

# Housing Correction or Crash

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The economy is expanding above its potential and is operating near its capacity. Real GDP is on track to post an outsized 5% gain in this year's first quarter. This reflects warm winter weather and a bounce from last year's fourth quarter growth pause, but more significantly it reflects the economy's underlying strength. Abstracting from the quarter-to-quarter vagaries in growth, real GDP is expanding between 3.5% and 4%.

This is measurably above the economy's estimated potential growth rate of between 3% and 3.5% (see Chart 1). The above trend growth is clear from the recent sturdy monthly job gains of near 200,000, which are well above the no more than 150,000 jobs needed each month to absorb the expanding work force.<sup>1</sup> Unemployment has thus been steadily falling, and now that it is firmly below 5%, the economy is effectively at full employment.

That the economy is operating near its capacity is also now evident in manufacturing, the economy's perennially weakest sector. Manufacturing output has been expanding for two and half years. It rarely grows as strongly as its current near 5% year-over-year pace, at least not on a sustained basis.

Since manufacturing capacity has been much slower to rebound than output, factory utilization rates have risen sharply. The current manufacturing-wide utilization rate of over 80% is consistent with factories running near full capacity.

With the economy expanding above its potential and near its capacity, inflationary pressures are developing. Core inflation and inflation expectations have been edging higher, and while still within policymakers' implicit target range, are now at the top end of that range and threaten to breach it.<sup>2</sup>

Policymakers are working diligently to ensure this does not happen. In an effort to slow growth to closer to the economy's potential, the Federal Reserve has raised the federal funds rate target from 1% to its current 4.5% over the past less than two years, and at least another couple of rounds of tightening are expected this spring. These efforts will only succeed if the higher rates weigh heavily on the economy's most rate-sensitive sectors, namely the housing and mortgage markets.

The economy's near-term economic performance will thus be significantly shaped by the performance of these markets. The most likely scenario holds that housing and mortgage market activity will weaken in an orderly way and the broader economy will gracefully adjust to a slower, albeit more sustainable rate of growth. The downside risks to this sanguine scenario are significant, however. This article considers housing's role in the broader economy and its near-term prospects.

**Housing's role.** Housing has provided an outsized contribution to the economy's growth in recent years. Approximately one percentage point

of real GDP growth in 2005 was due directly or indirectly to housing (see Chart 2).<sup>3</sup> This was a whopping nearly one-third of the economy's 3.5% gain for the year.

Housing's contribution has occurred directly through record residential investment, which is comprised of homebuilding, remodeling, and renovation, and indirectly through the housing wealth effect. Each contributed an equal one half a percentage point to growth last year.

With a record-shattering total exceeding two million new and increasingly spacious homes being built annually, residential investment has soared to 6.2% of GDP. This compares to 4.5% of GDP in 2000, and is the highest GDP share since the housing boom immediately following World War II. Current construction is dwarfing that which occurred in even the late 1970s when the large baby boom generation was forming households. Household formation, the most important source of demand for new construction, is currently running at approximately 1.25 million per year. At their peak in the late 1970s, formations were just under two million per year.

Home improvement, including major additions and alterations, has also increased substantially. Since the end of the 2001 recession, real spending has risen at over a 5% annualized pace, and now stands at a record high as a share of GDP.

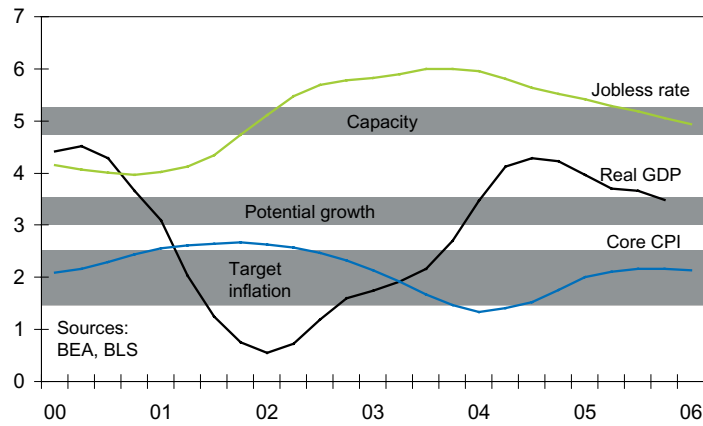
The housing wealth effect has also powered robust consumer spending. For

<sup>1</sup> There is growing evidence that labor force growth has slowed in recent years and that closer to 125,000 monthly job gains are necessary to maintain a stable jobless rate.

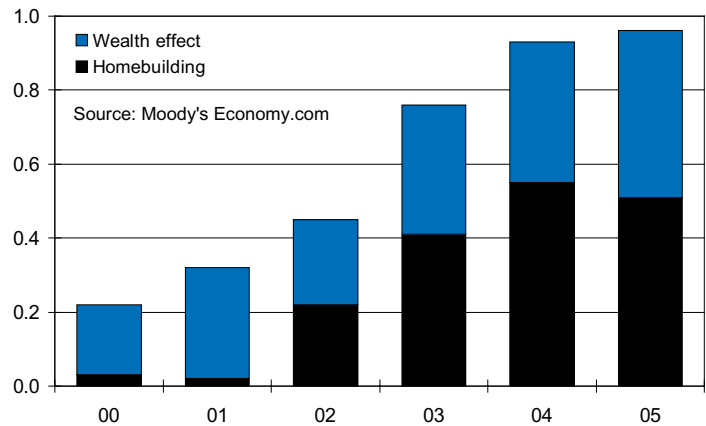
<sup>2</sup> The core consumer expenditure deflator is currently growing between 1.5% and 2%. A number of FOMC members have publicly stated that 2% is the upper bound of their comfort zone for this price measure.

<sup>3</sup> This is an econometric result based on simulations of the Moody's Economy.com macroeconomic model.

**Chart 1: Above Potential, at Capacity**  
% change year ago, 4 qtr. MA



**Chart 2: Housing's Outsized Contribution to Growth**  
Percentage point contribution to real GDP growth



every \$1 increase in housing wealth, an estimated seven cents in extra spending occurs over the subsequent nearly two-year period. Households own nearly \$20 trillion worth of housing and have more than \$11 trillion in homeowners' equity. The median amount of equity owned by homeowners is an estimated close to \$70,000.<sup>4</sup> While the stock market has yet to fully recover from its post-Y2K bust, housing is far-and-away the largest asset in the household balance sheet. Indeed, while less than one-half of families have some stockholdings, only one-fourth of families have holdings worth more than \$30,000. Well over two-thirds own their own home, and more than three-fourths of families have homeowners' equity that is greater than \$30,000.

For wealthier, higher-income households, the wealth effect largely works through its influence on their views regarding their long-term financial well-being. With rising housing values and thus net worth, these households do not feel the urgency to save for their children's college education or their own retirement. Their saving rate declines, and their spending increases.

For less wealthy households, the wealth effect has been empowered by increased mortgage borrowing. Until very recently, home equity borrowing was surging, and cash-out refinancing remains strong. All together, so-called mortgage equity withdrawal (MEW) totaled an astonishing \$900 billion in

2005 according to the Federal Reserve, equal to nearly 10% of disposable income (see Chart 3). Even after mortgage origination fees and closing costs, MEW was nearly \$700 billion last year, compared to closer to \$200 billion as recently as 2000.

There has been some debate among economists regarding the contribution of MEW to the wealth effect and housing's contribution to economic growth. One side of the debate holds that MEW has not been an important factor in stimulating consumer spending; that the cash raised from equity withdrawal has simply been a substitute for other sources of cash that would have been used instead. This view holds that the equity withdrawal has allowed for households to diversify their assets, out of housing into other financial assets.

The other side of this debate holds that MEW is a new source of cash to homeowners that is fueling greater spending and resulting in a larger housing wealth effect than has prevailed historically. Indeed, access to cheap mortgage credit has exploded in recent years with the widespread marketing by lenders of

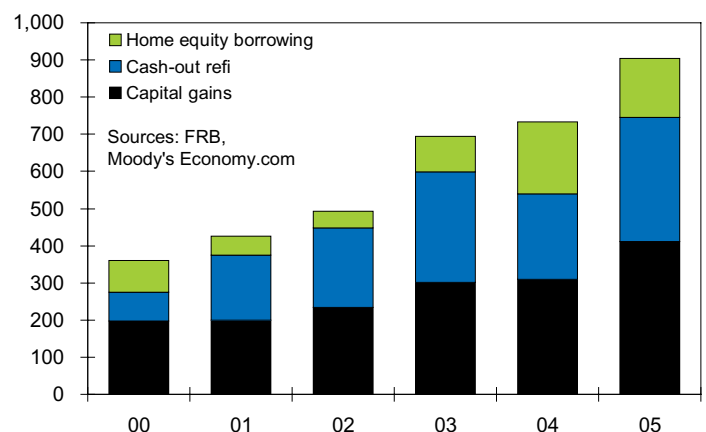
various home equity loan products.<sup>5</sup> This view holds that many homeowners were previously liquidity-constrained and could not increase their spending even if they wanted to when house prices and their net worth rose.

The reality lies between these two views. It is hard to argue that many lower-income homeowners are not tapping their homeowners' equity to finance spending—spending they could not have financed in the past. Surveys of what homeowners are doing with their new-found cash suggest that only a small proportion is finding its way into new investments.<sup>6</sup> Econometric evidence also indicates that it is easier to explain the strong consumer spending

<sup>5</sup> Home equity lending came into mainstream lending beginning with the 1986 tax reform law, which eliminated the tax deductibility of non-mortgage interest. This significantly increased the attractiveness of mortgage borrowing.

