many other markets continue to search for the bottom. However, high rates of mortgage delinquency and foreclosure remain a threat to Indiana's home values.

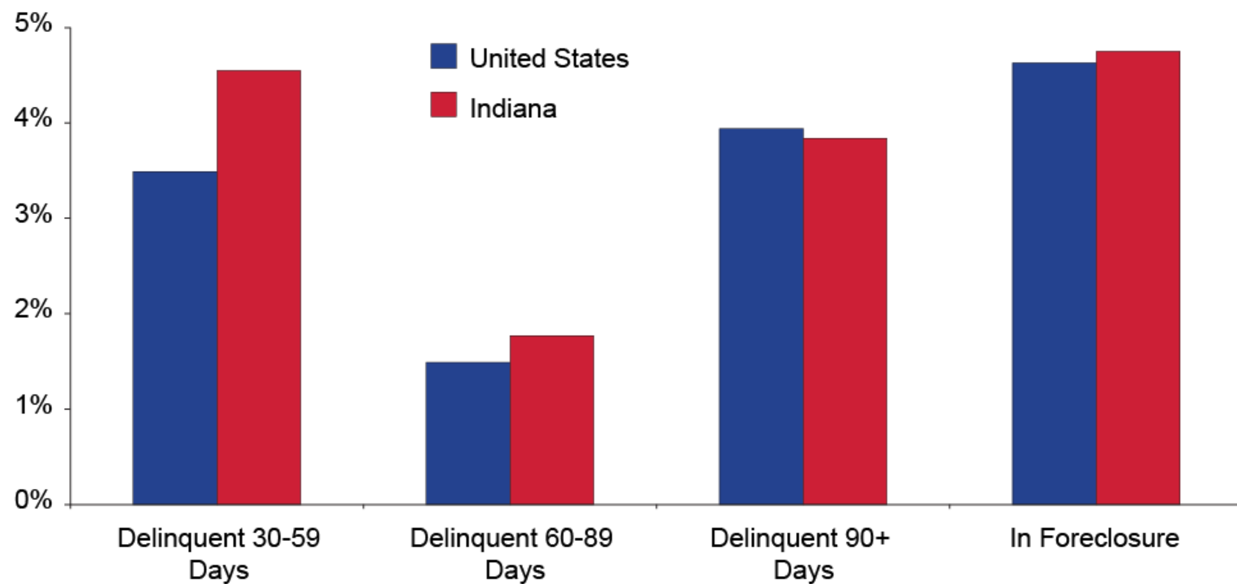
Mortgage Delinquencies at Record Levels

Falling home prices have been an important driver of the foreclosure crisis. Many of the same states that are experiencing the greatest price depreciation also have the highest rates of foreclosure. According to the Mortgage Bankers Association, Florida led the nation in the fourth quarter of 2010 with more than 19 percent of its mortgages being seriously delinquent (e.g., 90 or more days overdue or in foreclosure). Nevada, New Jersey, Illinois and Arizona also had seriously delinquent rates above 10 percent. At the same time, Indiana's seriously delinquent rate matched that of the U.S. at 8.6 percent of all mortgages. Indiana had the nation's 10th-

highest seriously delinquent rate at the end of 2010, but came in slightly better than Ohio (9.0 percent) and Michigan (8.9 percent).[4]

While Indiana and the U.S. have a comparable share of mortgages that are seriously delinquent, Indiana has typically had a higher rate of loans in the early stages of delinquency. As of the fourth quarter of 2010, 6.3 percent of all Indiana home loans were up to three months past due compared to 5 percent nationally (see **Figure 8**). The U.S. had a slightly higher rate of mortgages 90 or more days delinquent while the share of Indiana mortgages in foreclosure (4.75 percent) edged the U.S. mark (4.63 percent). These foreclosure rates are the highest on record for both Indiana and the United States. In all, 14.9 percent of Indiana mortgages were past due or in foreclosure at last measure compared to 13.6 percent nationally.

Figure 8: Percent of Mortgages in Various Stages of Delinquency, 2010:4



Source: National Delinquency Survey, Mortgage Bankers Association

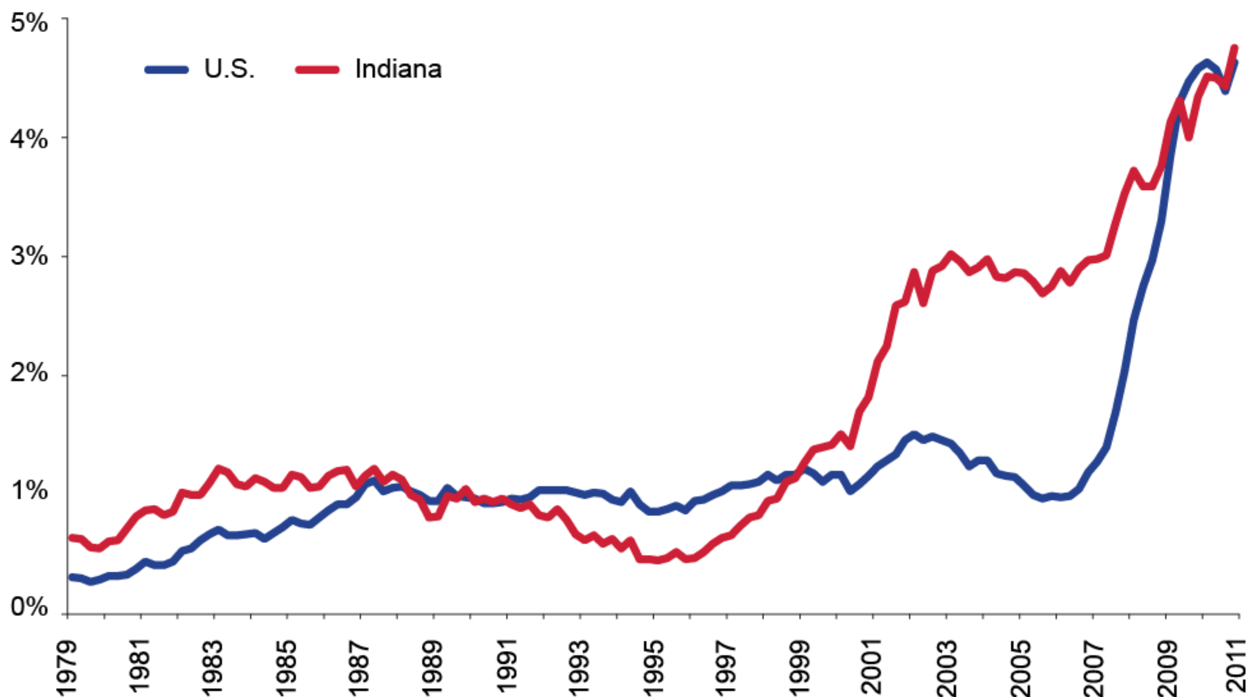
Indiana's Historic Foreclosure Trends

While Indiana and the U.S. currently have comparable foreclosure rates, the state's trend over the last two decades has rarely tracked the national rate. Indiana's foreclosure rate was well below the U.S. mark through much of the 1990s. At the low point from mid-1994 to mid-1996, Indiana's foreclosure rate averaged 0.5 percent compared to 0.9 percent for the U.S. (see **Figure 9**).

[4] Note that a comparison of seriously delinquent rates across states can be misleading since foreclosures laws vary by state. Indiana is one of 21 states that require a judicial review of all foreclosures, according to the Mortgage Bankers Association. Judicial review can lengthen the time that properties spend in foreclosure, which can inflate rates compared to non-judicial review states. When looking at foreclosures specifically, the rate of foreclosure starts by state can remove some of this bias. Indiana had the 13th highest foreclosure start rate among states in the fourth quarter of 2010.

Indiana's rate began to rise steadily in late 1996 and truly soared, along with unemployment rates, with the onset of the recession of the early 2000s. The recession spurred a jump in the U.S. foreclosure rate as well, but not to the extent seen in Indiana. More importantly, the U.S. rate gradually returned to the 1 percent level through the mid 2000s while Indiana's remained elevated. However, the housing bust and ensuing economic downturn have pushed the U.S. rate up more than four-fold since 2007.

Figure 9: Percent of Mortgages in Foreclosure, 1979:1 to 2010:4



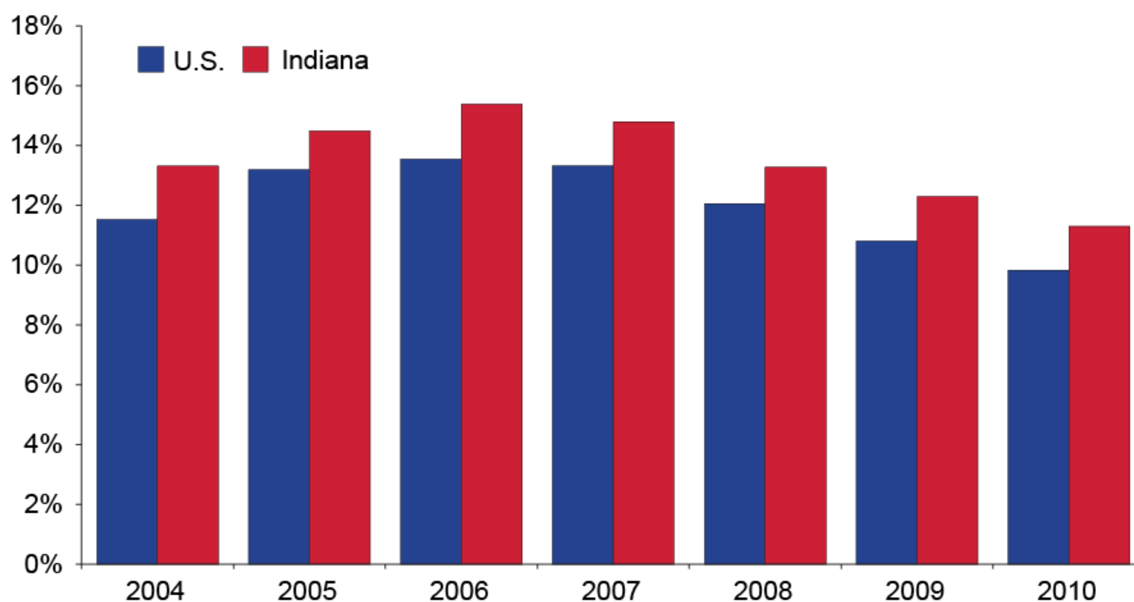
Source: National Delinquency Survey, Mortgage Bankers Association

Factors Driving the Foreclosure Crisis

In a 2009 report to Congress, the Department of Housing and Urban Development outlined several factors that contributed to the recent foreclosure situation.[5] This report noted that although slowing home price appreciation and a weak economy helped to spark the rise in mortgage defaults, the growth in high-risk loans provided the primary fuel for the crisis. The rise of subprime lending in the early 2000s headlined this trend. **Figure 10** shows that Hoosiers have been more likely to enter the subprime market than Americans have on whole. By 2006, more than 15 percent of Indiana's home loans were subprime compared to 13.5 percent for the nation. In Indiana, this mark has dropped to roughly 11 percent in 2010 while the U.S. stands below 10 percent. As of late 2010, one quarter of Indiana's subprime loans were seriously delinquent.

[5] "Report to Congress on the Root Causes of the Foreclosure Crisis," U.S. Department of Housing and Urban Development, January 2010.

Figure 10: Subprime Mortgages as a Share of All Mortgages, 2004 to 2010

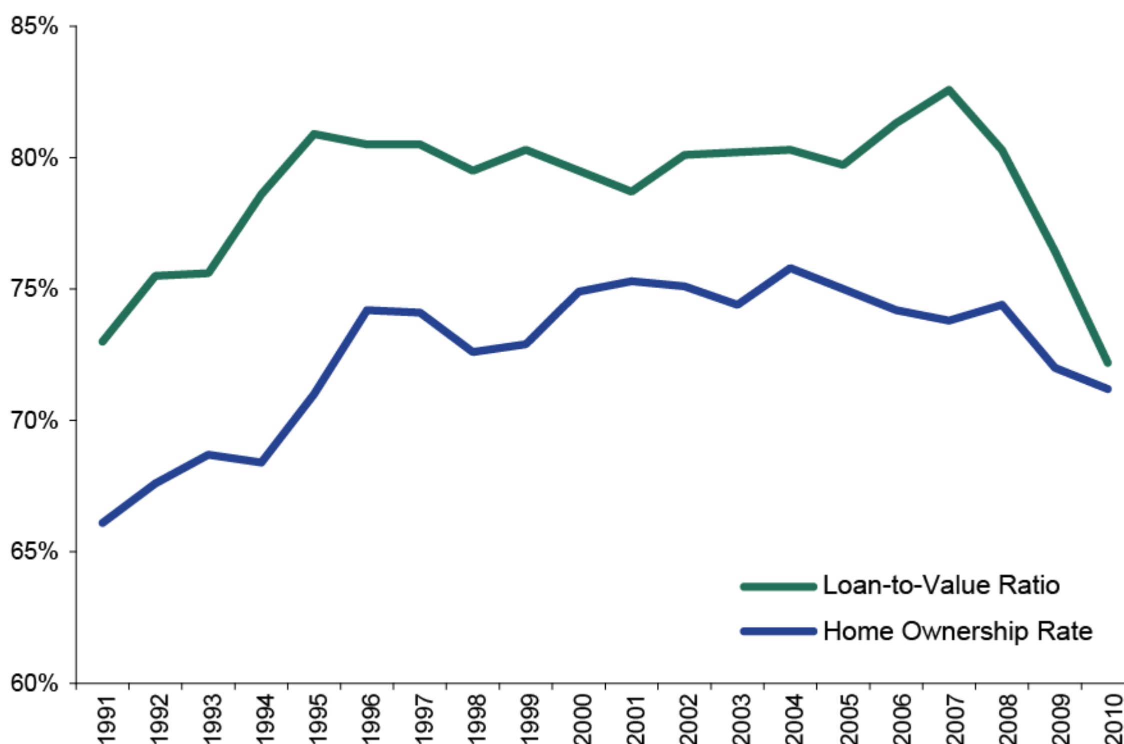


Source: National Delinquency Survey, Mortgage Bankers Association

The loosening of lending standards began before the boom in subprime loans, however. The FHFA's Monthly Interest Rate Survey shows that Indiana's average mortgage loan-to-home value (LTV) ratio jumped from 73 percent in 1991 to 81 percent in 1995. Indiana's ratio has hovered around the 80 percent mark through 2008 but has dropped precipitously since. Even more telling, Indiana's LTV ranking went from 12th lowest among states in 1991 to 34th in 1995. Each year between 2003 and 2006, Indiana had one of the 10 highest ratios in the nation.