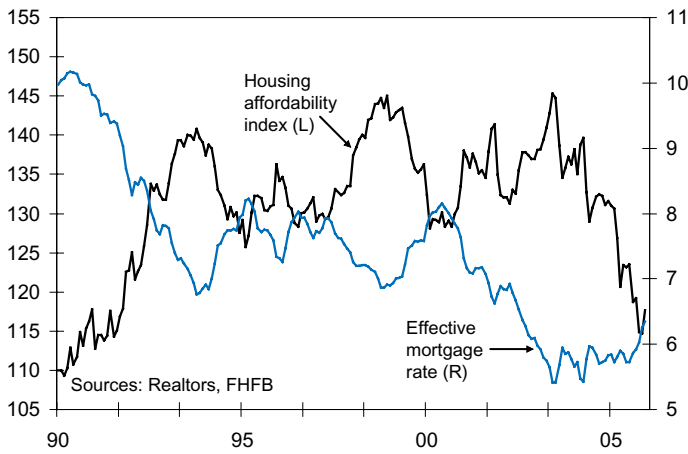
<sup>6</sup> See "Mortgage Refinancing in 2001 and Early 2002," Canner, et al., *Federal Reserve Bulletin*, December 2001, and "Homeowners Expect Prices to Keep Rising," Petruno and Kristof, *Los Angeles Times*, March 8, 2006.

**Chart 3: The Home Has Become a Cash Machine**  
Gross equity extraction, \$ bil



<sup>4</sup> This is based on the Federal Reserve's Flow of Funds and the 2004 Survey of Consumer Finance.

**Chart 4: Housing Affordability Is Eroding...**



of recent years by strong household cash flow growth, which includes MEW, than by disposable income growth alone, the traditional approach in this type of analysis.<sup>7</sup>

It is equally hard to argue, however, that higher-income homeowners are spending more in response to the increase in their housing wealth than in the past because it is easier to pull equity out of their homes. These households have substantial financial resources and access to all types of credit and are thus able to quickly change their spending in response to any change in their net worth.

**Housing drag.** The housing and mortgage markets are fast-going from being a powerful source of growth to a measurable drag. New and existing home sales have declined substantially from their summer peaks, and judging by the recent volume of mortgage applications, are set to fall further this spring. National homebuilders are reporting increased cancellations, lower orders, and are using price incentives more aggressively. Inventories of unsold new and existing homes have soared to record highs. House-price growth has weakened, and prices appear to be falling in the investor-infected condominium market.

Many of the forces that had fueled housing demand are turning.<sup>8</sup> Mortgage rates are moving higher, mortgage

now very high house prices with even the modest rise in mortgage rates is undermining housing affordability and forcing first-time homebuyers out of the market.<sup>9</sup> It was the unprecedented decade-long rise in the homeownership rate, and the massive numbers of renters who become homeowners, that fired up housing activity.<sup>10</sup>

The homeownership rate has fallen with the plunge in affordability. According to the Realtors, the family earning the median income is able to buy only 11.5% of the median-priced existing home. This is the lowest affordability since the early 1990s and compares to record high affordability of near 140% as recently as a couple of years ago (see Chart 4).

For a time, mortgage lenders were able to cushion the blow of rising interest rates on affordability by aggressively marketing various affordability products. Exotic interest-only and option adjustable rate mortgage loans, which are often introduced with low initial teaser rates, surged in popularity. Last year, such mortgage loans accounted for almost

<sup>9</sup> First-time buyers have historically accounted for approximately 40% of home sales according to Realtor surveys.

<sup>10</sup> The homeownership rate rose from 64% to 69% between 1994 and 2004.

<sup>7</sup> Consumption function estimation results are available upon request.

<sup>8</sup> For a thorough discussion of the forces driving housing activity, see "Fed Tightens, Lenders Ease," *Regional Financial Review*, July 2005, "No Fear," *Regional Financial Review*, May 2005, and "Through the Roof," *Regional Financial Review*, November-December 2004.

transaction costs can scarcely go lower, households are traveling more as terrorism fears fade and thus staying home and investing in their housing less, and cash and stocks are once again attractive investment alternatives to housing.

The combination of

one-fourth of nonconforming mortgage originations (see Chart 5). These loan products have been around for years, but they were until recently only offered to a few select borrowers.

While lenders remain aggressive, they appear to be re-thinking their underwriting standards. This is due in part to concern over mortgage credit quality, which while still very good is turning, and in part to heightened oversight by increasingly nervous regulators.<sup>11</sup> Any rise in mortgage rates now weighs increasingly heavily on the ability of first-time buyers to afford a home purchase. The IO and option-ARM share of originations has leveled off in recent months.

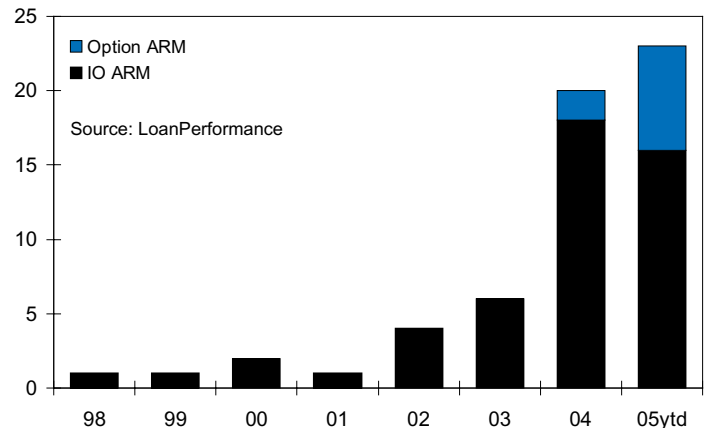
Higher mortgage rates and more cautious lenders are also forcing housing investors to re-evaluate their strategies. It was surging investor demand that sent housing activity into hyper-drive. Housing is no longer the appealing investment that it was earlier in the decade when stock prices were crashing and interest rates plunging.

The income return on owning a home, as measured by ratio of the effective apartment rent to the median existing house price, has been cut nearly in half since Y2K (see Chart 6). At currently under 7%, the yield on housing is lower than that on office space, and is fast-approaching the over 5% yield on stocks and just under 5% long-term bond and cash yields.<sup>12</sup> At the start of the decade,

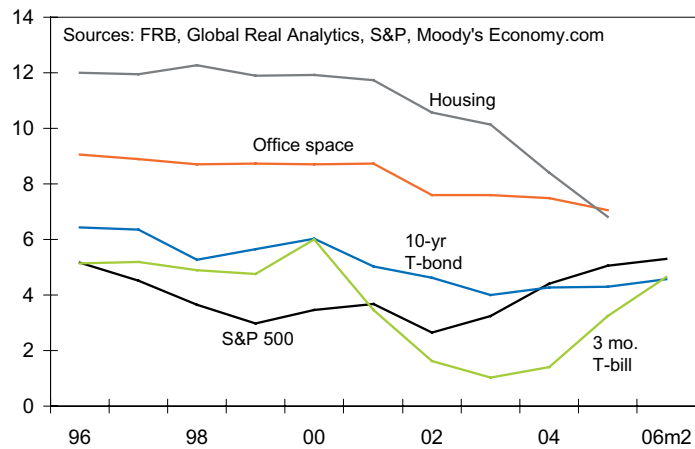
<sup>11</sup> Regulatory agencies issued several restrictive guidelines on home equity and first mortgage lending during 2005. See <http://www.occ.gov/ftp/bulletin/2005-22a.pdf> and <http://www.occ.gov/fr/fedregister/70fr6329.pdf>.

<sup>12</sup> Effective apartment rent data from Global Real Analytics are used for this analysis. The constructed measure is the inverse of the price-earnings ratio. The housing PE has risen from 8.5 to nearly 15 currently.

**Chart 5: ...Despite Aggressive Lending Share of non-conforming mortgage originations**



**Chart 6: Housing Is No Longer a Buy Yield**



housing yields were 12% and stock yields only 3%.

Solid fundamentals are in part behind this dramatic change, but in the past several years it has been increasingly driven by speculative forces. Investor demand has surged, particularly in the most active markets. Longer-term second homebuying has increased, but the most significant increase has seemingly been among short-term investors looking for a quick profit. Even homebuyers planning to live in their homes may be dabbling in a form of speculation by expecting the extraordinary price gains of recent years to extend long into the future, and thus buying bigger homes or adding and improving their existing one.

This is evident in the comprehensive HMDA mortgage originations data, which show that the national share of purchase originations for single family housing to investors has jumped from 8.4% in 2001 to 13.8% in 2004 (most recent data). In some of the more active markets, the share has surged; doubling to well over one-fifth of originations in Arizona and Nevada, for example (see Chart 7).<sup>13</sup>

Based on a structural econometric model of housing supply and demand, the national housing market is estimated to be some 15% overvalued.<sup>14</sup> This assumes fixed mortgage rates average a

measurably overvalued. Markets throughout the Northeast, Florida, the Mountain West, California, and the Pacific Northwest are overvalued by 30% to 50% (see Appendix 1).

**Housing correction.** While first-time buyers are being locked out of the market and investors will soon be fleeing it, at worst national house prices are expected to simply go flat. Indeed, assuming that household income growth remains a sturdy, but imminently doable 4% per annum, it will take approximately three to four years for incomes to catch up with current house prices. Of course, if national house prices go flat, this suggests that house prices will fall in a fair number of heretofore juiced-up metro areas.

The impending decline in house prices in these areas is expected to be modest. No more than a dozen metro areas will see house prices collapse, which means peak-to-trough price declines that are in the double-digits. These areas include South Florida, Southern California, parts of Northern California, the New Jersey beach, Phoenix, and Las Vegas.

This relative optimism is predicated on the expectation that the job market holds together reasonably well. Given flush businesses with strong balance sheets, the

modest 6.5% over the coming year (they are currently closer to 6.25%).

The national housing market is not monolithic, however. Some 55% of the national market, on a value basis, is roughly appropriately valued, while the other 45% is

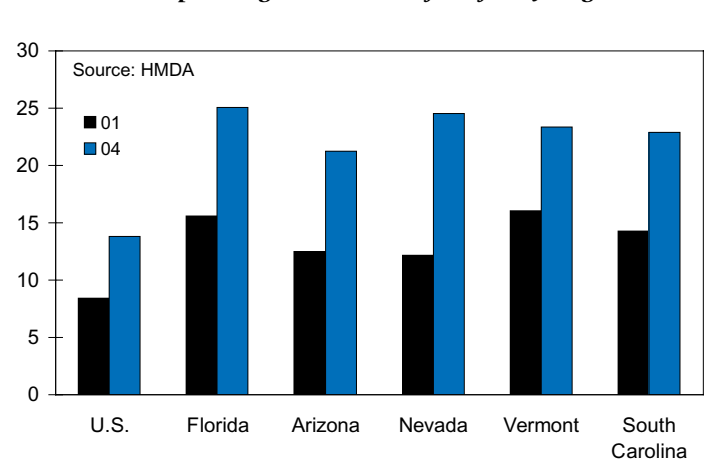
economy is on track to create another couple million jobs this year. This will ensure that unemployment remains at or below a low 5%, and wage growth should accelerate. Historically, house prices have only collapsed in speculative markets struggling with both rising interest rates and falling employment.

Optimism is also warranted by currently well-capitalized and highly profitable financial intermediaries. In past house-price collapses, financially fragile lenders who were taking properties back in repossession had no choice but to dump those properties back on a reeling market at a significant discount. A self-reinforcing plunge in pricing ensued. Such a possibility seems remote today as lenders are awash in capital.

The recent experience of the U.K. and Australia also supports this scenario. House activity and prices soared in both nations earlier in the decade comparable to the gains experienced in the most active markets in this nation. Also like here, MEW was substantial and powered consumer spending and broader economic growth. These economies reached their capacity and inflationary pressures began to develop more quickly than in the U.S., prompting both the Bank of England and Reserve Bank of Australia to tighten policy well before the Federal Reserve. The U.K. target rate peaked at 4.75% and the Australian rate at 5.5%.

Housing markets in both nations have corrected in a very orderly way. House-price growth has stalled, but neither country has seen a sustained decline in prices, at least not so far (see

**Chart 7: Surging Investor Demand**  
Non-owner-occupied origination share of 1-4 family originations



<sup>13</sup> HMDA, or Home Mortgage Disclosure Act, data are based on reports by nearly all mortgage lenders who are required to submit this information for purposes of monitoring mortgage lending discrimination. The HMDA data may understate the level and increase in investor demand, as homebuyers have a financial incentive to claim they will live in the residence as lending terms are easier on an owner-occupied loan. The HMDA is consistent with data from LoanPerformance.

<sup>14</sup> More details on this model are available upon request.

**Chart 8: A Positive Harbinger**  
House-price growth, % change year ago

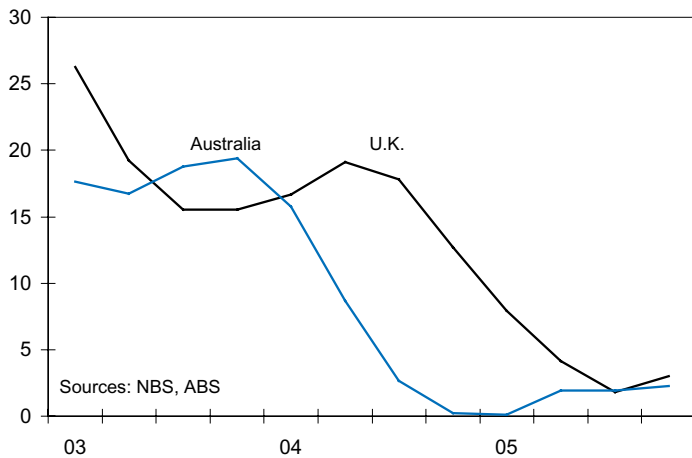


Chart 8). MEW has declined and consumer spending and broader economic growth have moderated in response. Neither housing market nor economy appears set to sharply decline, however. If anything, housing and economic activity in both nations have seemingly revived in recent months. There are differences between the U.S., U.K., and Australian experiences which may make the impending adjustment in the U.S. housing market and economy more difficult, but these differences seem small compared to the similarities.<sup>15</sup>

If this sanguine outlook is borne out, then the broader economy will slow, but in a graceful way to a more sustainable, non-inflationary, rate of growth. There may be a period late this year or early next when the weaker housing market feels like it is undermining the economic expansion, but this period should prove brief.

**Housing crash.** A housing market correction, and not a collapse, is the most likely outlook, but the risks are decidedly on the downside. The probability that a darker scenario will play out is low, but high enough to

<sup>15</sup> The preponderance of mortgages in the U.S. is fixed rate rather than the adjustable rate mortgages typical in the U.K. and Australia. More monetary tightening may thus be required in the U.S. to rein in activity and forestall accelerating inflation. It is difficult to gauge what the broader economic fallout of this tighter policy would be. The blow to the Australian economy of a weaker housing market has also been cushioned by rising global demand and prices for the nation's natural resources. The U.K. economy has received a well-timed boost from stronger global trade and capital flows from OPEC and other commodity-rich nations.

Employment gains in these industries have accounted for 40% of the jobs created this decade, and almost one-fourth of the jobs created since job growth resumed in earnest two and half years ago.

The link between housing and jobs is even stronger in the more active housing markets across the country. The share of total employment in housing and mortgage finance industries is over 15% in a dozen metropolitan areas ranging from Naples, FL to Myrtle Beach, SC to Las Vegas and Phoenix. There are fewer than a dozen areas where the share is less than 5%.

These economies may also be hit harder by a housing slowdown than expected as their growth is inextricably

<sup>16</sup> This is based on employment in eight four-digit NAICS industries, in which the preponderance of the jobs is directly related to housing and mortgage finance. While some of the jobs in these industries are not directly related, there are jobs in other industries that are directly related but not included, as the industry is not predominantly dependent on housing and mortgage finance. There are also many jobs in a wide range of other industries that are indirectly dependent on housing and mortgage finance that are not included.

warrant careful consideration.

The job market may not hold up as well as expected, as much of the job growth has been in the housing and mortgage finance industries. Nationwide, a record almost one-in-ten jobs are now in these industries (see Appendix 2).<sup>16</sup>

tied to surging homeowners' equity and mortgage equity withdrawal. Some 30 metro areas were the beneficiaries of MEW that was over 10% of disposable income in 2005 (see Appendix 3).<sup>17</sup> In areas around the San Francisco Bay Area, MEW was closer to a whopping 20% of disposable income last year. MEW has also been very substantial in the rest of California, Florida, and throughout much of the Northeast.

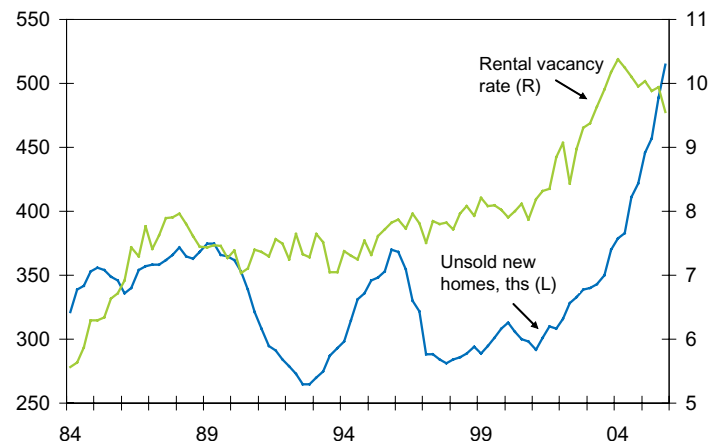
Another growing concern is that of overbuilding. Housing construction, including new single- and multifamily homes and placements of manufactured housing is currently running at a 2.25 million unit annual pace. This is well above the no more than two million units needed each year to meet the demand for new construction from household formations, second and vacation homes, and the homes needed to replace those that have been destroyed or are obsolete. The rapidly rising number of unsold new homes and very high rental vacancy rates are evidence of this increasing oversupply (see Chart 9).<sup>18</sup>

The heretofore good balance between new housing supply and demand has been a reason to believe that

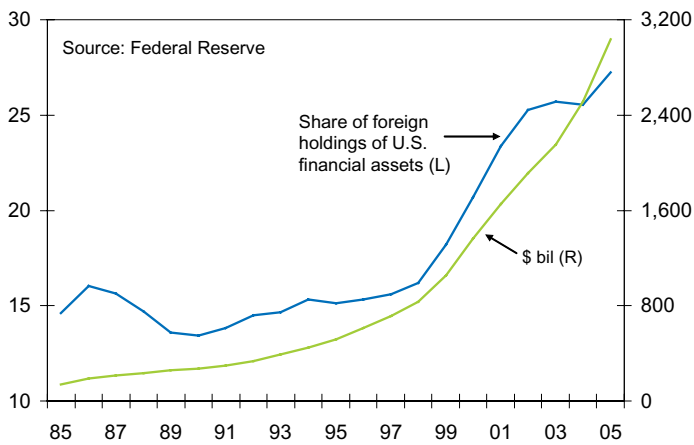
<sup>17</sup> These data are based on CreditForecast.com, a joint venture between credit bureau Equifax and Moody's Economy.com. Equifax provides Moody's Economy.com with estimates of outstandings and credit quality for various household liabilities from a 5% random sample of credit files on a quarterly basis.

<sup>18</sup> Some of the rise in unsold new housing inventory is of homes that are for sale but have not been started. This is less of a concern, as builders could more easily cancel these projects if they need to. It is disconcerting, however, that most of the increase in inventories is for homes that are under construction or have been completed.

**Chart 9: Signs of Overbuilding**



**Chart 10: Foreign Investors Are Big Players**  
*Foreign holdings of U.S. mortgage-related debt*



any decline in housing activity would be modest. If new construction does not soon slow, however, the oversupply will force builders to cut pricing more sharply and exacerbate the unfolding housing downturn. The potential for overbuilding is most pronounced in the Northeast, Midwest, and somewhat surprisingly, given strong household growth, Florida, California, the Pacific Northwest, and to a lesser degree, the Mountain West are at less risk of overbuilding.

The burgeoning mortgage-backed securities markets are another serious threat. The nation's soaring housing activity has been increasingly financed not by traditional financial intermediaries such as banks and thrifts, but by global investors via their booming demand for mortgage-backed bonds. MBS outstanding has nearly doubled since the start of the decade, accounting for over one-half of total residential mortgage debt outstanding. Foreign investors now own \$3 trillion in mortgage-related debt, including RMBS and agency debt, accounting from more than one-fourth of their total financial holdings in the U.S. (see Chart 10). Attracting investors have been their higher yields, and to date, very good credit performance.

Credit quality is sure to weaken as housing activity and house price gains cool. Some of the recent homeowners who have squeezed into homes by taking on an interest-only or option mortgage loan, with little in the way of a down payment, are at clear risk of having difficulty making their loan payment. This risk takes on added urgency

some form is a clear possibility.