This easier access to credit no doubt helped to make the dream of owning a home a reality for many Hoosiers (see **Figure 11**). Indiana's homeownership rate rose from 66 percent in 1991 to 76 percent in 2004, the fifth-largest increase in the nation over this period. The U.S. rate also peaked in 2004 at 69 percent, up 5 percentage points over 1991. These lax lending standards, however, also meant that more homeowners were unprepared for the type of economic shocks that began in 2007. As a result, foreclosures have soared and homeownership is in retreat. Indiana's 2010 homeownership rate is down to 71 percent, its lowest point since 1995. So while Indiana may not have been a participant in the run-up in home prices, the state seemingly did experience a homeownership bubble.

Figure 11: Indiana Loan-to-Value Ratio and Homeownership Rate, 1991 to 2010



Source: Federal Housing Finance Agency and U.S. Census Bureau

While the growth of high-risk lending fueled the national foreclosure crisis that began in 2007, this factor alone does not explain Indiana's elevated default rate earlier in the decade. Other structural dynamics left Hoosiers more susceptible to foreclosure than other Americans.

Chief among these has been the state's sustained industrial decline and the related slide in real median household incomes over the last decade. After expanding through the 1990s, Indiana lost one-third of its manufacturing jobs between 1999 and 2009. Roughly half of those losses came before the recession hit in late 2007. Over the same 10-year period, Indiana's real median household income declined by an average rate of 1.7 percent per year. This performance ranked Indiana 49th among states.

As they relate to foreclosures, these factors were compounded by the state's slow rate of home price appreciation. In other areas of the country, many homeowners that faced economic hardship could take advantage of inflated bubble-era price gains to refinance or sell their homes at prices that allowed them to avoid foreclosure. Because of Indiana's comparatively sluggish rate of appreciation, fewer Hoosiers had this option.

It's important to note that Indiana was not alone in its lofty foreclosure rates before the bust. Neighboring Michigan, Ohio and Illinois joined Indiana to form a distinct block of high foreclosure states. Each of these states, no doubt, shared the same mix of factors that drove Indiana's trend. For Indiana and its industrial neighbors, the key question becomes whether the economic fundamentals that created the high foreclosure environment in the last decade can be reversed.

Foreclosure Rates across Indiana

Indiana counties hit hardest by the economic downturn also have some of the state's highest foreclosure rates. Notably, more than 4 percent of prime mortgages in Elkhart and Howard counties were in foreclosure as of October 2010 (see **Figure 12**).[6] Wayne County and Switzerland County had the state's highest rates at 5.6 percent and 5.7 percent, respectively. Interestingly, Switzerland County's neighbor Ohio County had the state's lowest default rate in this period (0.4 percent).

Other areas with low foreclosure rates for prime mortgages include Hamilton and Hendricks counties in the Indianapolis metro area and the university communities of Monroe and Tippecanoe counties. Among the state's urban areas, Allen and Vanderburgh counties were below the state average of 3.2 percent while St. Joseph, Marion and Lake counties were above the state average.

[6] These data are only available by specific types of mortgages so there is no foreclosure rate for all loans. This data source does not provide county-level data on subprime mortgages. See the appendix for foreclosure rates by loan type for Indiana counties.

Figure 12: Share of Prime Mortgages in Foreclosure, October 2010

4.1% to 5.7%
3.3% to 4%
2.8% to 3.2%
2.2% to 2.7%
0.4% to 2.1%

Source: Federal Reserve Bank of New York

Distressed Sales

The foreclosure fallout has led to a glut of distressed properties on the market. The real estate analytics firm CoreLogic estimates that distressed sales, comprising both real estate owned (REO)[7] sales and short sales, jumped from 6 percent of all U.S. transactions in 2007 to 28 percent in 2009. This measure reached 30 percent by November 2010.[8]

Among states, the usual suspects lead the way. Distressed properties made up over half of all sales in Michigan, Nevada and Arizona in November 2010 followed by California and Florida with marks above 35 percent (see **Figure 13**). Distressed sales accounted for nearly one out of every five homes sold in Indiana in November 2010. This value ranks 26th nationally and is well below the U.S. mark of 30 percent.

Indiana's relatively modest distressed sales share seems at odds with data presented earlier, such as the state's high serious delinquency rates and high loan-to-value ratios. These factors would seemingly translate to a large number of distressed sales. The most likely reason for this disconnect is the difference in foreclosure laws across states.[9] Indiana is one of 21 states, according to the Mortgage Bankers Association, that require a judicial review before a foreclosure becomes final, which can lengthen the time that properties spend in foreclosure. As a result, fewer of Indiana's distressed properties are on the market at any given time than would be the case if the state did not require judicial review. Florida, which had the nation's highest serious delinquency rate in the fourth quarter of 2010, was the only judicial review state to rank among the top 10 in CoreLogic's November 2010 estimates of distressed sales share.

Given these dynamics, perhaps a more telling measure of this problem in Indiana is the stock of distressed properties. As of November 2010, CoreLogic estimated that Indiana had a 27 months supply of distressed homes.[10] This figure ranked sixth-highest among states. So Indiana's relatively low distressed sales share likely says more about the time it takes for these properties to clear the market than the actual scale of the problem.

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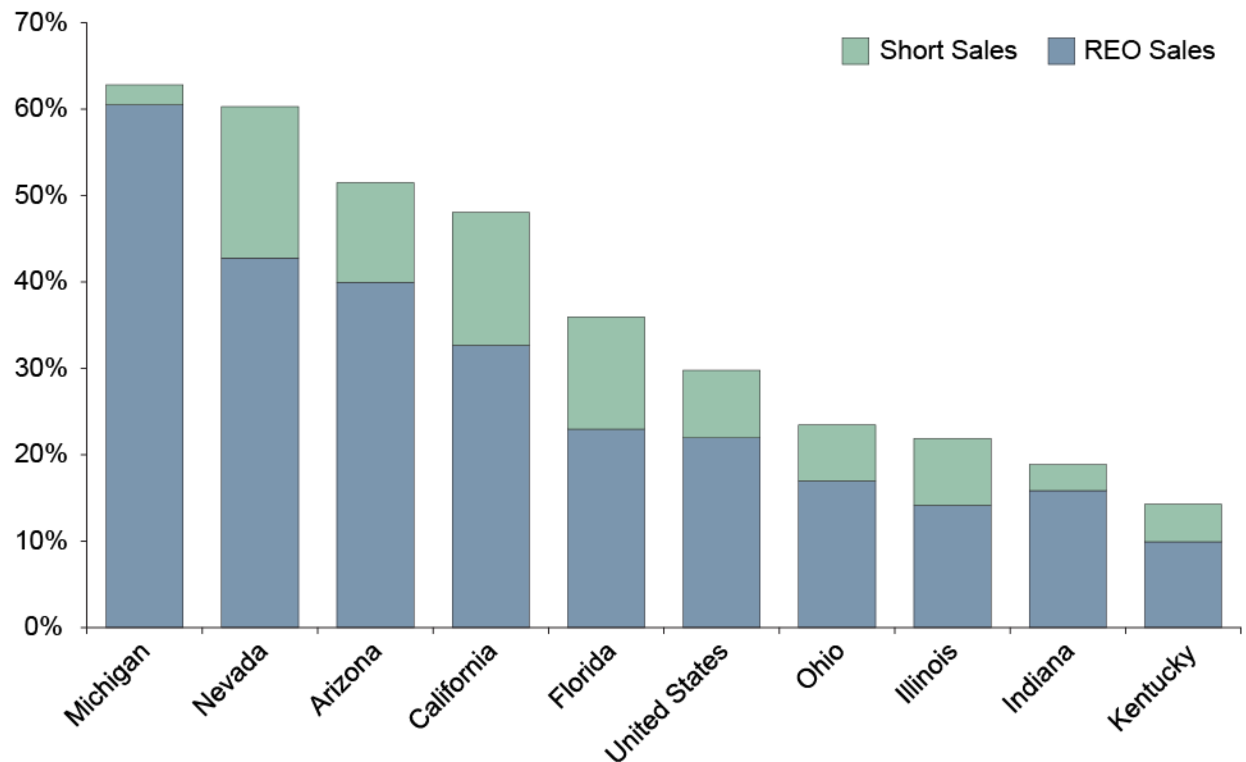
[7] Real estate owned refers to properties that are owned by lenders after an unsuccessful foreclosure auction.

[8] "U.S. Housing and Mortgage Trends," *CoreLogic,* February 2011, www.corelogic.com/#home-research.

[9] "Second-Quarter 2011 Shadow Inventory Update," *Standard & Poor's*, August 2011.

[10] Months supply of distressed homes is defined as the number of months it would take to sell all seriously delinquent properties based on current sales pace. Note that the November 2010 months supply figure is likely higher than normal in most states because of the artificially low sales rate that followed the expiration of the homebuyer tax credits.

Figure 13: Distressed Home Sales as a Share of Total Sales, U.S. and Select States, November 2010



Source: CoreLogic

A developing trend is the growing use of short sales to move distressed properties. As the housing slump drags on, more and more lenders are opting for the expedient sale of distressed properties at a loss over the often lengthy and costly foreclosure process. This option is increasingly palatable in markets where prices have declined to an extent that there is little hope of recouping anything near the outstanding mortgage amount.

Nationally, short sales have grown from 22 percent of all distressed sales in 2007 to 28 percent in November 2010, according to CoreLogic. In the same month, this type of transaction accounted for at least half of the distressed sales in New Jersey and Hawaii and roughly 40 percent in Rhode Island and Connecticut. This tactic, at least in November 2010, was less common in Indiana as just 16 percent of distressed sales were short sales. It is worth noting that without the increased use of short sales, the nation's already record level of foreclosures would be even higher.

The flood of distressed properties on the market has a couple of damaging side effects. First, the elevated inventory of distressed homes places downward pressure on prices. This effect varies widely between local markets yet it is clearly a major force behind continued price declines in some areas and a weight on price rebounds in others. Moreover, working through the inventory of distressed properties is, in some ways, perpetuating the housing slump. That is, more and more homeowners become at risk of foreclosure as prices continue to decline (or simply tread water) and the employment situation is slow to recover.

The large inventory of distressed properties has also helped to undercut demand for new homes. This is a trend that the economics blog *Calculated Risk* has termed the "distressing gap." Over at least a dozen years leading up to the housing bust, there was a consistent ratio of five to six existing home sales for each new home sold at the national level. Since the beginning of 2007, however, the housing demand that still exists has tilted even more heavily toward increasingly affordable existing homes. As a result, the ratio of existing home sales to new homes climbed to 16 by early 2011. This widening gap is at least partially explained by the decline in existing home prices driven by the large inventory of distressed properties.[11]

New home sales data are not available for states so we are unable to confirm if this relationship holds in Indiana. However, a comparison of existing home sales and annual building permits suggests that the same dynamics are at play (see **Figure 14**).[12] From 1990 to 2005, approximately two existing homes were sold for each single-family building permit issued in Indiana. Even through the 1990s when the number of annual permits increased by 15,000, there was a corresponding increase in existing home sales. Since 2006, the number of building permits issued has plummeted but existing home sales have not dropped in proportion, resulting in a ratio that approached seven in 2009. Presumably, distressed sales-induced price declines for existing homes contributed to this moribund market for new homes.

This measure declined some in 2010 as existing home sales continued to slide while single-family permits ticked up slightly. The increased permits, however, were likely a temporary product of the tax credit program. As of April, the number of permitted units has declined year-over-year in 10 of the last 11 months.

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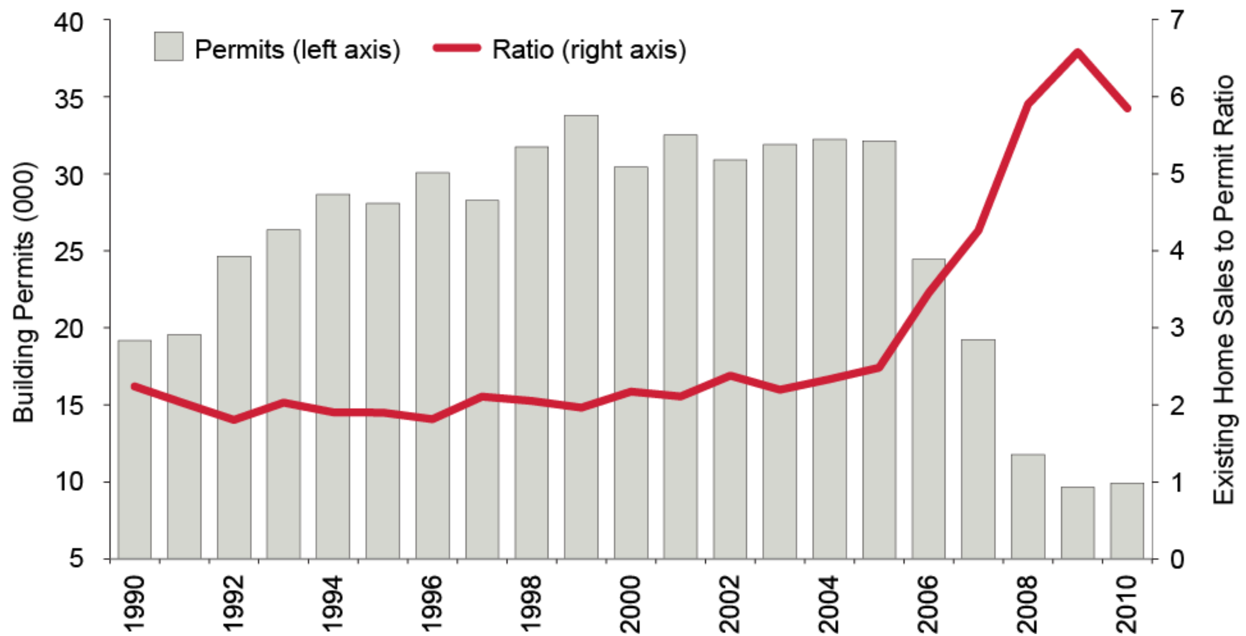
[11] "Home Sales: Distressing Gap," *Calculated Risk* (blog), February 24, 2011, www.calculatedriskblog.com/2011/02/home-sales-distressing-gap.html.