It is also conceivable that an oft-cited benefit of the RMBS market, namely its ability to diffuse mortgage credit risk more widely, is also a drawback. Given that the risk is so diffuse it is unclear to investors who is bearing the risk and to what degree. If even a single investor visibly stumbles when credit quality erodes, liquidity in the market could quickly evaporate. Other investors not knowing who is next to suffer may decide not to engage in any further transactions until the proverbial dust clears.

There is an historical precedent for this. The asset-backed securities market froze in the wake of the Asian crisis and the collapse of Long-Term Capital Management in 1998. Liquidity was restored quickly, but only due to aggressive monetary easing and aggressive buying by Fannie Mae and Freddie Mac. The new Federal Reserve Chairman is of course untested, and the GSEs are no longer in a position to come to the rescue in the next securities market crisis.

The economic fallout of this darker scenario could be very debilitating if

given that approximately two-thirds of all the subprime mortgage debt originated between 2002 and 2004 is set to reset by the end of 2007 (see Chart 11). Given that many global investors are new to the U.S. RMBS market, they may not be prepared. A financial

market crisis of the free flow of credit, so vital to a well-functioning housing market, is short-circuited. What is expected to be a small disruption to the economy could quickly turn into a major problem.

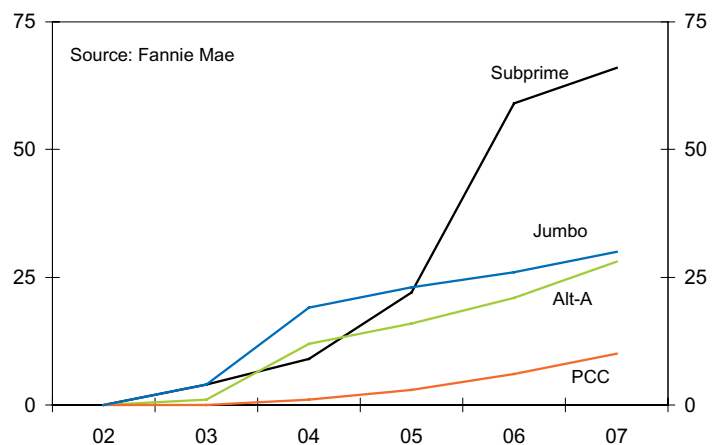
**Conclusions.** Arguably the most worrisome fault line in the currently strong economy lies in the housing and mortgage markets. While the unprecedented strength of these markets in recent years has been based on sturdy fundamentals, the most recent boom-like conditions have been fueled by the increasing speculation of buyers and sellers, builders and lenders, and securities issuers and investors.

All of this is quickly coming to an end as housing and mortgage market activity have peaked. Steadily rising interest rates are undermining housing affordability and the ability of first-time homebuyers to remain in the market, and are making housing increasingly less attractive to investors. It was the heretofore surging numbers of first-time buyers and investors that have fueled the extraordinary housing market activity.

Optimism that the unfolding adjustment in the housing and mortgage markets will simply be a correction and not a collapse is based on the strength of the broader job market and the balance sheets of financial intermediaries. This optimism is also supported by the heretofore orderly adjustments by the U.K. and Aussie housing markets and economies.

The risks are skewed decidedly to the downside, however. It is difficult to gauge just how sharply an asset market infected by speculation—like the current housing market—will adjust when sentiment shifts.

**Chart 11: Mortgage Resets Are Fast Approaching**  
*Cumulative share of 2002-2004 loans with rate resets*



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The economy is likely to feel a shake or two in the coming year as the housing market fault line is exposed by higher interest rates, it is not expected to be significantly shaken.

This optimism requires a bit of luck and some deft policymaking, however, suggesting that a prudent planner should prepare for a less propitious scenario.

**Appendix 1: Overvalued/Undervalued Housing Markets**

% overvalued

Miami-Miami Beach-Kendall, FL	78.3	Flagstaff, AZ	21.2
Ocean City, NJ	59.0	Boston-Quincy, MA	21.2
Stockton, CA	58.7	Prescott, AZ	21.1
Modesto, CA	55.4	Baltimore-Towson, MD	20.9
Santa Barbara-Santa Maria, CA	54.8	Trenton-Ewing, NJ	20.8
Fort Lauderdale-Pompano Beach-Deerfield Beach, FL	54.8	Essex County, MA	20.1
Salinas, CA	53.9	San Luis Obispo-Paso Robles, CA	19.8
Merced, CA	53.0	Santa Cruz-Watsonville, CA	16.7
Punta Gorda, FL	52.0	Ann Arbor, MI	15.8
Fort Walton Beach-Crestview-Destin, FL	50.9	Visalia-Porterville, CA	15.8
Las Vegas-Paradise, NV	50.6	Bridgeport-Stamford-Norwalk, CT	14.7
Naples-Marco Island, FL	46.3	Denver-Aurora, CO	14.3
West Palm Beach-Boca Raton-Boynton Beach, FL	44.8	Warren-Troy-Farmington Hills, MI	14.2
Virginia Beach-Norfolk-Newport News, VA-NC	43.3	Lansing-East Lansing, MI	12.4
Nassau-Suffolk, NY	43.0	Worcester, MA	11.9
Napa, CA	41.9	Lancaster, PA	11.6
New York-White Plains-Wayne, NY-NJ	41.6	Battle Creek, MI	10.5
Sarasota-Bradenton-Venice, FL	40.6	San Francisco-San Mateo-Redwood City, CA	10.4
Portland-Vancouver-Beaverton, OR-WA	40.4	New Haven-Milford, CT	10.2
Los Angeles-Long Beach-Glendale, CA	40.1	Norwich-New London, CT	9.9
Port St. Lucie-Fort Pierce, FL	38.5	Cambridge-Newton-Framingham, MA	9.8
Riverside-San Bernardino-Ontario, CA	38.3	Camden, NJ	7.3
Atlantic City, NJ	37.6	Philadelphia, PA	6.7
Phoenix-Mesa-Scottsdale, AZ	37.4	Springfield, MA	6.6
Vallejo-Fairfield, CA	35.9	Lakeland, FL	6.1
Chicago-Naperville-Joliet, IL	35.7	Knoxville, TN	6.0
Orlando-Kissimmee, FL	35.5	Wilmington, DE-MD-NJ	5.8
Santa Ana-Anaheim-Irvine, CA	35.0	Cleveland-Elyria-Mentor, OH	2.8
Minneapolis-St. Paul-Bloomington, MN-WI	33.7	Atlanta-Sandy Springs-Marietta, GA	2.5
Hanford-Corcoran, CA	33.7	Salisbury, MD	1.4
Deltona-Daytona Beach-Ormond Beach, FL	33.4	Nashville-Davidson--Murfreesboro, TN	1.1
Tampa-St. Petersburg-Clearwater, FL	32.5	Burlington-South Burlington, VT	1.0
Oxnard-Thousand Oaks-Ventura, CA	32.1	Akron, OH	0.9
Fresno, CA	32.0	Youngstown-Warren-Boardman, OH-PA	0.5
Bethesda-Gaithersburg-Frederick, MD	31.8	Columbus, OH	0.4
Washington-Arlington-Alexandria, DC-VA-MD-WV	31.8	Cleveland, TN	0.2
Pensacola-Ferry Pass-Brent, FL	31.7	Canton-Massillon, OH	-0.0
Oakland-Fremont-Hayward, CA	31.0	Pittsburgh, PA	-0.6
Bakersfield, CA	30.8	Springfield, OH	-0.9
Sacramento--Arden-Arcade--Roseville, CA	29.2	Tacoma, WA	-0.9
Barnstable Town, MA	28.9	Cincinnati-Middletown, OH-KY-IN	-1.1
Edison, NJ	28.0	Monroe, LA	-1.9
Providence-New Bedford-Fall River, RI-MA	26.7	Dayton, OH	-3.4
Gainesville, FL	26.6	Toledo, OH	-3.6
Santa Rosa-Petaluma, CA	25.3	Hartford-West Hartford-East Hartford, CT	-4.2
Cape Coral-Fort Myers, FL	24.2	Pittsfield, MA	-4.2
Chico, CA	24.2	Johnson City, TN	-4.9
San Jose-Sunnyvale-Santa Clara, CA	23.6	Seattle-Bellevue-Everett, WA	-5.6
Tucson, AZ	23.2	Albuquerque, NM	-9.4
San Diego-Carlsbad-San Marcos, CA	22.9	Clarksville, TN-KY	-10.9
Newark-Union, NJ-PA	22.5	Memphis, TN-MS-AR	-16.0
Detroit-Livonia-Dearborn, MI	21.6		