[12] Admittedly, building permits is a crude proxy for new home sales. Other factors such as an overbuilding prior to 2006 may contribute to the drop in building permits as well. However, the trend line in Figure 14 mirrors the trend line for the U.S. ratio of existing home sales to new home sales over this same period.

Figure 14: Indiana Annual Single-Family Building Permits and Ratio of Existing Home Sales to Single-Family Building Permits



Note: Home sales data for this graphic come from Moody's Economy.com instead of the Indiana Association of Realtors because the Moody's data provides a longer time series. Moody's numbers are derived from the National Association of Realtors data.
Source: U.S. Census Bureau, Moody's Economy.com

Looking Ahead

The Indiana housing market will continue to face challenges. High rates of mortgage delinquency and foreclosure mean that more distressed properties will hit the market in 2011, continuing to act as a weight on all house prices. The large inventory of existing homes relative to demand will likely continue to suppress residential construction in the next year as well.

Furthermore, Indiana's delinquency rates could remain high for some time. According to CoreLogic, 11 percent of the state's mortgages were in a negative equity position in the fourth quarter of 2010. Another 5 percent were near negative equity (i.e., the outstanding mortgage is at least 95 percent of the home value). Indiana is in better shape than the nation as a whole—where 28 percent of homes were in or near negative equity—but, still, there remains a sizeable pool of Hoosier homeowners who are at risk of foreclosure.

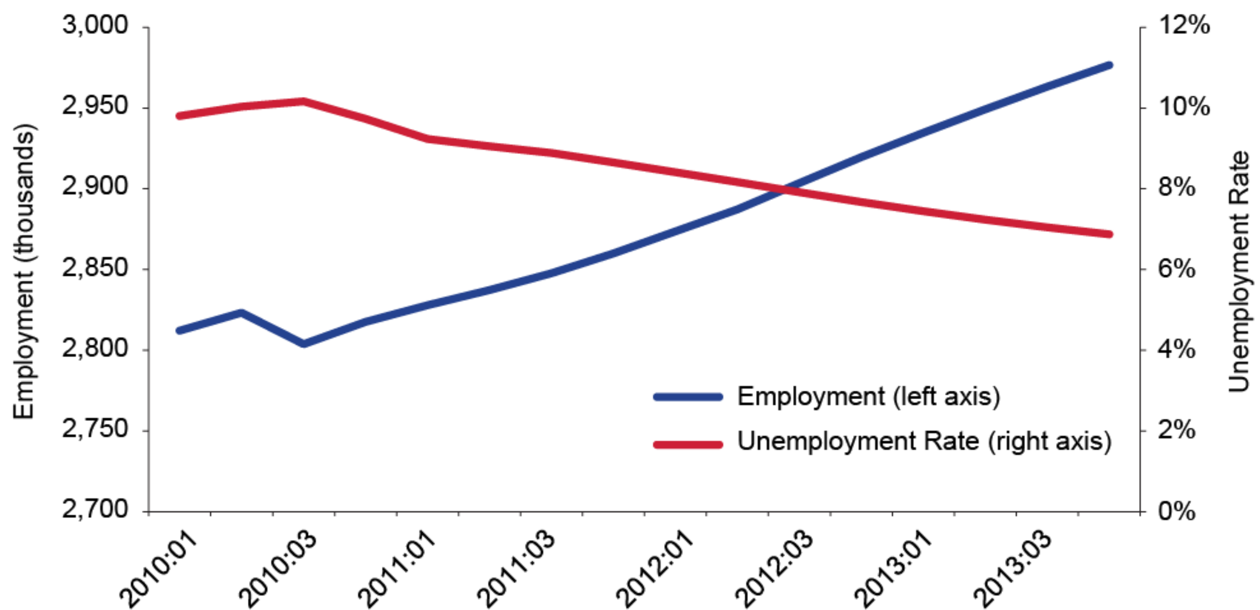
Housing demand remains a concern as well, but the expiration of the federal tax credits in 2010 makes it difficult to get a good read on the market. Home sales were certainly up while the tax credits were in effect, and a sharp decline in sales in the months following the June deadline was predictable. However, the continued lackluster demand in the fourth quarter of 2010 raises a red flag. The spring and summer 2011 selling season will tell a lot since it marks the first time in several years that the housing market stands on its own in relatively stable economic conditions.

Of course, the economy is still on shaky footing, and the employment situation offers reasons for both concern and optimism. In the near term, the large number of Hoosiers out of work,

coupled with continued job insecurity for many others, will likely continue to be a drag on home sales. Taking the long view, however, there are many signs that confidence in the economy is growing and that hiring will pick up.

The latest forecast from the Center for Econometric Model Research (CEMR) at Indiana University supports such optimism. Their model predicts that Hoosier employers will add roughly 150,000 jobs over the next two years (see **Figure 15**). In February 2011, meanwhile, Indiana's unemployment rate dipped below 9 percent for the first time since late 2008 and the CEMR model indicates that unemployment could be in the high 6 percent range by the end of 2013. While the road to recovery may be slow, any improvement in the employment situation will be a boost to Indiana's housing market.

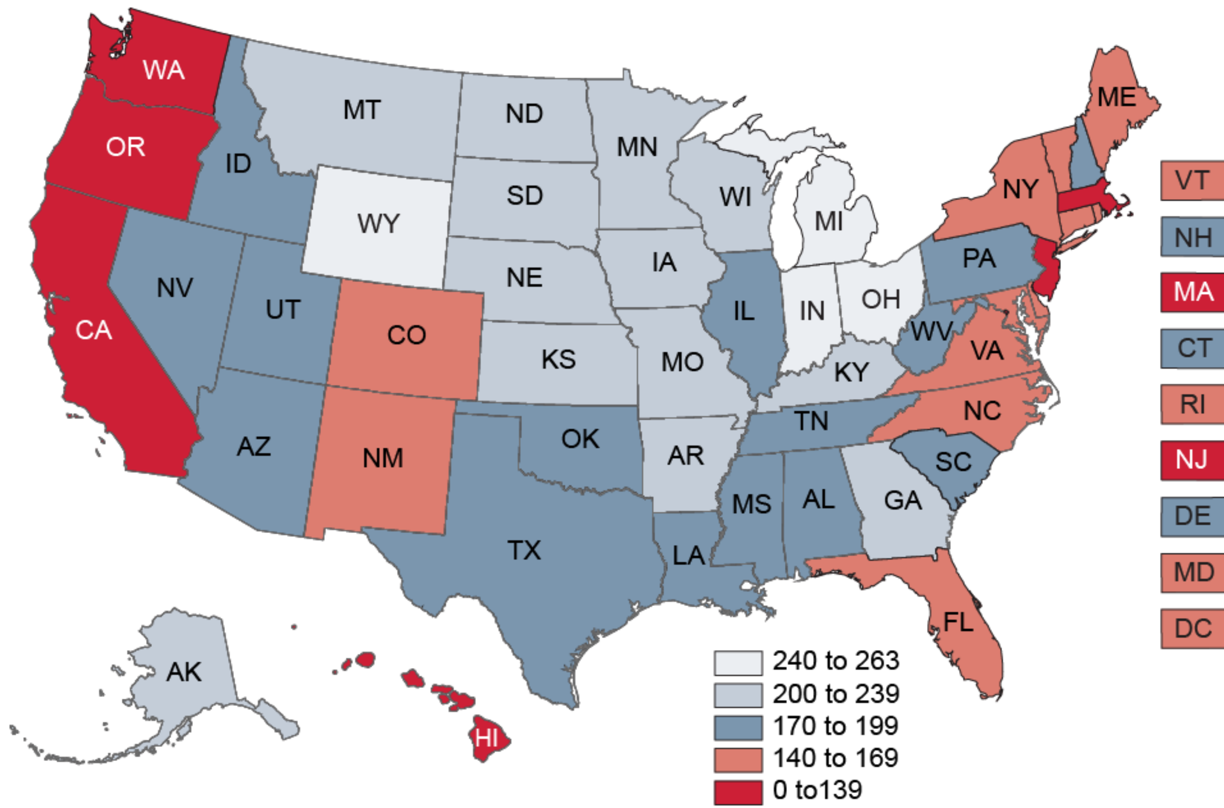
Figure 15: Indiana Employment and Unemployment Rate Forecast, 2010:1 to 2013:4



Source: Center for Econometric Model Research, Indiana University (released in February 2011)

When the employment recovery hits full swing, highly favorable affordability conditions should draw more homebuyers to the market. Not only have the state's house prices come down, but mortgage rates are at historically low levels. According to the Federal Reserve, the 30-year conventional rate was 4.55 percent in July 2011, up only slightly from a three-decade low of 4.2 percent in October 2010. Factor in the low house price-to-income ratio discussed earlier, and Indiana has some of the most affordable housing in the country (see **Figure 16**).

Figure 16: Housing Affordability Index, 2010*



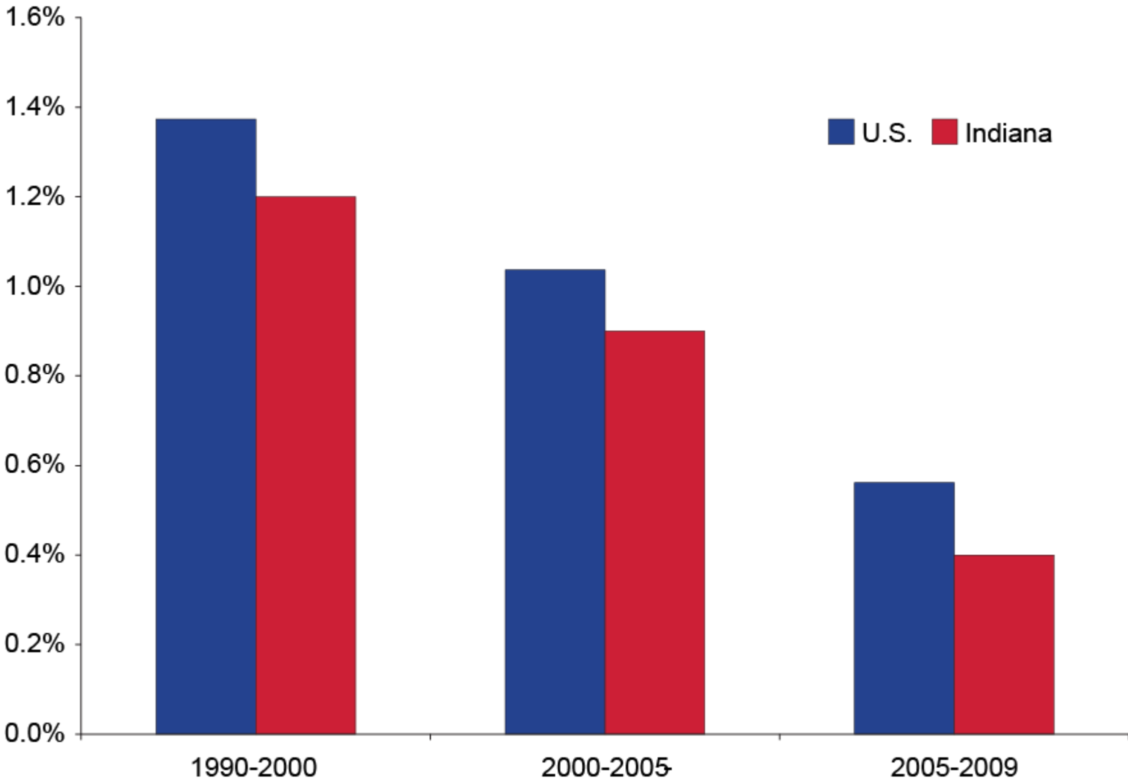
*An index value of 100 means that a state's median household income is exactly enough to qualify for a mortgage on a median-priced home. Values above 100 indicate that the median income is more than enough to qualify. Indiana's index value was 261 in 2010 meaning that the state's median household income was 261 percent of the income needed for a mortgage on the median-priced house. See the appendix for the index methodology. The 2010 index values are a forecast.
Source: Moody's Economy.com

Demographic Fundamentals

Household Formations Slow Dramatically

The rate of Indiana's household growth slowed dramatically in the latter part of the last decade. Between 2005 and 2009, the number of households in the state grew by an average rate of 0.4 percent per year compared to 0.9 percent annually in the first half of the decade and 1.2 percent through the 1990s (see **Figure 17**). These rates translate to a decline from approximately 21,300 new households a year between 2000 and 2005 to 8,600 after. The nation as a whole has had higher rates of household formation yet has seen a similar decline in this measure.

Figure 17: Average Annual Household Formation Rates, U.S. and Indiana



Source: U.S. Census Bureau, Decennial Census and American Community Survey

Several factors have contributed to the decline in household formation. First, economic hardships like unemployment or the loss of a home to foreclosure may have forced many householders to move in with family or friends—a process commonly called "doubling up." Additionally, many young adults have likely delayed moving away from parents or roommates because of poor job prospects. These trends are evident in Indiana's declining headship rates for

younger age groups. [13] The Census Bureau's American Community Survey (ACS) shows that the share of Hoosiers between the ages of 15 and 34 who head a household has dropped from 31.6 percent in 2007 to 30.5 percent in 2009. To give these figures some context, the state would have roughly 19,000 more households had the headship rate for this age group held at 31.6 percent. ACS data suggest that headship rates are also down for the 35 to 54 age group, yet slight gains in the population over the age of 55 help to offset some of these losses.

Doubling up and delayed household formation are likely temporary arrangements that will subside as the economy picks up steam. A 2010 study indicates that a 2 percentage point drop in the U.S. unemployment rate between 2010 and 2012 would increase the nation's household formations by 2 percentage points over the same period.[14] If this relationship holds, Indiana's household formations should have received a boost from the state's 1.6 percentage point decline in the unemployment rate between January 2010 and January 2011.

Householders Sit Tight

Another factor suppressing household formations is the dramatic slowdown in migration. This trend has been a key side effect of the most recent economic downturn not only in Indiana but also around the country. The latest population estimates show that once booming states like Florida, Arizona and Nevada saw comparatively small population gains through migration in 2009. In the same year, Indiana registered its second-lowest migration figure in nearly two decades, with a net influx of just 2,400 residents.