Sources: CSW, Moody's Economy.com

## Appendix 2: Real Estate Employment Share of Total Employment

	70Q1	80Q1	90Q1	00Q1	05Q4
<b>United States</b>	<b>7.2</b>	<b>7.9</b>	<b>8.5</b>	<b>8.9</b>	<b>9.8</b>
Alaska	5.1	6.9	6.5	8.3	8.7
Alabama	6.2	6.7	7.7	8.9	9.7
Arkansas	6.2	6.3	6.1	6.8	7.6
Arizona	8.3	9.8	10.1	12.3	13.8
California	6.6	8.3	9.4	8.9	10.8
Colorado	8.0	9.9	9.0	12.0	13.1
Connecticut	6.6	7.2	8.9	8.3	8.8
District Of Columbia	7.1	6.5	6.8	5.6	6.0
Delaware	10.7	10.2	13.9	14.2	14.6
Florida	9.5	10.3	10.6	10.1	11.7
Georgia	6.8	7.0	8.2	8.8	9.3
Hawaii	9.0	8.8	9.1	7.9	8.7
Iowa	7.4	7.3	6.7	7.8	8.5
Idaho	7.4	8.8	7.7	9.4	11.1
Illinois	7.0	8.2	8.4	8.9	9.5
Indiana	6.2	6.8	7.5	8.0	8.2
Kansas	7.0	7.5	7.5	8.4	8.6
Kentucky	7.4	7.4	7.5	8.0	8.1
Louisiana	7.9	9.2	7.8	8.5	8.4
Massachusetts	6.7	6.5	8.1	8.4	9.4
Maryland	9.4	9.9	11.8	11.1	12.2
Maine	5.5	5.9	7.8	8.2	8.8
Michigan	6.7	7.3	8.0	9.2	9.3
Minnesota	6.7	7.7	7.2	7.9	8.9
Missouri	7.3	7.7	7.9	8.6	9.0
Mississippi	6.8	7.0	6.5	7.0	7.4
Montana	6.8	7.2	6.3	7.8	9.3
North Carolina	6.7	6.7	8.0	9.0	9.7
North Dakota	6.4	8.4	6.9	7.7	8.1
Nebraska	7.6	8.0	7.4	8.4	8.9
New Hampshire	4.9	6.0	7.9	6.7	8.8
New Jersey	6.7	7.3	8.5	8.1	9.1
New Mexico	7.6	8.8	8.6	8.5	9.3
Nevada	7.7	9.2	10.3	11.2	14.5
New York	7.9	7.8	9.0	7.8	8.0
Ohio	6.3	7.1	7.6	8.2	8.6
Oklahoma	7.2	7.8	6.6	7.3	7.8
Oregon	6.5	7.7	7.2	8.9	9.7
Pennsylvania	7.0	7.4	8.4	8.0	8.3
Rhode Island	5.9	6.6	7.9	8.1	9.1
South Carolina	7.2	7.7	8.6	9.4	10.2
South Dakota	6.7	7.4	8.0	9.6	10.7
Tennessee	6.9	7.1	7.6	8.2	8.3
Texas	8.2	9.2	7.9	9.4	9.8
Utah	6.2	8.1	7.3	10.7	11.6
Virginia	7.2	8.0	9.9	10.2	11.5
Vermont	7.5	7.4	8.6	7.7	8.7
Washington	6.8	8.1	8.1	9.1	10.2
Wisconsin	6.1	6.7	7.2	7.7	8.4
West Virginia	6.6	7.5	6.9	6.7	6.8
Wyoming	6.8	10.0	7.2	8.1	8.6
Abilene, TX	7.2	8.3	7.1	7.4	7.4
Akron, OH	5.8	6.3	7.2	7.5	7.6
Albany, GA	6.4	7.7	6.8	6.9	7.2
Albany-Schenectady-Troy, NY	6.1	5.9	7.6	6.7	7.0
Albuquerque, NM	10.2	11.4	10.6	10.1	11.4
Alexandria, LA	6.8	7.4	7.4	8.8	8.3
Allentown-Bethlehem-Easton, PA-NJ	5.2	6.1	7.9	7.9	8.9
Altoona, PA	4.6	6.1	6.3	6.5	6.6
Amarillo, TX	6.8	7.5	6.9	7.5	7.7
Ames, IA	4.3	4.5	4.9	6.1	7.0
Anchorage, AK	9.3	10.9	9.1	10.4	11.5

**Appendix 2: Real Estate Employment Share of Total Employment (cont.)**

	70Q1	80Q1	90Q1	00Q1	05Q4
Anderson, IN	4.6	5.6	6.6	7.7	7.5
Anderson, SC	5.9	6.1	7.6	8.5	8.7
Ann Arbor, MI	4.2	4.5	5.3	6.8	6.8
Anniston-Oxford, AL	4.4	5.0	5.1	7.0	7.0
Appleton, WI	5.6	7.3	7.9	9.5	9.8
Asheville, NC	5.3	6.0	6.6	7.8	8.1
Athens-Clarke County, GA	3.8	4.5	5.0	6.8	6.3
Atlanta-Sandy Springs-Marietta, GA	8.1	8.4	9.9	10.2	10.6
Atlantic City, NJ	6.4	7.6	6.5	5.4	6.2
Auburn-Opelika, AL	3.4	4.2	5.7	6.7	6.6
Augusta-Richmond County, GA-SC	6.9	7.6	9.6	8.0	8.5
Austin-Round Rock, TX	5.8	7.1	7.0	9.3	9.7
Bakersfield, CA	7.8	9.1	9.6	7.7	10.2
Baltimore-Towson, MD	8.1	8.7	10.9	10.0	11.7
Bangor, ME	6.4	6.7	8.2	7.6	8.2
Barnstable Town, MA	9.4	8.6	10.6	10.3	11.1
Baton Rouge, LA	9.2	11.9	11.1	11.1	10.9
Battle Creek, MI	3.9	4.1	4.4	5.5	5.4
Bay City, MI	5.1	6.5	7.2	8.7	8.0
Beaumont-Port Arthur, TX	6.7	9.4	8.4	9.2	8.8
Bellingham, WA	6.4	7.1	6.7	8.4	9.2
Bend, OR	6.3	11.8	8.6	12.0	13.8
Bethesda-Gaithersburg-Frederick, MD Metro. Div.	10.2	10.5	13.1	11.9	14.0
Billings, MT	7.4	8.5	7.2	8.5	9.9
Binghamton, NY	4.3	4.7	5.9	5.3	6.0
Birmingham-Hoover, AL	7.4	8.8	10.0	10.7	11.0
Bismarck, ND	7.1	9.1	6.6	7.2	8.4
Blacksburg-Christiansburg-Radford, VA	3.7	5.1	6.1	6.9	6.8
Bloomington, IN	5.2	5.6	6.6	7.0	7.4
Bloomington-Normal, IL	4.6	5.7	6.1	9.8	11.7
Boise City-Nampa, ID	8.4	9.4	8.6	10.8	11.9
Boston-Quincy, MA Metro. Div.	7.0	6.7	8.8	9.5	9.7
Boulder, CO	6.1	7.8	7.3	8.6	9.6
Bowling Green, KY	8.5	8.1	7.7	8.4	8.0
Bremerton-Silverdale, WA	4.7	8.5	9.2	9.6	11.5
Bridgeport-Stamford-Norwalk, CT	7.1	8.2	10.2	10.1	9.9
Brownsville-Harlingen, TX	6.4	6.3	6.0	5.3	5.8
Brunswick, GA	6.4	7.3	7.3	7.7	9.0
Buffalo-Niagara Falls, NY	5.5	6.4	7.8	7.5	8.2
Burlington, NC	4.3	5.8	6.1	8.4	9.6
Burlington-South Burlington, VT	5.8	6.9	8.5	8.0	8.3
Cambridge-Newton-Framingham, MA Metro. Div.	7.2	7.0	9.3	9.3	10.7
Camden, NJ Metro. Div.	6.6	7.5	9.4	9.1	10.4
Canton-Massillon, OH	6.6	7.2	7.8	8.1	8.2
Cape Coral-Fort Myers, FL	10.2	12.8	14.8	14.5	18.2
Carson City, NV	5.8	9.8	7.1	8.3	11.3
Casper, WY	9.6	13.8	9.8	8.9	9.0
Cedar Rapids, IA	6.5	7.8	7.7	8.5	8.6
Champaign-Urbana, IL	5.1	5.9	6.4	6.9	7.2
Charleston, WV	7.1	8.5	7.9	8.1	7.9
Charleston-North Charleston, SC	7.8	9.1	9.8	11.0	12.0
Charlotte-Gastonia-Concord, NC-SC	7.3	7.8	9.6	11.9	12.7
Charlottesville, VA	6.1	6.4	8.0	8.3	8.6
Chattanooga, TN-GA	5.5	6.4	6.3	6.9	7.5
Cheyenne, WY	6.6	8.5	7.1	8.4	9.1
Chicago-Naperville-Joliet, IL Metro. Div.	6.4	7.8	9.0	9.4	10.2
Chico, CA	6.4	8.5	8.0	6.1	8.1
Cincinnati-Middletown, OH-KY-IN	5.9	6.7	7.7	8.5	8.9
Clarksville, TN-KY	8.1	8.0	7.4	7.0	7.6
Cleveland, TN	4.5	5.7	5.5	6.8	7.8
Cleveland-Elyria-Mentor, OH	7.1	7.9	8.5	9.1	9.7
Coeur d'Alene, ID	6.6	9.3	8.2	10.9	12.8
College Station-Bryan, TX	4.8	6.4	6.1	7.3	8.1
Colorado Springs, CO	8.5	10.4	9.6	10.8	12.7
Columbia, MO	5.4	5.8	5.9	6.8	7.7
Columbia, SC	7.4	8.9	10.1	9.8	9.8