This drop is not surprising given that Indiana's ability to attract new residents is closely tied to its economic performance. **Figure 18** traces Indiana's annual net migration between 1991 and 2009 along with the annual percent change in the state's employment. Over this period, the two variables tended to move together, with shifts in the rate of employment change generally signaling a similar shift in the level of net migration. For instance, Indiana's greatest employment boom in recent years occurred between 1993 and 1995 when jobs increased by roughly 3 percent per year. These are also the top years for in-migration with an average annual net movement into the state of 31,000 residents. By contrast, significant employment losses in 2001 and 2002 coincided with declines in net migration culminating in Indiana's only net out-migration over this period in 2002. Not until employment began to recover in 2004 did Indiana see consecutive years of increased net migration.

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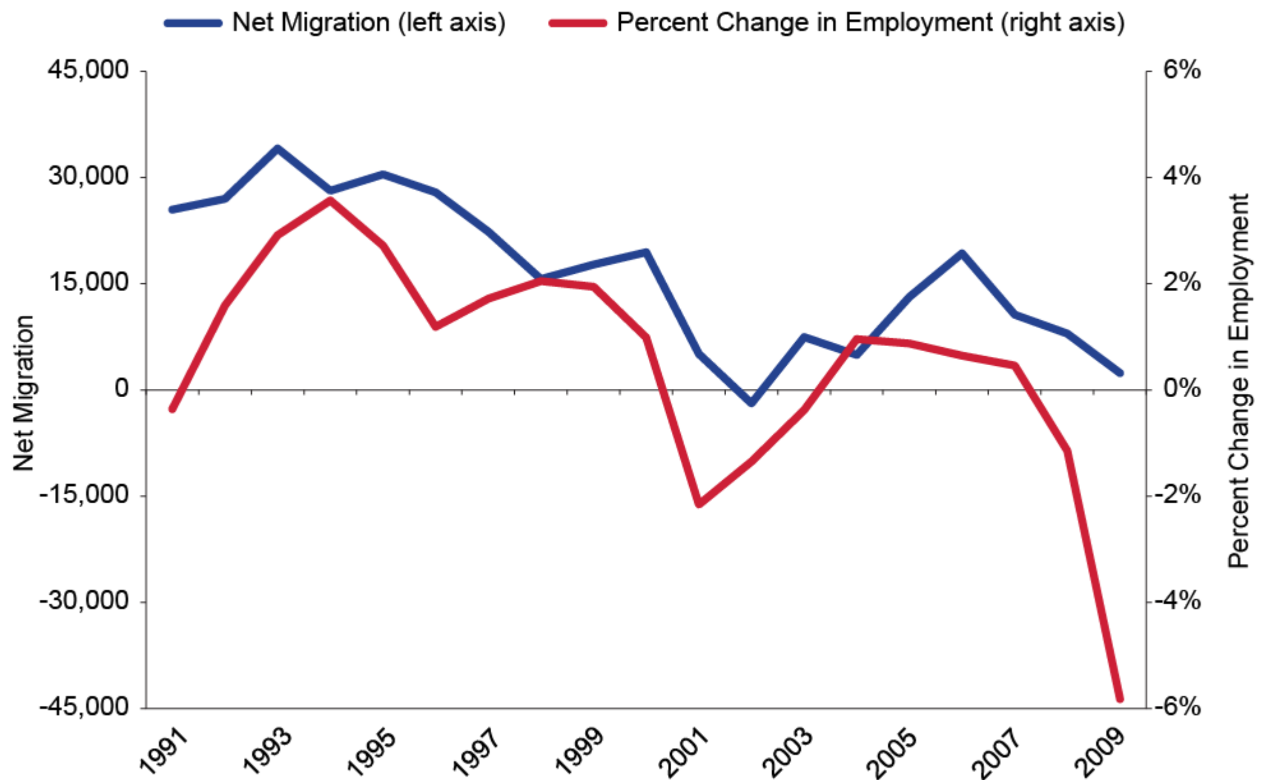
[13] Headship rates refer to the ratio of households to total population. The headship rate for the 15-to-34 age group, for instance, measures the number of households led a person in this age group (the householder) divided by the total population age 15 to 34.

[14] Gary Painter, *What Happens to Household Formation in a Recession?,* Research Institute for Housing America, April 2010.

Figure 18: Indiana's Annual Percent Change in Employment and Net Migration, 1991 to 2009



Source: U.S. Census Bureau, Moody's Economy.com, Bureau of Labor Statistics

Movement within the state is also down as the slumping housing market and employment insecurity forced many potential movers to sit tight. This is particularly true among homeowners. Data from the ACS shows that the share of Hoosier homeowners that reported moving within the state over the previous year declined from 7 percent in 2005 to 5.6 percent in 2009. Dampened mobility within Indiana along with low levels of migration from elsewhere has meant that many fast-growing communities saw far fewer new residents than usual toward the end of the last decade. This is most evident in the suburbs of large metro areas.

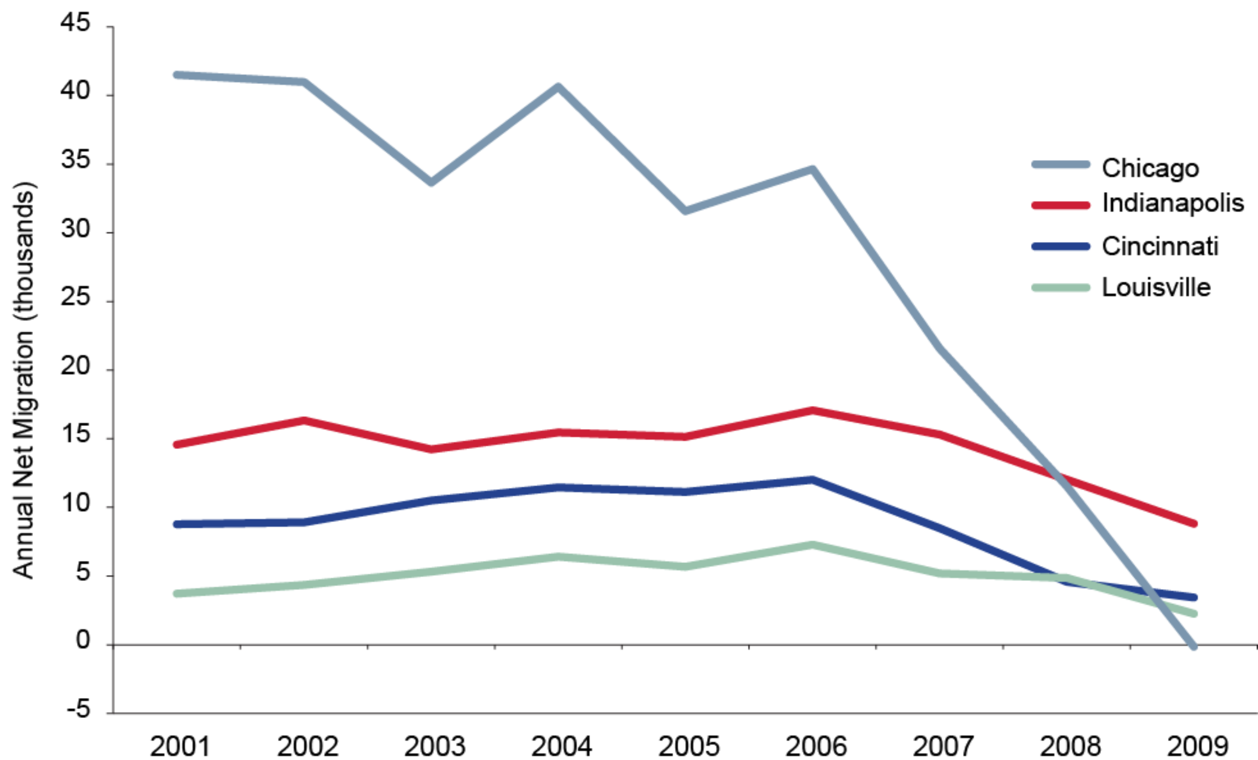
Figure 19 illustrates the annual net migration for the suburban counties of the Indianapolis metro area along with the large metros that border the state.[15] According to Census population estimates, the nine suburban counties of the Indianapolis area averaged a net in-migration of roughly 15,400 residents a year between 2001 and 2007. However, the net influx dropped to 12,000 in 2008 and 8,800 in 2009. Within the area, Hamilton County had the largest drop—going from an annual average of 7,600 net in-migrants between 2001 and 2007 to 5,200 in

[15] In the case of the Indianapolis metro area, the suburban counties are Boone, Brown, Hamilton, Hancock, Hendricks, Johnson, Morgan, Putnam and Shelby. Marion County is the metro area's core county and is excluded from these numbers. Many of the Midwest's core metro counties—Marion County included—saw marked improvements in their net migration figures through the downturn as the flow of residents to suburban areas or to other fast-growing regions of the country slowed.

2009. Comparing the same periods, the net in-migration marks for Hendricks and Johnson counties were down 1,600 residents and 1,200 residents, respectively.

The outlying counties of the Chicago metro area (which include Lake, Porter, Jasper and Newton counties in Indiana) have shown an even more dramatic fall in migration. These 13 counties combined to average a net in-migration of 35,000 residents a year between 2001 and 2007 yet had a slight net out-migration in 2009. Of this group, Indiana's Lake County had the largest 2009 net out-migration at nearly 1,600 residents. Overall, migration to Louisville's suburbs was down too, yet Indiana's Clark and Floyd counties bucked the broader trend as their net influx in 2009 outpaced their average from earlier in the decade.

Figure 19: Net Migration in Suburban Counties of Select Metro Areas



Source: U.S. Census Bureau Population Estimates

Doubling up, delayed headship and declining migration have certainly reduced household formations yet these trends should improve along with the economy. But will these new households be looking to buy at pre-crash levels or will they continue to tilt more heavily toward the rental market? Given the tighter access to credit, the continued fallout from the foreclosure crisis and diminished wealth for many, the latter seems more likely.[16] And as we have seen, this process is already underway with Indiana's homeownership rate plunging 3 percentage points since 2008.

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[16] Painter

It may well be appropriate that more Hoosiers look to rent but this shift would have near-term implications for the housing recovery. The more households that enter the rental market, the longer it will take to work through the swollen inventory of distressed properties. Such a scenario would prolong the downward pressure on home prices and continue to stifle residential construction.

An Increasingly Diverse Indiana

Another factor that could continue to tilt the homeownership versus renting balance is Indiana's increasing racial and ethnic diversity. Results from the 2010 Census show that Indiana is becoming increasingly diverse. Over the last decade, an additional 175,000 Hispanic residents called Indiana home—an 82 percent increase. The state's black population grew by nearly 77,000 while the number of white residents increased by 67,000.[17] With these different growth rates, Indiana's white population went from 86 percent of the state's total in 2000 to 82 percent in 2010. Meanwhile, the state's black and Hispanic populations now account for 9 percent and 6 percent of the total, respectively.

Within the context of this report, these are meaningful shifts considering that housing trends vary widely by race and ethnicity in Indiana. For instance, the homeownership rate for Indiana's white householders is 74 percent, according to the 2010 Census (see **Figure 20**). By contrast, 52 percent of the state's Hispanic households own their homes and just 41 percent of black households are owner-occupied.

Wide income disparities certainly play a large role in the different rates of homeownership. The 2009 median household income for Indiana's white population was $48,000 compared to $36,900 for Hispanic households. The median household income for Indiana's black households was $27,800. Clearly, economic development and improved educational outcomes will be critical to closing the gaps in income and homeownership.[18]

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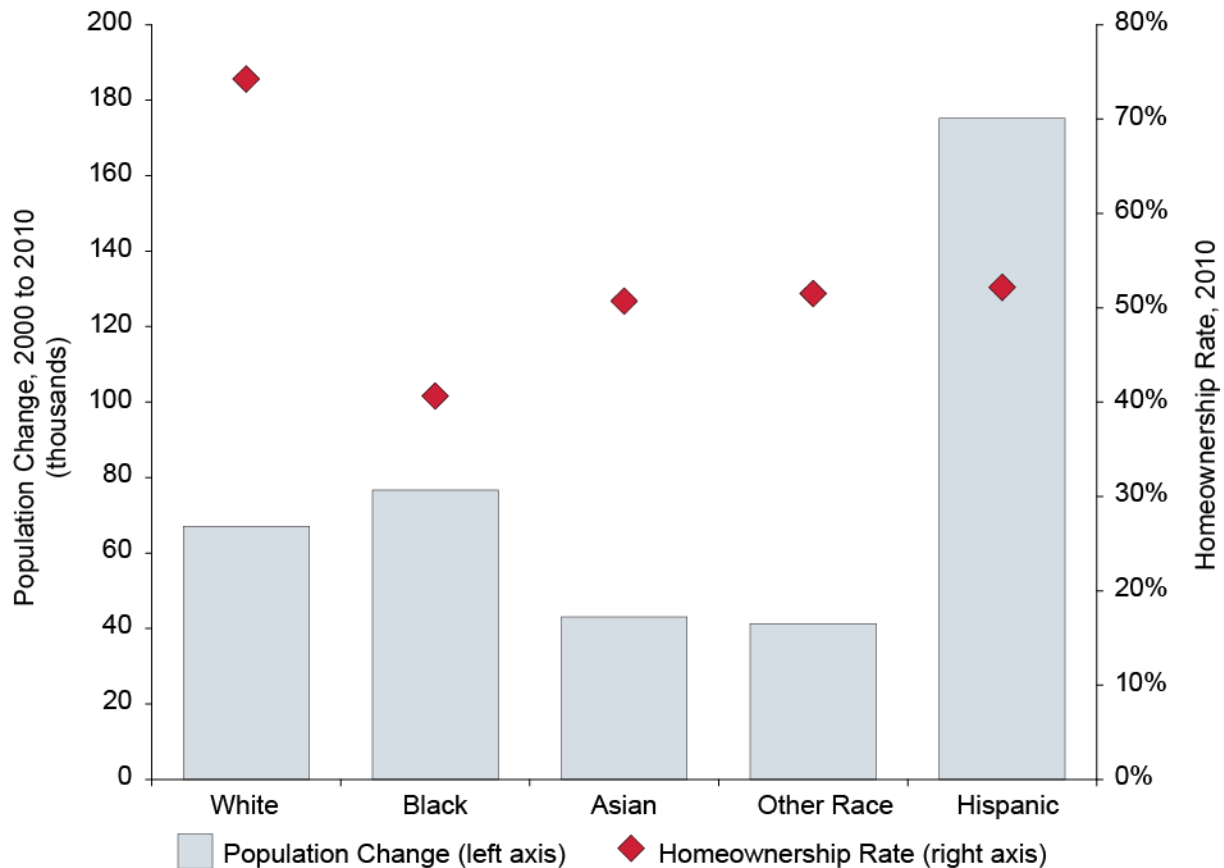
[17] The term Hispanic refers to an ethnicity and not a race so Hispanic residents can be of any race. The figures reported for specific race groups in this section exclude the Hispanic residents of that race. Therefore, figures for the state's white population, for example, refer to non-Hispanic white residents.

[18] "The State of the Nation's Housing 2010," The Joint Center for Housing Studies of Harvard University, June 2010 www.jchs.harvard.edu/publications/markets/son2010/index.htm.

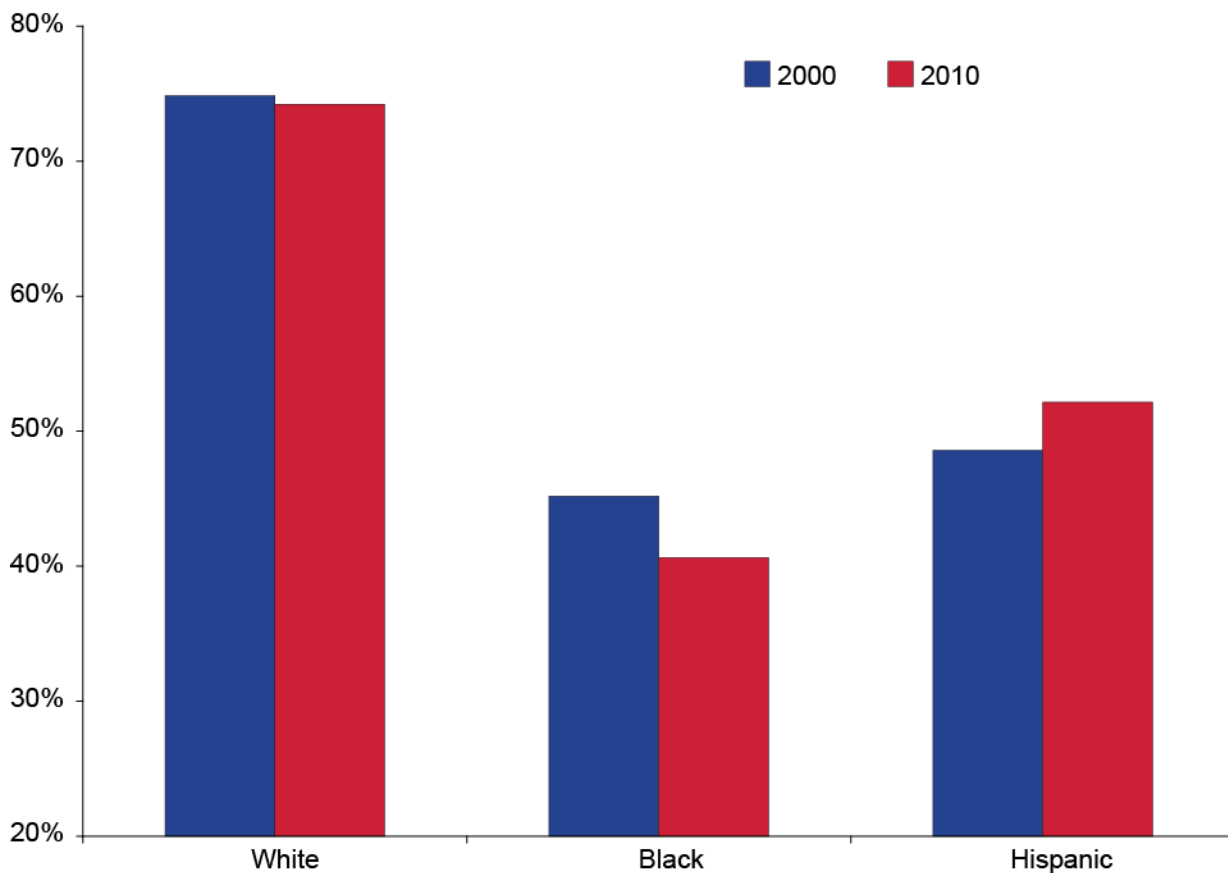
Figure 20: Indiana Population Change and Homeownership Rate by Race and Ethnicity



Source: U.S. Census Bureau

One hopeful sign that this gap could already be closing is the improved homeownership rate of Indiana's Hispanic population (see **Figure 21**). Between 2000 and 2010, the state's Hispanic homeownership rate increased by nearly four percentage points. Unfortunately, the experience for Indiana's black population has been far different. In 2000, 45.2 percent of Indiana's black householders owned their home but this mark dropped to 40.6 percent by 2010. The homeownership rate for Indiana's white population also declined slightly over the decade.

Figure 21: Change in Indiana Homeownership Rates by Race and Ethnicity, 2000 to 2010



Source: U.S. Census Bureau, Decennial Census 2000 and 2010

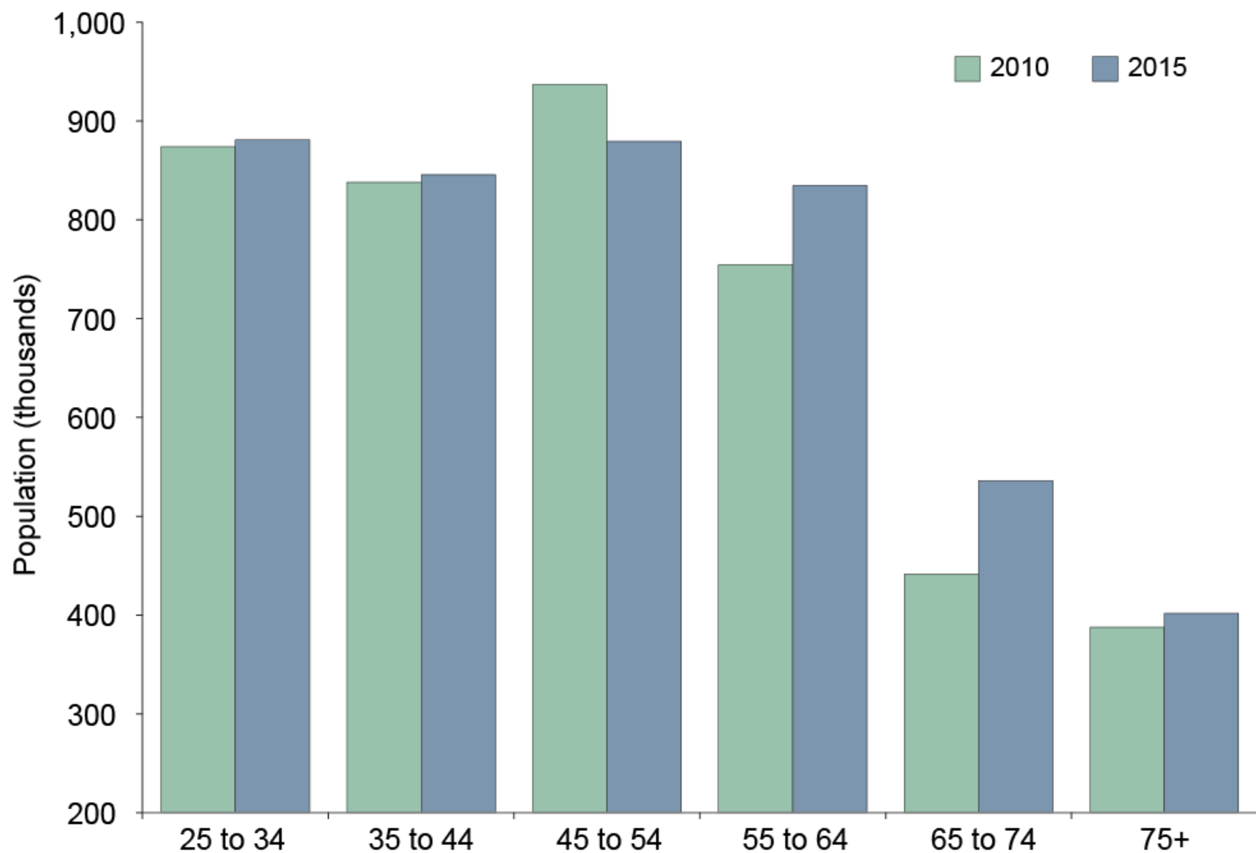
Looking Ahead

Indiana will continue to become more diverse. The Indiana Business Research Center's population projections for the state indicate that the black population will grow by 5 percent between 2010 and 2015 while the number of Asian residents will be up 12 percent. Over the same period, the state's Hispanic population is projected to climb 18 percent. This projection, however, was made well before the 2010 Census revealed that Hispanic population growth in Indiana and around the country far exceeded expectations. Therefore, it is likely that the state's Hispanic growth will beat this projection, although a slowdown in migration could temper this growth somewhat. The ultimate level of migration will be influenced by the strength of Indiana's economic recovery.

In any event, substantial growth in the state's Hispanic population is a certainty. Even if migration slows in the near term, the youth of this population and its relatively high fertility rate will fuel growth. As it stands now, the Hispanic population accounts for 6 percent of the state total but it claims closer to 10 percent of Indiana's population under the age of 18. Given this growing diversity, efforts to raise the incomes of all Hoosiers and to bring more minorities into the ranks of the homeowner will be important to the future of Indiana's housing market.

Another looming demographic certainty is the population's shifting age structure. The oldest members of the baby boom generation turn 65 this year and the aging of this cohort promises to transform Indiana and the nation in a number of ways, including its housing market. **Figure 22** shows that we can expect a slight increase in the state's population age 25 to 44 in the next five years. The 45-to-54 set will decline as the boomers start to age out of this group but the older brackets will begin their dramatic increase. When the dust settles, the ratio of Indiana's working age residents (age 25 to 64) to those of retirement age is projected to drop from today's mark of four-to-one to 2.5-to-one in 2030—the date when all boomers will be older than 65.

Figure 22: Indiana Population Projections by Age, 2010 and 2015



Source: Census 2010 and Indiana Business Research Center Population Projections

This process will impact the housing market in a number of ways, such as increasing demand for senior-oriented housing. The aging of the baby boomers also has the potential to tilt the balance between homebuyers and sellers. That is, for the population under the age of 65, the number of homebuyers typically exceeds the number of sellers. According to research out of the University of Southern California, this relationship flips around the age of 65 with sellers outnumbering buyers. The gap between the two begins to widen dramatically after the age of 70. In most states, this has been manageable because the senior population holds a small share of the total, but this will change. In Indiana, the senior population will boom while the working age population (and home-buying population) is projected to increase only slightly over the next 10 years.

Because of this dynamic, the USC researchers predict that there is a generational housing bubble on the horizon.[19] Their analysis indicates that only six other states (all in the Midwest or Northeast) have a higher ratio of sellers to buyers in the 65-to-69 age group than does Indiana. If this trend plays out as projected, we could see Indiana's boomers adding more homes to the market without a corresponding increase in buyers to absorb them. Such a scenario would place downward pressure on prices and could hinder residential construction in some areas.

Around the country, this process could be muted in the near term as many homeowners have lost significant equity in their homes, leaving them unable or unwilling to sell.[20] This fact may have less of an impact in Indiana since home price declines have been comparatively mild but a host of other economic concerns could keep Hoosier boomers at work and in their current homes longer than anticipated.

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[19] Dowell Myers and SungHo Ryu, "Aging Baby Boomers and the Generational Housing Bubble: Foresight and Mitigation of an Epic Transition," *Journal of the American Planning Association*, December 2007.

[20] David Rosnick and Dean Baker, "The Impact of the Housing Crash on the Wealth of the Baby Boom Cohorts," *Journal of Aging and Social Policy*, April 2010.

Housing and the Economy

Residential Construction Remains Weak

Residential Fixed Investment (RFI)—a component of GDP that includes investment in new construction and home improvements—is the most commonly watched indicator of housing's contribution to the economy.[21] Since 1950, RFI has accounted for 4.7 percent of U.S. GDP on average. As the demand for new homes has nosedived, however, RFI's share of economic activity stood at just 2.3 percent in 2010—the lowest annual mark since the end of World War II.

Following RFI during a recession is particularly important since this measure tends to be a leading indicator of economic activity.[22] That is, peaks in RFI generally precede periods of recession and RFI tends to rebound before the downturn ends, helping to pull the country out of recession. However, given housing's central role in this most recent economic downturn, RFI has been more a drag on this recovery than a boost. Real GDP has grown for six consecutive quarters since the middle of 2009 yet RFI has made a positive contribution to growth in only three of those periods.

There is no measure of RFI at the state level, but other indicators such as the value of annual building permits tend to follow the same path. **Figure 23** compares the change in national RFI to Indiana's annual value of building permits. Both indicators peaked in 2005 and have fallen dramatically since. Residential construction in Indiana has fallen to an extent that the value of permits in 2010, even when measured in nominal terms (i.e., not adjusted for inflation), was a shade below the level seen in 1990. This trend suggests that housing has been a weight on Indiana's recovery as well.