**Appendix 2: Real Estate Employment Share of Total Employment (cont.)**

	70Q1	80Q1	90Q1	00Q1	05Q4
Columbus, GA-AL	5.4	5.9	6.8	6.6	7.5
Columbus, IN	4.0	4.6	6.2	7.3	7.7
Columbus, OH	7.5	8.3	9.3	9.8	10.3
Corpus Christi, TX	6.4	8.2	7.0	7.7	8.3
Corvallis, OR	4.5	6.3	5.7	6.1	6.1
Cumberland, MD-WV	5.2	5.4	5.9	6.4	5.9
Dallas-Plano-Irving, TX Metro. Div.	7.0	8.2	8.4	10.7	10.9
Dalton, GA	4.1	4.0	3.8	3.2	3.5
Danville, IL	4.5	5.2	5.3	5.3	4.5
Danville, VA	4.4	4.2	5.1	6.1	7.0
Davenport-Moline-Rock Island, IA-IL	5.7	6.8	6.5	8.0	8.1
Dayton, OH	5.4	6.6	7.3	7.6	8.5
Decatur, AL	7.4	9.0	8.7	10.4	10.6
Decatur, IL	5.7	6.8	7.8	8.6	9.2
Deltona-Daytona Beach-Ormond Beach, FL	7.8	7.6	8.6	8.6	10.8
Denver-Aurora, CO	7.8	10.2	9.3	12.4	14.0
Des Moines-West Des Moines, IA	7.6	7.5	8.1	10.8	13.8
Detroit-Livonia-Dearborn, MI Metro. Div.	6.8	7.2	7.8	7.5	8.3
Dothan, AL	7.5	8.2	7.6	7.7	8.2
Dover, DE	6.3	6.3	7.9	7.1	9.2
Dubuque, IA	6.2	6.7	6.8	7.3	7.6
Duluth, MN-WI	6.9	7.1	6.1	6.8	7.4
Durham, NC	6	5.3	6.0	6.4	5.7
Eau Claire, WI	6.4	8.7	10.3	10.1	7.3
Edison, NJ Metro. Div.	5.9	6.5	7.9	7.5	9.3
El Centro, CA	6.7	7.2	6.5	4.6	4.7
El Paso, TX	6.5	7.0	6.6	6.6	7.2
Elizabethtown, KY	6.2	6.6	6.9	8.7	9.3
Elkhart-Goshen, IN	6.0	6.1	5.7	6.2	6.1
Elmira, NY	4.6	4.5	5.0	6.2	5.6
Erie, PA	4.6	5.1	6.2	5.8	5.6
Essex County, MA Metro. Div.	4.8	5.3	7.0	7.0	8.1
Eugene-Springfield, OR	5.9	8.1	6.8	8.3	8.7
Evansville, IN-KY	6.1	6.7	7.4	9.2	8.1
Fairbanks, AK	9.9	5.8	6.2	7.4	9.5
Fargo, ND-MN	7.8	8.1	7.8	8.6	10.2
Farmington, NM	6.1	10.1	8.3	7.6	8.0
Fayetteville, NC	8.2	7.0	7.7	7.4	6.5
Fayetteville-Springdale-Rogers, AR-MO	5.1	6.1	6.0	8.9	8.7
Flagstaff, AZ	4.7	4.9	5.8	5.9	7.2
Flint, MI	4.7	5.8	5.9	10.3	8.5
Florence, SC	5.0	6.9	7.2	8.7	11.7
Florence-Muscle Shoals, AL	7.1	7.6	7.3	8.3	9.0
Fond du Lac, WI	4.8	5.8	5.7	6.4	7.4
Fort Collins-Loveland, CO	7.5	10.5	10.6	12.0	11.8
Fort Lauderdale-Pompano Beach-Deerfield Beach, FL Metro. Div.	10.6	11.2	12.5	11.8	13.0
Fort Smith, AR-OK	5.9	5.9	5.0	5.9	5.9
Fort Walton Beach-Crestview-Destin, FL	9.5	8.7	9.6	11.3	15.5
Fort Wayne, IN	6.3	7.1	8.5	9.0	9.4
Fort Worth-Arlington, TX Metro. Div.	6.3	7.4	6.7	9.0	9.7
Fresno, CA	7.4	8.7	9.2	8.2	10.4
Gadsden, AL	6.5	7.8	6.5	6.2	6.9
Gainesville, FL	7.4	6.7	7.9	7.0	8.1
Gainesville, GA	5.0	5.1	6.4	7.3	9.1
Gary, IN Metro. Div.	6.6	8.3	9.3	8.7	9.6
Glens Falls, NY	4.8	5.3	6.0	5.8	6.9
Goldsboro, NC	6.0	5.6	5.7	8.0	5.9
Grand Forks, ND-MN	6.7	7.0	6.1	7.2	7.6
Grand Junction, CO	6.7	9.0	7.1	9.8	10.9
Grand Rapids-Wyoming, MI	6.7	7.7	8.6	9.5	9.1
Great Falls, MT	7.3	7.1	5.4	7.7	8.9
Greeley, CO	7.3	7.9	5.7	7.9	10.0
Green Bay, WI	5.1	6.8	7.1	8.1	8.1
Greensboro-High Point, NC	7.0	7.7	8.3	9.0	9.2
Greenville, NC	6.2	5.8	7.2	8.3	8.8
Greenville, SC	8.0	9.3	10.2	9.7	10.2

**Appendix 2: Real Estate Employment Share of Total Employment (cont.)**

	70Q1	80Q1	90Q1	00Q1	05Q4
Gulfport-Biloxi, MS	9.4	7.2	7.9	7.8	9.2
Hagerstown-Martinsburg, MD-WV	8.2	8.6	10.4	12.0	13.3
Hanford-Corcoran, CA	4.6	5.1	4.5	3.3	3.8
Harrisburg-Carlisle, PA	5.9	6.0	7.2	7.0	6.9
Harrisonburg, VA	7.0	7.7	9.4	7.6	9.5
Hartford-West Hartford-East Hartford, CT	5.7	6.1	8.0	7.7	8.4
Hattiesburg, MS	6.7	6.4	7.7	8.3	8.3
Hickory-Lenoir-Morganton, NC	3.4	3.7	4.0	4.6	4.9
Hinesville-Fort Stewart, GA	3.5	5.4	5.1	6.8	7.9
Holland-Grand Haven, MI	5.0	6.0	6.7	7.3	8.6
Honolulu, HI	9.8	9.4	9.7	8.5	8.9
Hot Springs, AR	5.2	5.9	7.0	8.6	8.6
Houma-Bayou Cane-Thibodaux, LA	7.1	7.2	7.1	7.6	8.5
Houston-Sugar Land-Baytown, TX	7.8	9.9	9.6	10.8	11.0
Huntington-Ashland, WV-KY-OH	7.1	9.2	8.5	8.3	7.8
Huntsville, AL	6.5	6.5	8.0	9.7	13.6
Idaho Falls, ID	9.4	9.1	9.1	8.8	11.5
Indianapolis-Carmel, IN	6.1	7.1	8.7	9.5	9.9
Iowa City, IA	5.0	5.3	5.3	5.8	5.7
Ithaca, NY	3.2	3.1	3.8	3.3	3.9
Jackson, MI	5.5	5.9	5.4	7.0	7.6
Jackson, MS	8.3	8.3	8.3	8.8	8.9
Jackson, TN	5.4	6.8	7.4	7.5	7.5
Jacksonville, FL	9.2	8.3	10.1	10.8	14.0
Jacksonville, NC	6.5	6.9	7.2	8.5	8.7
Janesville, WI	4.4	5.2	5.6	6.1	7.3
Jefferson City, MO	4.8	5.7	5.6	6.9	7.6
Johnson City, TN	7.4	8.8	8.7	9.0	9.5
Johnstown, PA	4.2	6.1	8.2	8.1	8.9
Jonesboro, AR	5.8	4.9	5.0	6.0	6.5
Joplin, MO	5.3	5.4	5.0	6.1	6.6
Kalamazoo-Portage, MI	5.2	5.7	5.4	6.7	7.7
Kankakee-Bradley, IL	5.8	6.6	7.2	5.4	5.4
Kansas City, MO-KS	7.8	8.8	9.2	10.1	10.6
Kennewick-Richland-Pasco, WA	4.8	8.0	4.3	7.3	10.0
Killeen-Temple-Fort Hood, TX	5.9	7.1	6.3	7.1	9.0
Kingsport-Bristol-Bristol, TN-VA	4.0	4.9	5.0	6.6	6.9
Kingston, NY	6.4	7.0	7.9	5.6	6.7
Knoxville, TN	5.0	7.1	7.9	10.0	10.2
Kokomo, IN	4.0	4.5	4.9	4.9	5.6
La Crosse, WI-MN	5.3	6.3	5.9	6.9	8.0
Lafayette, IN	4.0	4.5	5.0	5.9	6.2
Lafayette, LA	7.6	8.9	7.7	9.2	8.3
Lake Charles, LA	9.4	12.2	10.3	9.7	10.0
Lake County-Kenosha County, IL-WI Metro. Div.	4.7	5.9	8.8	9.6	10.4
Lakeland, FL	7.9	7.2	8.0	6.6	9.2
Lancaster, PA	5.6	6.8	8.3	8.4	9.1
Lansing-East Lansing, MI	5.3	5.6	5.3	6.3	7.2
Laredo, TX	6.0	6.4	6.6	6.2	6.4
Las Cruces, NM	3.4	4.5	5.2	6.7	7.2
Las Vegas-Paradise, NV	7.7	10.4	12.0	12.4	15.2
Lawrence, KS	7.5	7.7	8.6	7.8	8.6
Lawton, OK	5.6	6.9	6.8	7.9	8.1
Lebanon, PA	3.3	4.4	5.3	5.8	6.0
Lewiston, ID-WA	8.1	9.2	6.6	7.2	8.8
Lewiston-Auburn, ME	4.9	5.6	7.7	8.9	11.5
Lexington-Fayette, KY	6.6	7.5	7.8	7.8	7.7
Lima, OH	6.9	5.4	5.1	6.9	8.3
Lincoln, NE	5.3	6.3	6.0	7.6	8.6
Little Rock-North Little Rock, AR	7.5	7.5	7.1	7.9	8.9
Logan, UT-ID	5.0	6.0	4.4	6.4	7.4
Longview, TX	6.8	8.1	7.7	8.0	7.8
Longview, WA	5.4	6.7	6.9	8.8	7.6
Los Angeles-Long Beach-Glendale, CA Metro. Div.	6.1	7.1	8.0	6.7	8.0
Louisville-Jefferson County, KY-IN	7.7	8.2	8.6	8.7	9.4