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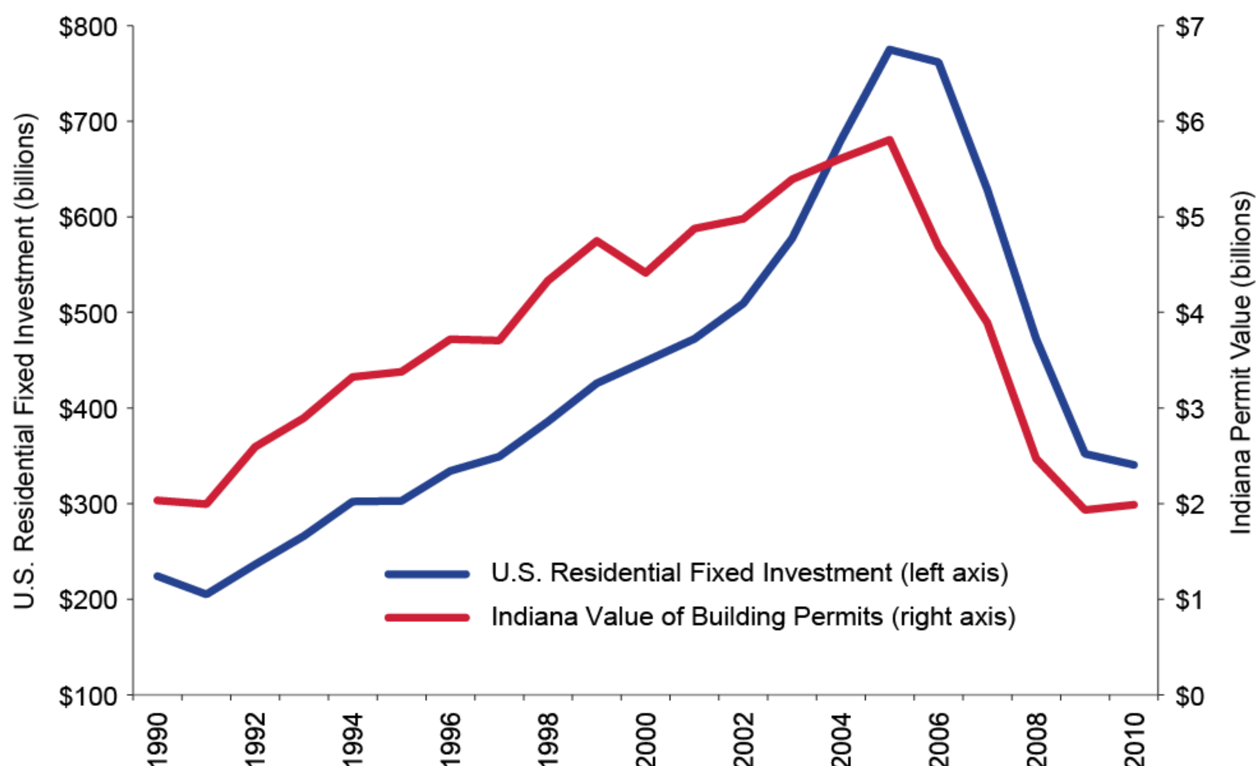
[21] According to the U.S. Bureau of Economic Analysis, RFI consists of the purchase of residential structures and the residential equipment that is owned by landlords and rented to tenants. Investment in residential structures includes the new construction of housing units, improvements to existing housing units, the purchase of manufactured homes and brokers' commissions on sales.

[22] Kathryn Byun, "The U.S. Housing Bubble and Bust: Impacts on Employment," *Monthly Labor Review*, December 2010.

Figure 23: U.S. Residential Fixed Investment and Indiana Value of Building Permits



Note: 2010 building permit data are preliminary.
Source: U.S. Bureau of Economic Analysis and U.S. Census Bureau

One bright note is that the value of permits in Indiana and at the national level did increase in 2010, ending a four-year slide for both. Since permits are issued before construction begins, there is often a lag between changes in permits and changes in RFI.[23] Therefore, the boost in permits could signal an increase in RFI in 2011. However, this bump in the value of permits appears to be another distortion in the data caused by the homebuyer tax credits. In Indiana, the value of permits has declined year-over-year for 11 straight months through April 2011. It is likely that construction will continue to suffer so long as the mortgage delinquency crisis is in effect.

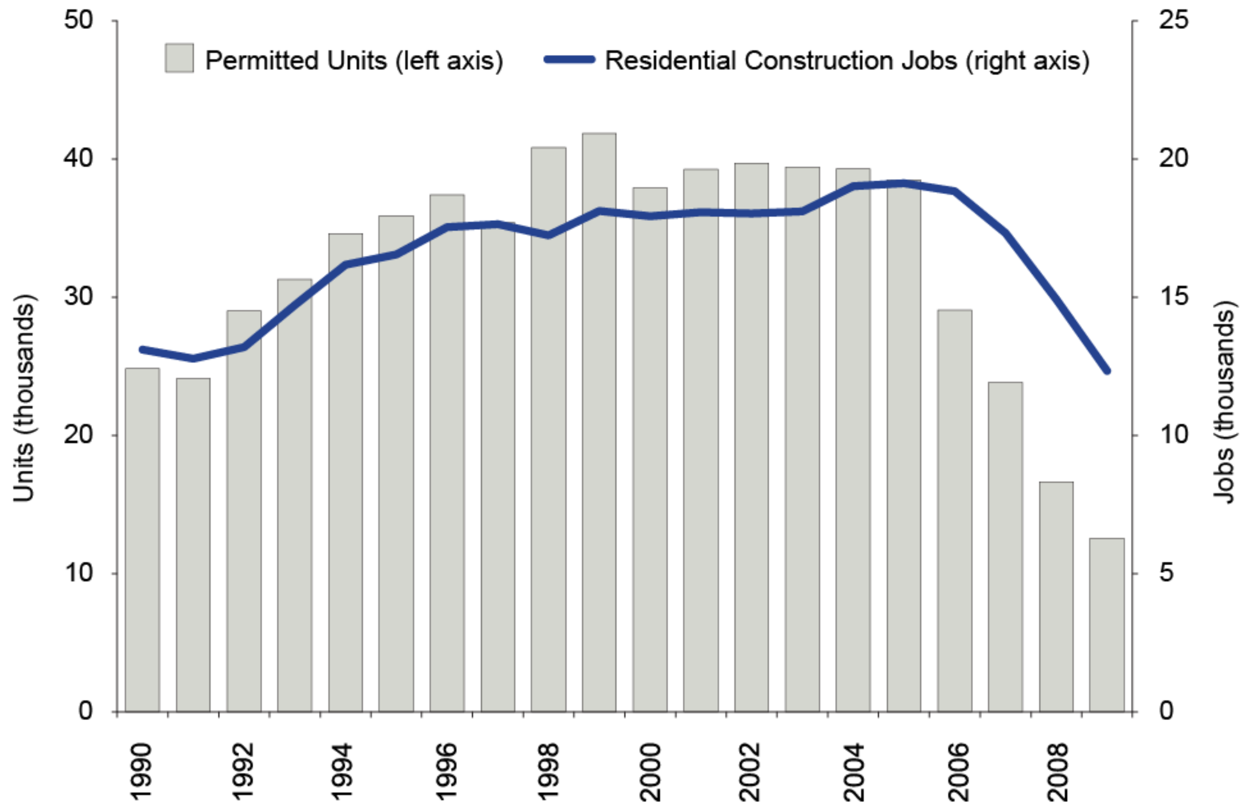
Housing's Impact on Employment

The drop in the number of permitted units has been even more dramatic than the drop in value. The number of units permitted in Indiana in 2009 was one-third of the peak seen in 1999 and the lowest mark since the recession year of 1982. Of course, this has had a dramatic effect on employment in the residential construction industry (see **Figure 24**). Indiana lost nearly 6,700 residential construction jobs between 2005 and 2009—a 35 percent decline. By comparison, the

[23] Natalia Siniavskaia, "The Effect of Home Building Contraction on State Economies," National Association of Home Builders Special Study, August 2008, www.nahb.org/generic.aspx?genericContentID=99676.

state's total employment fell by six percent over the same period and manufacturing jobs declined by 23 percent.

Figure 24: Annual Number of Permitted Units and Residential Construction Jobs, 1990 to 2009



Source: U.S. Census Bureau and Moody's Economy.com

The employment impacts don't end with the construction industry. With fewer houses built, there is a reduced demand for other goods and services related to the industry such as architecture and design, building materials, and home furnishings. According to the IMPLAN economic modeling software, residential construction has an employment multiplier of 2.2 in Indiana meaning that each job in this industry supports an additional 1.2 jobs throughout the state. If this multiplier holds, the decline of 6,800 construction jobs between 2005 and 2009 triggered the loss of an additional 8,000 jobs in the state.

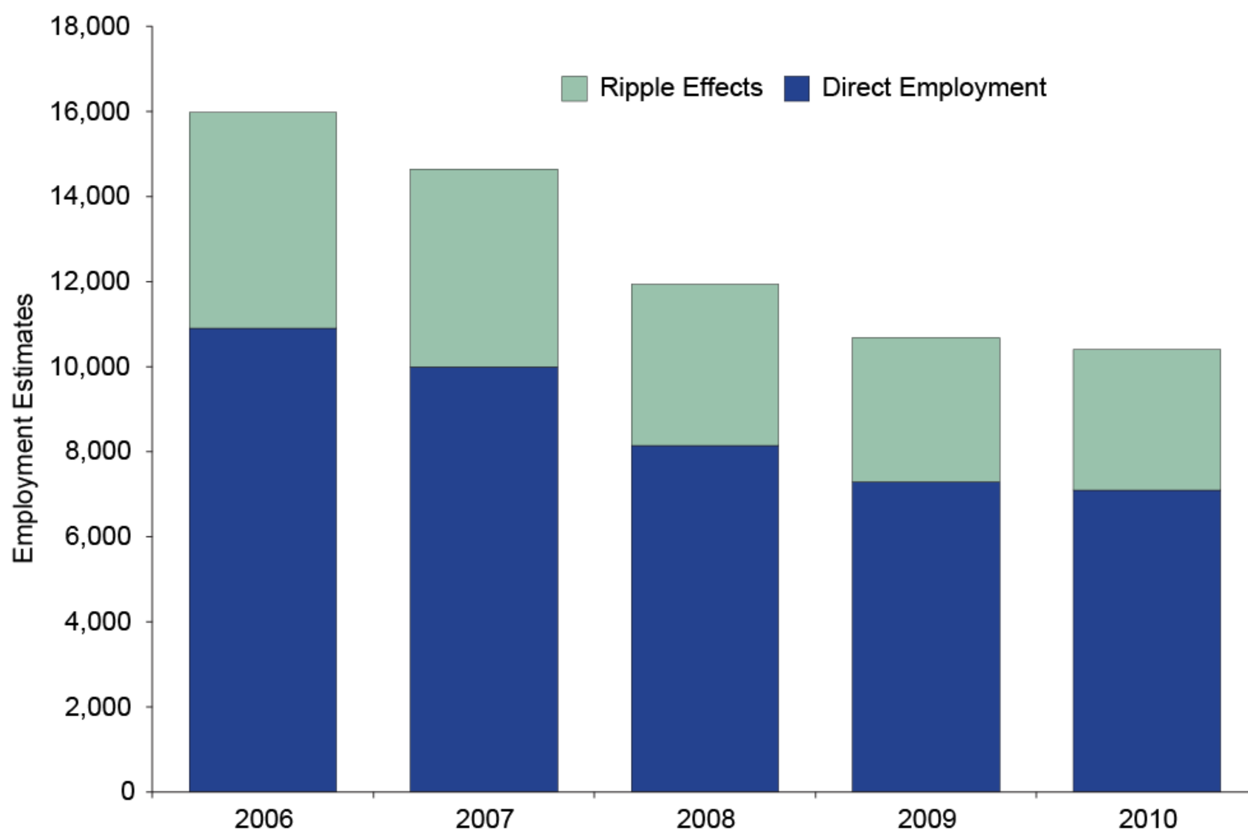
The Economic Impact of Home Sales

The sale of existing homes also has a significant impact on the state's economy. The National Association of Realtors estimates that each sale of an existing home generates a shot of direct economic activity that is equal to 12 percent of the sale price. Borrowing this approach, a home selling at Indiana's 2010 median price of $112,000 injects $13,400 into the state's economy through broker's commissions, mortgage fees, remodeling, furniture purchases and the like. According to the IMPLAN model, these combined transactions have an economic multiplier of 1.4 meaning that each dollar generated by an existing home sale spurs another $0.40 in

economic activity in the state. These ripple effects bring the total economic impact of a median priced home sale to $18,900.

In terms of employment, Indiana's total value of existing home sales in 2010 supported an estimated 7,100 jobs in industries directly related to these transactions. With a multiplier of 1.5, the total employment impact jumps to an estimated 10,400 jobs in the state. Of course, the dramatic decline in home sales since 2006 has had a negative impact on employment. **Figure 25** illustrates the estimated direct employment impact, along with the ripple effects, associated with the total value of existing home sales from 2006 to 2010. The decline in home sales over this period has cost the state an estimated 5,500 jobs.

Figure 25: Estimates of the Impact of Home Sales on Indiana Employment, 2006 to 2010



Source: IBRC, using Indiana Association of Realtors data and the IMPLAN economic model

Looking Ahead

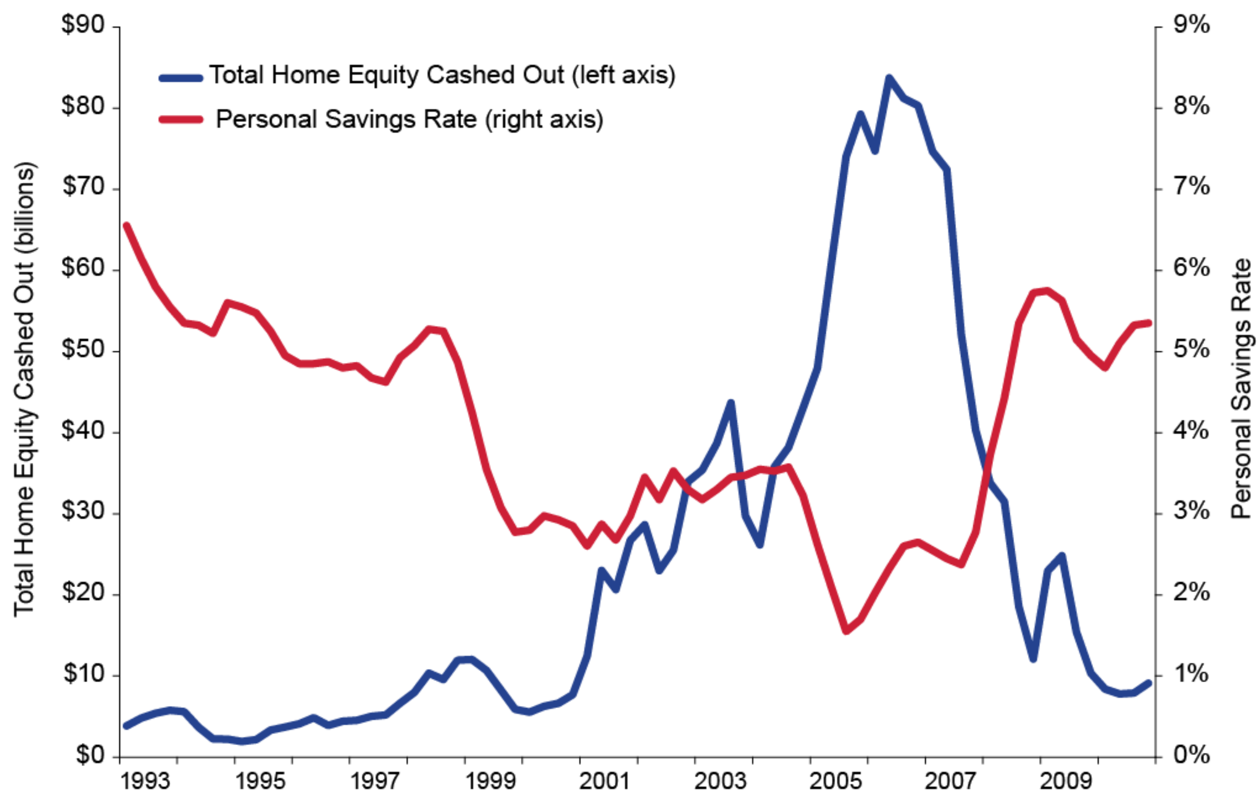
Clearly, a boost in residential construction and home sales would provide a shot in the arm to Indiana's economic recovery. However, several industry forecasts predict that construction and existing home sales at the national level will improve only slightly in 2011. If these forecasts are on the mark, then housing's direct economic contributions will continue to be muted.

The housing market's influence on economy extends beyond these core activities, however. Most notably, changes in home values can influence consumer spending. Many homeowners viewed their bubble-era price gains as permanent and sustainable. With this new source of wealth,

many felt less of a need to save income in the present since they assumed their homes were, in effect, a new savings account.[24] Indeed, during the housing bubble, the nation's personal savings rate dropped to its lowest levels on record, according to the Bureau of Economic Analysis. This lower level of savings freed up more money for consumer spending throughout much of the last decade. Since early 2008, however, the personal savings rate has returned to levels last seen in the mid and late 1990s.

Additionally, more and more homeowners took advantage of price gains to draw equity out of their homes through cash-out refinancing (i.e., borrowing more than is needed to pay off the original mortgage). To demonstrate this trend, data from Freddie Mac shows that homeowners with prime mortgages cashed out an average of $23 billion in home equity per year between 1993 and 2000. As **Figure 26** shows, this number spiked between 2004 and 2007, averaging $241 billion a year over that period. At the 2006 peak, cash-out transactions accounted for 86 percent of all refinancing originations.

Figure 26: U.S. Total Home Equity Cashed Out and Personal Savings Rate, 1993:1 to 2010:4



Note: Freddie Mac defines cash-out refinance as a loan amount that is at least 5 percent greater than the unpaid principle balance of the original loan. The cash-out numbers refer to the refinancing of prime conventional mortgages only. The personal savings rate numbers are a four-quarter moving average.
Source: Freddie Mac and U.S. Bureau of Economic Analysis

[24] "Housing Wealth and Consumer Spending," Congressional Budget Office, January 2007.

Like the reduced savings rate, the cash-out refinancing boom likely helped to spur some additional consumer spending. A 2007 Federal Reserve study estimated that homeowners use more than half of their cashed-out equity on home improvements and consumer spending.[25] Also like the savings rate decline, this trend proved short-lived. Even as historically low interest rates have spurred a recent surge in refinancing, the cash-out option has fallen to a 25-year low of 16 percent of all refinancing transactions in the fourth quarter of 2010.

Both the decline in personal savings and increase in cash-out refinancing amounted to more spending money on hand at a time when real household incomes were stagnant. Given Indiana's manufacturing focus—specializing in high-ticket goods like cars, RVs and home furnishings—the state was likely one of the larger beneficiaries of housing-induced spending. Starting in 2008, however, this spring began to run dry as house prices collapsed and access to credit tightened.

The role of housing wealth as a source of consumer spending will likely never return to bubble-era levels. For Indiana's economy to flourish in the next decade, improved income gains here at home and growth in exports abroad will have to offset this lost demand.

[25] Alan Greenspan and James Kennedy, "Sources and Uses of Equity Extracted from Homes," Federal Reserve Board, March 2007.

Conclusion

The effects of the housing slump will likely extend through 2011. In the early months of this year, Indiana home sales and building permits show no signs of a rebound. Furthermore, Indiana's foreclosure rate was at a record high by the end of 2010 and the other stages of delinquency remain elevated as well. As a result, some of these households will transition to the rental market and the inventory of distressed properties will remain high. It will take time to work through these issues.

Despite these continued challenges, Indiana's house prices have found firm footing. Indiana's median home sales price continues to show modest improvement and the state's House Price Index is holding steady. Moreover, Indiana's HPI dropped just 5 percent since the housing crash. The U.S. HPI is down 15 percent and still falling. Once Indiana sees a true rebound in prices, Hoosier homeowners could be quick to recover lost equity compared with the rest of country.

Certainly, economic growth will be the key to a housing comeback. Housing investment typically helps to lift the country out of recession but the opposite is true this time around. Only a sustained economic recovery will alleviate the mortgage delinquency crisis, boost household formation and eventually spur residential investment. On this front, the news appears mixed. Several economic forecasts for the nation and Indiana predict job growth but it is hazardous to guess how quickly such gains would translate into a housing rebound. One thing is certain, housing has rarely been more affordable and these favorable conditions should draw more buyers to the market when the economy improves.

Appendix

Home Sales and Median Sales Price by County, 2009 and 2010

County	2009 Sales	2010 Sales	% Change, 2009 to 2010	2009 Median Price	2010 Median Price	% Change, 2009 to 2010
Indiana Total	61,826	57,765	-6.6%	$110,000	$112,000	1.8%
Adams	201	216	7.5%	$74,000	$76,400	3.2%
Allen	4,324	3,941	-8.9%	$100,000	$107,000	7.0%
Bartholomew	649	723	11.4%	$129,650	$132,500	2.2%
Benton	56	61	8.9%	$60,000	$65,750	9.6%
Blackford	67	62	-7.5%	$59,900	$42,200	-29.5%
Boone	740	688	-7.0%	$160,000	$175,000	9.4%
Brown	135	171	26.7%	$149,500	$157,500	5.4%
Carroll	162	149	-8.0%	$77,500	$81,000	4.5%
Cass	306	275	-10.1%	$61,000	$50,000	-18.0%
Clark	1,241	1,103	-11.1%	$125,000	$123,600	-1.1%
Clay	220	216	-1.8%	$66,900	$70,000	4.6%
Clinton	267	220	-17.6%	$69,900	$76,000	8.7%
Crawford	44	41	-6.8%	$62,900	$74,000	17.6%
Daviess	158	200	26.6%	$76,950	$81,900	6.4%
Dearborn	364	338	-7.1%	$129,450	$128,000	-1.1%
Decatur	172	195	13.4%	$89,700	$104,750	16.8%
DeKalb	339	333	-1.8%	$83,900	$85,900	2.4%
Delaware	964	851	-11.7%	$84,000	$77,500	-7.7%
Dubois	332	308	-7.2%	$114,900	$124,750	8.6%
Elkhart	1,464	1,594	8.9%	$94,000	$88,700	-5.6%
Fayette	207	162	-21.7%	$62,000	$61,000	-1.6%
Floyd	789	665	-15.7%	$132,900	$122,450	-7.9%
Fountain	42	43	2.4%	$64,500	$66,000	2.3%
Franklin	25	31	24.0%	$81,500	$75,000	-8.0%
Fulton	149	164	10.1%	$75,500	$63,000	-16.6%
Gibson	277	280	1.1%	$78,000	$80,000	2.6%
Grant	604	529	-12.4%	$63,000	$65,000	3.2%
Greene	110	116	5.5%	$60,500	$63,750	5.4%
Hamilton	4,344	4,044	-6.9%	$181,013	$195,000	7.7%
Hancock	759	732	-3.6%	$124,000	$127,600	2.9%
Harrison	269	270	0.4%	$113,400	$117,500	3.6%
Hendricks	1,945	1,742	-10.4%	$137,000	$144,168	5.2%
Henry	320	285	-10.9%	$55,000	$64,900	18.0%
Howard	910	938	3.1%	$68,900	$72,599	5.4%
Huntington	417	382	-8.4%	$63,950	$70,000	9.5%
Jackson	324	300	-7.4%	$98,000	$94,950	-3.1%

County	2009 Sales	2010 Sales	% Change, 2009 to 2010	2009 Median Price	2010 Median Price	% Change, 2009 to 2010
Jasper	234	229	-2.1%	$135,000	$127,750	-5.4%
Jay	62	67	8.1%	$41,200	$37,000	-10.2%
Jefferson	232	235	1.3%	$101,000	$108,579	7.5%
Jennings	124	105	-15.3%	$79,000	$82,900	4.9%
Johnson	1,869	1,684	-9.9%	$116,900	$119,500	2.2%
Knox	301	229	-23.9%	$78,500	$70,000	-10.8%
Kosciusko	706	760	7.6%	$112,700	$122,500	8.7%
LaGrange	178	217	21.9%	$100,000	$95,500	-4.5%
Lake	4,245	3,916	-7.8%	$122,500	$126,000	2.9%
LaPorte	876	886	1.1%	$102,500	$99,500	-2.9%
Lawrence	373	414	11.0%	$77,852	$73,500	-5.6%
Madison	1,224	1,016	-17.0%	$71,900	$70,000	-2.6%
Marion	10,826	9,445	-12.8%	$94,000	$96,000	2.1%
Marshall	301	316	5.0%	$97,500	$92,000	-5.6%
Martin	44	46	4.5%	$68,500	$70,000	2.2%
Miami	288	266	-7.6%	$45,250	$45,000	-0.6%
Monroe	1,354	1,188	-12.3%	$143,400	$149,900	4.5%
Montgomery	391	397	1.5%	$79,500	$87,000	9.4%
Morgan	693	670	-3.3%	$111,511	$122,000	9.4%
Newton	96	104	8.3%	$107,125	$103,500	-3.4%
Noble	231	350	51.5%	$77,750	$86,950	11.8%
Ohio	37	39	5.4%	$105,000	$105,000	0.0%
Orange	21	21	0.0%	$65,500	$60,000	-8.4%
Owen	121	132	9.1%	$90,450	$84,500	-6.6%
Parke	34	50	47.1%	$47,950	$58,500	22.0%
Perry	35	43	22.9%	$48,125	$48,000	-0.3%
Pike	47	79	68.1%	$87,240	$75,000	-14.0%
Porter	1,463	1,475	0.8%	$162,500	$158,000	-2.8%
Posey	166	180	8.4%	$102,800	$110,000	7.0%
Pulaski	51	41	-19.6%	$71,500	$72,000	0.7%
Putnam	314	297	-5.4%	$95,750	$93,500	-2.3%
Randolph	105	88	-16.2%	$41,250	$50,000	21.2%
Ripley	183	162	-11.5%	$104,000	$99,700	-4.1%
Rush	17	12	-29.4%	$42,000	$29,900	-28.8%
St. Joseph	2,733	2,483	-9.1%	$99,500	$100,000	0.5%
Scott	152	141	-7.2%	$78,000	$79,900	2.4%
Shelby	358	382	6.7%	$82,250	$86,000	4.6%
Spencer	163	124	-23.9%	$89,250	$110,000	23.2%
Starke	180	169	-6.1%	$75,450	$82,613	9.5%
Steuben	411	398	-3.2%	$110,000	$105,000	-4.5%
Sullivan	96	103	7.3%	$64,250	$57,700	-10.2%

County	2009 Sales	2010 Sales	% Change, 2009 to 2010	2009 Median Price	2010 Median Price	% Change, 2009 to 2010
Switzerland	79	47	-40.5%	$69,000	$71,950	4.3%
Tippecanoe	1,720	1,632	-5.1%	$121,000	$122,500	1.2%
Tipton	109	106	-2.8%	$79,900	$79,600	-0.4%
Union	12	15	25.0%	$50,000	$64,900	29.8%
Vanderburgh	2,018	1,826	-9.5%	$100,000	$109,000	9.0%
Vermillion	93	78	-16.1%	$55,000	$59,075	7.4%
Vigo	913	887	-2.8%	$82,500	$84,250	2.1%
Wabash	199	222	11.6%	$71,700	$65,000	-9.3%
Warren	47	49	4.3%	$84,000	$90,000	7.1%
Warrick	724	654	-9.7%	$140,500	$143,250	2.0%
Washington	139	135	-2.9%	$57,875	$66,750	15.3%
Wells	218	268	22.9%	$89,950	$95,000	5.6%
White	199	204	2.5%	$84,250	$94,000	11.6%
Whitley	325	315	-3.1%	$100,000	$109,900	9.9%

Note: Home sales data are not available for Wayne County.
Source: Indiana Association of Realtors

Share of Prime Mortgages in Various Stages of Delinquency by County, October 2010

County	% 30-59 days past due	% 60-89 days past due	% 90+ days past due	% in foreclosure
Indiana Total	4.1%	1.5%	2.9%	3.2%
Adams	4.2%	1.1%	3.1%	2.6%
Allen	3.6%	1.3%	2.3%	2.8%
Bartholomew	3.8%	1.3%	2.4%	2.5%
Benton	5.3%	2.1%	3.7%	2.5%
Blackford	5.6%	0.6%	2.8%	4.6%
Boone	2.8%	0.9%	2.2%	2.7%
Brown	4.0%	0.8%	1.3%	2.4%
Carroll	3.4%	1.5%	2.9%	2.9%
Cass	5.2%	1.5%	2.9%	4.3%
Clark	4.2%	1.4%	2.9%	3.1%
Clay	5.8%	2.0%	3.3%	4.4%
Clinton	6.0%	1.4%	3.8%	4.5%
Crawford	4.9%	2.6%	2.1%	4.6%
Daviess	4.1%	1.4%	1.8%	1.9%
Dearborn	4.7%	1.3%	3.3%	2.7%
Decatur	5.8%	1.1%	2.9%	3.7%
DeKalb	3.9%	1.7%	2.4%	2.9%
Delaware	4.8%	1.9%	2.3%	3.4%
Dubois	2.7%	0.7%	1.4%	2.6%