**Appendix 2: Real Estate Employment Share of Total Employment (cont.)**

	70Q1	80Q1	90Q1	00Q1	05Q4
Lubbock, TX	8.8	8.1	7.0	7.8	7.9
Lynchburg, VA	4.8	5.6	7.4	9.1	10.2
Macon, GA	6.7	8.3	6.8	8.8	8.6
Madera, CA	4.0	5.7	5.1	4.2	5.1
Madison, WI	5.4	6.7	6.9	8.1	9.8
Manchester-Nashua, NH	4.6	5.6	8.3	7.5	8.6
Mansfield, OH	5.3	5.5	6.8	6.7	7.2
McAllen-Edinburg-Mission, TX	4.6	5.6	5.6	6.3	6.3
Medford, OR	4.9	7.1	6.2	7.4	9.3
Memphis, TN-MS-AR	7.1	8.2	8.5	8.3	8.2
Merced, CA	3.4	4.6	4.2	3.7	5.0
Miami-Miami Beach-Kendall, FL Metro. Div.	8.0	8.6	9.3	8.2	9.5
Michigan City-La Porte, IN	4.7	5.0	5.7	7.0	6.8
Midland, TX	7.1	8.4	8.3	8.7	10.2
Milwaukee-Waukesha-West Allis, WI	5.8	7.0	7.8	8.4	8.5
Minneapolis-St. Paul-Bloomington, MN-WI	6.6	7.4	7.8	8.3	10.0
Missoula, MT	6.6	8.6	6.5	8.1	8.6
Mobile, AL	9.2	9.8	9.7	10.9	11.3
Modesto, CA	4.0	5.9	7.1	6.7	8.2
Monroe, LA	7.4	8.5	8.6	10.1	10.3
Monroe, MI	4.2	5.5	6.2	9.0	7.9
Montgomery, AL	6.9	7.3	7.9	9.5	9.9
Morgantown, WV	5.7	8.2	7.0	5.2	5.3
Morristown, TN	3.0	4.0	4.1	5.0	5.7
Mount Vernon-Anacortes, WA	4.7	5.8	5.6	6.5	6.6
Muncie, IN	5.2	6.0	6.3	6.7	6.8
Muskegon-Norton Shores, MI	4.6	5.2	5.6	6.4	5.7
Myrtle Beach-Conway-North Myrtle Beach, SC	7.3	7.2	10.5	13.6	15.6
Napa, CA	4.5	6.1	7.0	7.0	7.6
Naples-Marco Island, FL	11.4	11.8	13.2	14.0	18.5
Nashville-Davidson--Murfreesboro, TN	7.7	8.3	8.2	8.9	8.9
Nassau-Suffolk, NY Metro. Div.	7.2	8.1	10.0	9.9	10.3
New Haven-Milford, CT	5.5	6.4	8.4	7.3	8.0
New Orleans-Metairie-Kenner, LA	7.8	8.6	8.1	8.2	9.7
New York-White Plains-Wayne, NY-NJ Metro. Div.	7.9	8.5	9.8	8.0	8.1
Newark-Union, NJ-PA Metro. Div.	7.1	7.2	8.7	8.0	9.3
Niles-Benton Harbor, MI	4.9	5.9	6.3	5.6	6.1
Norwich-New London, CT	6.6	6.7	8.9	7.5	5.7
Oakland-Fremont-Hayward, CA Metro. Div.	7.4	8.9	10.5	9.6	11.9
Ocala, FL	5.5	6.7	8.7	9.6	12.2
Ocean City, NJ	8.1	9.5	9.8	9.0	11.1
Odessa, TX	9.3	8.6	7.1	7.6	7.1
Ogden-Clearfield, UT	5.3	8.0	6.7	10.2	11.4
Oklahoma City, OK	7.3	8.1	6.7	7.8	8.5
Olympia, WA	3.4	4.7	5.2	6.5	7.3
Omaha-Council Bluffs, NE-IA	6.5	7.0	7.3	8.9	10.6
Orlando-Kissimmee, FL	9.9	9.1	11.1	10.6	12.1
Oshkosh-Neenah, WI	6.5	6.7	7.0	5.9	6.7
Owensboro, KY	6.5	7.6	8.1	8.9	9.6
Oxnard-Thousand Oaks-Ventura, CA	6.4	8.1	10.5	9.7	13.3
Palm Bay-Melbourne-Titusville, FL	8.9	9.0	9.1	9.5	11.5
Panama City-Lynn Haven, FL	8.1	8.4	10.0	11.3	15.8
Parkersburg-Marietta-Vienna, WV-OH	4.6	5.1	6.0	7.2	7.9
Pascagoula, MS	7.0	5.7	6.4	7.0	8.5
Pensacola-Ferry Pass-Brent, FL	10	8.8	9.3	10.4	12.1
Peoria, IL	6.7	7.7	7.9	8.3	7.7
Philadelphia, PA Metro. Div.	6.7	7.3	9.0	8.3	9.1
Phoenix-Mesa-Scottsdale, AZ	9.3	11.3	11.1	13.6	15.2
Pine Bluff, AR	4.8	5.3	5.5	4.4	5.1
Pittsburgh, PA	7.3	9.0	9.9	9.6	9.4
Pittsfield, MA	6.9	6.9	8.3	7.2	9.3
Pocatello, ID	9.0	9.6	6.6	7.3	8.7
Port St. Lucie-Fort Pierce, FL	8.5	9.6	10.8	10.7	15.3
Portland-South Portland-Biddeford, ME	6.9	7.0	8.7	8.8	9.5
Portland-Vancouver-Beaverton, OR-WA	6.5	8.2	8.4	9.9	11.1
Poughkeepsie-Newburgh-Middletown, NY	5.8	5.7	8.1	7.0	7.6

**Appendix 2: Real Estate Employment Share of Total Employment (cont.)**

	70Q1	80Q1	90Q1	00Q1	05Q4
Prescott, AZ	5.8	7.9	9.4	11.4	12.8
Providence-New Bedford-Fall River, RI-MA	5.8	5.8	7.8	7.9	8.8
Provo-Orem, UT	4.3	7.8	7.1	9.6	10.4
Pueblo, CO	5.7	6.5	5.9	8.3	8.9
Punta Gorda, FL	11.8	14.4	14.0	11.0	15.9
Racine, WI	5.1	6.3	6.7	6.7	7.6
Raleigh-Cary, NC	6.2	6.7	9.7	11.6	12.5
Rapid City, SD	6.7	8.1	7.8	10.4	10.7
Reading, PA	6.0	7.0	8.4	8.1	9.0
Redding, CA	5.3	7.6	8.2	8.4	10.1
Reno-Sparks, NV	6.6	9.2	8.2	10.1	14.2
Richmond, VA	8.1	9.1	10.1	11.2	12.0
Riverside-San Bernardino-Ontario, CA	6.7	9.8	12.4	10.7	13.4
Roanoke, VA	6.1	6.6	8.2	8.0	8.5
Rochester, MN	5.2	5.5	4.9	6.6	6.3
Rochester, NY	5.0	5.5	7.4	6.5	6.4
Rockford, IL	4.5	5.1	6.5	6.8	8.2
Rockingham County-Strafford County, NH Metro. Div.	5.1	6.5	8.8	8.1	9.7
Rocky Mount, NC	2.9	5.7	6.2	6.7	7.6
Rome, GA	5.8	5.8	6.6	5.8	7.0
Sacramento--Arden-Arcade--Roseville, CA	6.3	8.1	9.6	10.2	12.9
Saginaw-Saginaw Township North, MI	6.3	7.4	7.5	8.3	9.1
Salem, OR	5.8	8.0	6.1	7.4	7.8
Salinas, CA	6.8	8.3	8.4	7.8	9.0
Salisbury, MD	8.0	7.7	9.6	9.6	10.7
Salt Lake City, UT	6.9	9.5	8.7	12.0	12.3
San Angelo, TX	7.1	8.3	7.1	7.7	7.4
San Antonio, TX	7.6	8.4	8.0	9.3	10.1
San Diego-Carlsbad-San Marcos, CA	7.7	9.6	11.7	10.4	12.3
San Francisco-San Mateo-Redwood City, CA Metro. Div.	8.9	10.3	10.3	9.0	10.2
San Jose-Sunnyvale-Santa Clara, CA	5.9	7.1	7.7	9.2	9.7
San Luis Obispo-Paso Robles, CA	8.7	11.6	8.9	7.8	9.5
Sandusky, OH	4.1	3.8	4.1	5.2	6.2
Santa Ana-Anaheim-Irvine, CA Metro. Div.	7.1	9.6	12.0	11.8	14.2
Santa Barbara-Santa Maria, CA	6.8	7.7	9.4	9.0	10.6
Santa Cruz-Watsonville, CA	4.2	5.4	6.2	6.0	6.7
Santa Fe, NM	6.0	7.4	7.3	8.6	9.0
Santa Rosa-Petaluma, CA	7.7	9.0	10.6	10.1	11.7
Sarasota-Bradenton-Venice, FL	8.7	9.0	8.4	9.4	9.5
Savannah, GA	5.2	4.4	7.3	8.5	9.3
Scranton--Wilkes-Barre, PA	5.2	6.1	7.2	7.1	7.1
Seattle-Bellevue-Everett, WA Metro. Div.	6.6	8.9	9.0	9.7	10.4
Sebastian-Vero Beach, FL	12.6	12.3	13.4	9.6	14.1
Sheboygan, WI	4.9	5.6	5.8	6.0	5.9
Sherman-Denison, TX	6.5	5.8	5.4	7.3	7.8
Shreveport-Bossier City, LA	7.3	8.3	6.7	7.3	8.1
Sioux City, IA-NE-SD	6.4	6.8	5.3	6.2	7.4
Sioux Falls, SD	2.5	6.6	11.7	14.4	15.3
South Bend-Mishawaka, IN-MI	7.1	7.2	8.0	8.9	8.3
Spartanburg, SC	7.9	8.8	10.4	8.6	9.6
Spokane, WA	8.1	9.6	8.2	9.5	10.0
Springfield, IL	5.3	5.6	6.1	7.5	7.7
Springfield, MA	5.9	5.6	7.4	6.0	6.5
Springfield, MO	6.4	6.9	7.3	8.4	9.1
Springfield, OH	4.4	5.3	6.4	5.5	5.4
St. Cloud, MN	5.7	6.2	6.0	7.0	7.9
St. George, UT	8.8	11.8	9.2	14.6	18.2
St. Joseph, MO-KS	6.2	6.8	6.2	7.7	7.0
St. Louis, MO-IL	6.4	7.3	8.4	9.2	9.7
State College, PA	2.7	3.8	4.8	5.0	6.1
Stockton, CA	7.0	7.7	9.2	8.3	10.9
Sumter, SC	6.8	7.7	7.8	8.2	7.1
Syracuse, NY	5.5	6.5	7.6	6.5	7.2
Tacoma, WA Metro. Div.	6.8	8.6	9.1	9.1	10.8
Tallahassee, FL	6.4	5.7	6.6	7.0	8.3
Tampa-St. Petersburg-Clearwater, FL	9.5	9.7	10.2	10.0	10.9