County	% 30-59 days past due	% 60-89 days past due	% 90+ days past due	% in foreclosure
Elkhart	4.5%	1.8%	3.5%	4.3%
Fayette	4.5%	1.8%	2.9%	3.3%
Floyd	3.7%	1.6%	2.4%	2.5%
Fountain	4.0%	2.0%	2.5%	2.6%
Franklin	5.2%	1.4%	2.4%	4.0%
Fulton	6.3%	1.9%	4.4%	4.2%
Gibson	5.3%	1.3%	2.5%	2.5%
Grant	5.0%	1.8%	2.5%	3.5%
Greene	4.9%	1.4%	2.9%	2.9%
Hamilton	2.5%	0.9%	1.7%	1.9%
Hancock	3.7%	1.6%	2.5%	2.8%
Harrison	4.4%	1.6%	3.4%	3.2%
Hendricks	3.1%	1.2%	2.1%	2.1%
Henry	5.9%	1.8%	3.2%	4.5%
Howard	4.0%	1.6%	2.8%	4.5%
Huntington	3.8%	1.2%	2.6%	2.9%
Jackson	4.2%	1.2%	2.6%	2.7%
Jasper	5.0%	1.6%	2.6%	2.8%
Jay	6.0%	2.8%	4.2%	2.4%
Jefferson	5.2%	1.5%	2.8%	3.8%
Jennings	5.3%	2.0%	3.2%	2.6%
Johnson	3.7%	1.4%	2.5%	3.0%
Knox	3.7%	1.6%	2.5%	2.1%
Kosciusko	4.2%	1.4%	2.4%	3.3%
LaGrange	3.1%	1.0%	2.7%	2.9%
Lake	4.8%	1.9%	4.2%	4.0%
LaPorte	4.8%	1.4%	2.7%	2.6%
Lawrence	4.6%	1.5%	3.0%	3.6%
Madison	4.6%	1.6%	2.6%	3.8%
Marion	4.2%	1.6%	3.5%	3.7%
Marshall	5.8%	2.2%	3.6%	3.6%
Martin	4.5%	0.8%	1.3%	0.5%
Miami	4.3%	1.5%	3.1%	4.3%
Monroe	2.2%	0.6%	1.1%	1.4%
Montgomery	4.8%	1.5%	2.3%	2.9%
Morgan	4.3%	1.8%	3.2%	3.1%
Newton	6.2%	2.4%	3.8%	4.7%
Noble	4.6%	2.1%	3.0%	4.0%
Ohio	5.4%	4.6%	2.3%	0.4%
Orange	3.9%	2.3%	4.5%	3.4%
Owen	5.7%	1.9%	2.9%	3.2%

County	% 30-59 days past due	% 60-89 days past due	% 90+ days past due	% in foreclosure
Parke	3.5%	0.9%	2.4%	2.4%
Perry	4.3%	0.6%	3.2%	3.3%
Pike	4.9%	0.9%	3.1%	2.8%
Porter	4.2%	1.6%	3.1%	2.8%
Posey	4.3%	1.7%	2.6%	2.5%
Pulaski	6.9%	0.7%	4.5%	4.0%
Putnam	4.9%	1.5%	2.2%	3.2%
Randolph	5.2%	1.3%	2.5%	3.4%
Ripley	4.3%	1.4%	2.5%	3.3%
Rush	5.1%	1.7%	2.3%	2.8%
St. Joseph	4.2%	1.5%	3.0%	3.5%
Scott	5.0%	2.6%	4.9%	4.9%
Shelby	4.7%	1.4%	2.8%	4.5%
Spencer	3.2%	1.3%	3.0%	3.8%
Starke	6.7%	2.3%	3.6%	3.8%
Steuben	3.1%	1.2%	2.1%	3.0%
Sullivan	5.5%	1.8%	2.9%	3.5%
Switzerland	6.9%	4.2%	4.2%	5.7%
Tippecanoe	3.1%	1.0%	1.7%	2.1%
Tipton	5.2%	1.0%	3.8%	3.3%
Union	5.1%	1.6%	3.3%	4.5%
Vanderburgh	3.6%	1.4%	2.7%	2.8%
Vermillion	4.0%	1.7%	2.7%	2.8%
Vigo	3.8%	1.3%	2.5%	2.9%
Wabash	5.3%	1.8%	3.6%	3.5%
Warren	4.2%	3.2%	0.7%	2.1%
Warrick	3.7%	1.4%	2.4%	2.5%
Washington	3.3%	1.7%	3.4%	3.4%
Wayne	5.8%	2.0%	3.3%	5.6%
Wells	3.8%	1.1%	2.5%	3.1%
White	3.7%	1.3%	1.9%	2.1%
Whitley	3.8%	1.3%	2.5%	2.4%

Note: The Federal Reserve Bank of New York discontinued this data series in 2011. These data were available for specific mortgage types only. They did not provide delinquency rates for all mortgages.
Source: Federal Reserve Bank of New York

Number of Units and Value of Residential Building Permits by County, 2009 and 2010

	# of Units, 2009	# of Units, 2010	% Change, 2009 to 2010	$ Value, 2009	$ Value, 2010	% Change, 2009 to 2010

	# of Units, 2009	# of Units, 2010	% Change, 2009 to 2010	$ Value, 2009	$ Value, 2010	% Change, 2009 to 2010
Indiana Total	12,555	13,083	4.2%	$1,932,538,772	$1,960,773,529	1.5%
Adams	46	44	-4.3%	6,359,300	5,325,868	-16.3%
Allen	715	721	0.8%	117,280,358	122,588,517	4.5%
Bartholomew	125	131	4.8%	23,110,131	23,921,339	3.5%
Benton	12	7	-41.7%	1,543,918	1,100,665	-28.7%
Blackford	3	8	166.7%	509,000	1,038,000	103.9%
Boone	268	767	186.2%	52,020,234	85,761,107	64.9%
Brown	166	136	-18.1%	34,160,975	25,778,769	-24.5%
Carroll	38	37	-2.6%	3,956,117	2,997,995	-24.2%
Cass	12	15	25.0%	1,572,000	2,300,000	46.3%
Clark	375	276	-26.4%	54,643,622	39,722,833	-27.3%
Clay	9	15	66.7%	858,350	1,682,552	96.0%
Clinton	16	13	-18.8%	1,420,050	880,000	-38.0%
Crawford	0	0	0.0%	0	0	0.0%
Daviess	8	42	425.0%	1,072,377	6,244,066	482.3%
Dearborn	96	68	-29.2%	14,642,900	11,368,318	-22.4%
Decatur	115	31	-73.0%	13,447,450	5,820,000	-56.7%
De Kalb	51	70	37.3%	8,770,788	11,199,843	27.7%
Delaware	44	50	13.6%	7,703,408	7,887,240	2.4%
Dubois	96	81	-15.6%	14,914,217	12,899,669	-13.5%
Elkhart	185	234	26.5%	27,309,500	35,050,247	28.3%
Fayette	11	4	-63.6%	571,500	283,450	-50.4%
Floyd	131	133	1.5%	27,802,922	28,418,009	2.2%
Fountain	6	5	-16.7%	467,500	523,500	12.0%
Franklin	48	26	-45.8%	8,487,000	5,227,600	-38.4%
Fulton	19	10	-47.4%	4,334,588	1,952,500	-55.0%
Gibson	75	45	-40.0%	11,152,700	7,302,001	-34.5%
Grant	47	46	-2.1%	6,324,593	9,272,583	46.6%
Hamilton	2,182	1,975	-9.5%	318,011,868	310,799,368	-2.3%
Hancock	298	151	-49.3%	36,052,259	25,286,205	-29.9%
Harrison	82	88	7.3%	13,859,500	1,900,000	-86.3%
Hendricks	745	631	-15.3%	127,697,821	113,178,442	-11.4%
Henry	18	22	22.2%	2,860,915	3,711,800	29.7%
Howard	73	13	-82.2%	5,336,000	2,040,550	-61.8%
Huntington	29	79	172.4%	6,311,058	11,175,804	77.1%
Jackson	80	111	38.8%	9,440,341	14,725,582	56.0%
Jasper	91	80	-12.1%	15,857,230	14,615,462	-7.8%
Jay	78	14	-82.1%	6,211,580	2,340,000	-62.3%
Jefferson	55	37	-32.7%	6,326,392	4,418,726	-30.2%
Jennings	45	37	-17.8%	5,183,940	3,375,280	-34.9%

	# of Units, 2009	# of Units, 2010	% Change, 2009 to 2010	$ Value, 2009	$ Value, 2010	% Change, 2009 to 2010
Johnson	678	651	-4.0%	78,814,330	92,816,742	17.8%
Knox	34	17	-50.0%	5,677,161	2,596,753	-54.3%
Kosciusko	200	193	-3.5%	32,754,268	30,056,537	-8.2%
Lagrange	65	74	13.8%	10,978,497	14,206,932	29.4%
Lake	687	818	19.1%	144,862,325	139,743,602	-3.5%
La Porte	138	228	65.2%	23,026,072	27,474,056	19.3%
Lawrence	9	8	-11.1%	945,699	1,704,000	80.2%
Madison	69	80	15.9%	15,515,119	17,237,117	11.1%
Marion	1,092	1,404	28.6%	122,101,059	154,998,367	26.9%
Marshall	100	88	-12.0%	16,719,590	16,468,837	-1.5%
Martin	1	0	-100.0%	190,000	0	-100.0%
Miami	10	10	0.0%	1,109,900	1,392,000	25.4%
Monroe	265	261	-1.5%	37,858,300	37,148,603	-1.9%
Montgomery	32	42	31.3%	4,487,909	4,617,500	2.9%
Morgan	77	89	15.6%	13,643,405	14,355,123	5.2%
Newton	15	18	20.0%	2,376,169	3,033,461	27.7%
Noble	72	66	-8.3%	9,732,030	10,539,087	8.3%
Ohio	8	15	87.5%	914,900	2,322,250	153.8%
Orange	26	5	-80.8%	2,813,389	762,667	-72.9%
Owen	41	2	-95.1%	6,395,580	293,354	-95.4%
Parke	22	29	31.8%	1,885,273	3,571,492	89.4%
Perry	29	38	31.0%	2,426,000	4,978,000	105.2%
Pike	21	34	61.9%	2,659,631	3,660,669	37.6%
Porter	295	251	-14.9%	64,323,579	65,600,921	2.0%
Posey	36	60	66.7%	6,002,803	9,713,486	61.8%
Pulaski	18	13	-27.8%	2,678,592	1,711,510	-36.1%
Putnam	42	63	50.0%	7,008,000	7,624,115	8.8%
Randolph	16	12	-25.0%	2,005,091	1,255,000	-37.4%
Ripley	68	68	0.0%	11,321,734	10,439,994	-7.8%
Rush	12	10	-16.7%	1,868,000	1,670,000	-10.6%
St. Joseph	261	311	19.2%	50,747,167	48,096,424	-5.2%
Scott	21	44	109.5%	2,285,999	4,811,000	110.5%
Shelby	52	54	3.8%	7,519,300	6,785,210	-9.8%
Spencer	37	38	2.7%	4,663,490	4,549,100	-2.5%
Starke	59	31	-47.5%	9,410,264	4,579,381	-51.3%
Steuben	74	71	-4.1%	17,113,150	15,792,300	-7.7%
Sullivan	2	1	-50.0%	260,000	130,000	-50.0%
Switzerland	44	44	0.0%	2,563,711	2,563,712	0.0%
Tippecanoe	436	487	11.7%	77,008,212	82,644,945	7.3%
Tipton	8	5	-37.5%	1,201,600	613,000	-49.0%
Union	7	0	-100.0%	592,000	0	-100.0%

	# of Units, 2009	# of Units, 2010	% Change, 2009 to 2010	$ Value, 2009	$ Value, 2010	% Change, 2009 to 2010
Vanderburgh	263	277	5.3%	36,766,533	30,872,950	-16.0%
Vermillion	16	9	-43.8%	2,506,192	1,789,000	-28.6%
Vigo	103	164	59.2%	16,350,324	20,504,508	25.4%
Wabash	34	23	-32.4%	5,175,143	3,799,367	-26.6%
Warren	16	11	-31.3%	1,302,857	693,000	-46.8%
Warrick	174	197	13.2%	26,622,130	37,805,883	42.0%
Washington	34	31	-8.8%	4,487,359	4,410,256	-1.7%
Wayne	29	149	413.8%	5,424,150	11,351,603	109.3%
Wells	34	71	108.8%	6,999,222	11,011,825	57.3%
White	45	72	60.0%	6,163,162	8,194,600	33.0%
Whitley	135	93	-31.1%	16,698,000	13,669,400	-18.1%

Note: Residential permit data are not available for Greene County.
Source: U.S. Census Bureau

Housing Affordability Index Methodology

The housing affordability index is designed to measure the degree to which a "typical" middle income family can afford the mortgage payments on the typical home. To interpret the index, a value of 100 means that the typical family has just enough income to qualify for an 80 percent mortgage on a median-priced home. The higher the index, the more affordable the housing.

Calculation of affordability indices is dependent on several published data sources and assumptions. The primary building block is the median existing house sales price published by the National Association of Realtors (NAR). The NAR price estimates are available for the nation, Census regions and approximately 132 metropolitan areas. Economy.com estimates home prices for counties and states, in addition to the metropolitan areas not published by the NAR.

Published median family income data for the United States, regions, states, metropolitan and county areas are used to determine the income available for a home purchase. Since the Census Bureau publishes median family income for metropolitan and county areas on a decennial basis, Economy.com estimates the intercensal years.

The affordability indices use the state-level "effective" interest rates released on an annual basis by the Federal Housing Finance Board. Effective rates are higher than contract rates because they include fees and charges (points) amortized over the typical seven-year life of a mortgage.

A 20 percent down payment is assumed, being a standard of the housing industry. This implies a loan amount of 80 percent of the median sales price. Economy.com assumes a maturity of 30 years. Economy.com assumes a 25 percent coverage ratio, which is the proportion of minimum qualifying family income allocated to the monthly payment.

Source: Moody's Economy.com