**Appendix 2: Real Estate Employment Share of Total Employment (cont.)**

	70Q1	80Q1	90Q1	00Q1	05Q4
Terre Haute, IN	5.9	6.4	6.8	7.9	7.1
Texarkana, TX-Texarkana, AR	4.5	5.9	5.2	6.5	6.9
Toledo, OH	7.2	7.4	8.1	7.3	8.0
Topeka, KS	5.9	7.1	6.8	7.6	7.8
Trenton-Ewing, NJ	6.1	5.6	6.9	7.5	6.9
Tucson, AZ	8.4	10.6	9.0	9.8	11.6
Tulsa, OK	7.0	8.7	7.5	8.6	8.6
Tuscaloosa, AL	7.3	7.3	6.9	7.9	9.1
Tyler, TX	6.6	7.8	7.3	8.8	8.5
Utica-Rome, NY	4.9	5.0	5.7	5.8	6.1
Valdosta, GA	5.0	5.8	8.6	8.9	9.1
Vallejo-Fairfield, CA	6.0	6.8	8.7	10.5	11.9
Victoria, TX	6.9	8.0	8.0	9.3	8.4
Vineland-Millville-Bridgeton, NJ	3.4	4.1	5.4	4.5	5.8
Virginia Beach-Norfolk-Newport News, VA-NC	7.4	8.3	9.8	9.9	11.3
Visalia-Porterville, CA	5.9	5.9	5.1	4.9	5.3
Waco, TX	5.7	7.2	6.6	8.3	9.1
Warner Robins, GA	4.0	4.1	5.6	7.6	8.0
Warren-Troy-Farmington Hills, MI Metro. Div.	7.7	9.2	10.8	11.6	12.9
Washington-Arlington-Alexandria, DC-VA-MD-WV Metro. Div.	7.8	8.7	10.9	10.3	11.5
Waterloo-Cedar Falls, IA	3.6	3.8	4.5	7.8	9.2
Wausau, WI	6.7	7.7	6.8	6.6	7.3
Weirton-Steubenville, WV-OH	8.1	6.0	5.9	5.6	6.2
Wenatchee, WA	4.8	5.5	5.1	4.7	5.5
West Palm Beach-Boca Raton-Boynton Beach, FL Metro. Div.	9.7	11.4	12.9	12.4	12.6
Wheeling, WV-OH	5.7	6.1	7.2	6.9	7.3
Wichita Falls, TX	7.4	8.5	6.6	7.4	6.6
Wichita, KS	6.6	6.9	7.0	8.0	8.5
Williamsport, PA	5.5	5.9	7.2	6.1	6.3
Wilmington, DE-MD-NJ Metro. Div.	8.8	9.5	13.8	15.0	14.6
Wilmington, NC	6.2	6.8	8.8	10.4	12.1
Winchester, VA-WV	5.4	6.0	7.6	8.3	10.0
Winston-Salem, NC	7.0	7.2	8.8	9.3	9.3
Worcester, MA	4.5	4.3	6.9	7.1	8.4
Yakima, WA	3.7	3.9	3.7	3.8	3.8
York-Hanover, PA	6.2	5.6	7.5	7.7	8.3
Youngstown-Warren-Boardman, OH-PA	6.0	6.2	7.4	7.1	7.2
Yuba City, CA	4.7	5.8	5.5	6.2	8.5
Yuma, AZ	3.4	3.9	4.5	4.0	5.1

Sources: BLS, Moody's Economy.com

### Appendix 3: Mortgage Equity Extraction as a Share of Personal Disposable Income

	00	01	02	03	04	05
<b>United States</b>	<b>8.0%</b>	<b>3.0%</b>	<b>5.1%</b>	<b>6.4%</b>	<b>9.1%</b>	<b>6.2%</b>
Alaska	0.0%	-1.0%	6.2%	5.4%	9.2%	3.4%
Alabama	8.2%	3.5%	3.5%	3.9%	4.6%	2.5%
Arkansas	7.2%	3.0%	3.1%	4.5%	3.9%	3.7%
Arizona	9.9%	3.1%	6.8%	6.9%	9.5%	5.4%
California	9.1%	3.6%	4.4%	10.3%	16.3%	13.5%
Colorado	9.6%	5.1%	8.8%	10.4%	13.2%	5.8%
Connecticut	8.3%	3.0%	5.6%	7.7%	9.6%	8.0%
District Of Columbia	6.1%	1.5%	1.4%	4.6%	8.5%	5.3%
Delaware	5.7%	2.0%	4.3%	5.0%	8.5%	4.2%
Florida	6.7%	2.2%	4.1%	5.0%	6.9%	5.7%
Georgia	10.5%	5.6%	6.1%	5.8%	8.6%	5.2%
Hawaii	5.4%	0.7%	-0.5%	11.3%	12.1%	7.7%
Iowa	8.1%	2.3%	4.5%	5.6%	9.5%	5.1%
Idaho	7.9%	4.6%	3.1%	5.8%	9.6%	5.3%
Illinois	8.8%	2.0%	5.0%	6.6%	9.4%	4.9%
Indiana	9.7%	3.0%	5.0%	5.6%	6.2%	3.2%
Kansas	6.7%	2.5%	4.2%	5.1%	5.2%	3.4%
Kentucky	8.7%	2.5%	5.2%	4.4%	5.3%	3.4%
Louisiana	5.6%	2.1%	4.8%	4.3%	5.4%	-1.7%
Massachusetts	12.2%	3.9%	6.7%	9.4%	14.0%	8.1%
Maryland	9.5%	1.1%	5.8%	5.3%	11.9%	8.8%
Maine	13.0%	3.1%	5.7%	4.6%	9.6%	6.4%
Michigan	10.5%	4.1%	6.1%	6.7%	8.1%	4.0%
Minnesota	8.2%	2.6%	7.7%	8.6%	14.3%	8.1%
Missouri	8.8%	3.1%	4.5%	4.9%	7.5%	4.5%
Mississippi	6.9%	3.0%	3.2%	2.0%	3.2%	0.2%
Montana	6.8%	2.7%	5.7%	4.5%	9.2%	4.5%
North Carolina	10.1%	4.2%	6.8%	5.7%	6.7%	3.9%
North Dakota	3.1%	1.2%	0.6%	4.9%	8.1%	2.4%
Nebraska	2.7%	4.3%	3.6%	5.1%	12.5%	3.7%
New Hampshire	10.3%	2.0%	7.9%	8.3%	15.2%	9.9%
New Jersey	5.4%	3.3%	6.6%	7.2%	10.4%	7.7%
New Mexico	7.0%	3.2%	5.0%	4.1%	6.6%	2.9%
Nevada	9.4%	3.5%	6.8%	3.0%	8.8%	13.2%
New York	5.1%	2.8%	5.2%	5.6%	7.0%	4.8%
Ohio	11.4%	1.9%	6.4%	6.5%	5.8%	3.4%
Oklahoma	5.7%	2.0%	2.6%	4.4%	3.6%	1.7%
Oregon	9.7%	3.4%	5.9%	6.6%	10.5%	4.6%
Pennsylvania	5.1%	2.9%	3.8%	4.4%	7.5%	4.8%
Rhode Island	8.5%	1.8%	5.2%	8.5%	12.4%	9.0%
South Carolina	8.5%	4.2%	6.6%	5.3%	6.0%	3.1%
South Dakota	5.2%	3.7%	11.5%	7.7%	10.0%	3.1%
Tennessee	7.0%	3.0%	4.2%	4.1%	4.6%	3.3%
Texas	3.9%	2.3%	2.9%	3.7%	4.8%	2.2%
Utah	11.8%	2.5%	2.9%	5.9%	11.5%	3.8%
Virginia	9.1%	2.6%	5.5%	6.8%	12.1%	11.9%
Vermont	8.5%	2.8%	4.9%	6.6%	5.3%	6.8%
Washington	9.5%	1.6%	7.5%	6.7%	10.2%	6.6%
Wisconsin	8.0%	2.1%	4.7%	6.3%	7.4%	6.2%
West Virginia	7.2%	1.6%	2.2%	2.7%	4.3%	2.0%
Wyoming	4.2%	3.2%	2.3%	4.7%	7.4%	4.3%

**Appendix 3: Mortgage Equity Extraction as a Share of Personal Disposable Income (cont.)**

	00	01	02	03	04	05
Akron OH	12.8%	2.1%	7.6%	6.3%	4.9%	3.8%
Albany-Schenectady-Troy NY	6.8%	5.7%	5.5%	2.0%	8.1%	4.4%
Albuquerque NM	8.4%	4.4%	4.3%	3.4%	9.0%	2.1%
Allentown-Bethlehem-Easton PA-NJ	4.7%	3.2%	7.5%	4.8%	9.3%	8.5%
Amarillo TX	3.9%	1.1%	1.6%	4.9%	2.4%	0.4%
Anchorage AK	-0.1%	-2.4%	7.2%	6.6%	9.1%	5.9%
Ann Arbor MI	12.1%	3.5%	6.9%	9.5%	7.9%	4.0%
Asheville NC	9.4%	5.9%	5.0%	5.4%	8.1%	5.4%
Atlanta-Sandy Springs-Marietta GA	12.6%	6.6%	7.4%	6.4%	10.5%	5.6%
Atlantic City NJ	5.2%	2.8%	5.3%	5.6%	8.9%	5.1%
Augusta-Richmond County GA-SC	6.6%	3.2%	2.1%	3.4%	5.0%	3.6%
Austin-Round Rock TX	6.7%	4.5%	5.2%	6.5%	8.4%	3.5%
Bakersfield CA	6.3%	1.8%	1.0%	5.3%	10.1%	10.6%
Baltimore-Towson MD	9.0%	1.3%	5.0%	4.8%	10.3%	6.8%
Baton Rouge LA	7.1%	3.4%	5.3%	4.3%	5.3%	-1.3%
Beaumont-Port Arthur TX	2.4%	1.1%	1.3%	1.4%	2.7%	1.7%
Bethesda-Gaithersburg-Frederick, MD Metro. Div.	9.3%	0.8%	7.4%	7.2%	15.5%	10.8%
Binghamton NY	4.5%	3.2%	3.7%	1.1%	3.3%	2.1%
Birmingham-Hoover AL	8.2%	2.5%	4.1%	4.9%	5.9%	2.6%
Boise City-Nampa ID	8.0%	3.9%	3.2%	6.4%	10.9%	5.2%
Boston-Quincy, MA Metro. Div.	12.5%	3.9%	6.2%	9.7%	13.6%	7.2%
Boulder CO	15.0%	6.8%	-3.9%	11.7%	15.2%	5.5%
Bremerton-Silverdale WA	8.0%	1.5%	8.3%	9.2%	14.0%	5.8%
Bridgeport-Stamford-Norwalk CT	8.9%	1.8%	5.9%	9.1%	11.9%	10.4%
Brownsville-Harlingen TX	4.0%	1.4%	0.5%	4.2%	3.9%	2.3%
Buffalo-Niagara Falls NY	4.2%	3.7%	3.0%	3.5%	3.7%	1.6%
Cambridge-Newton-Framingham, MA Metro. Div.	13.7%	6.5%	7.0%	8.5%	14.2%	7.4%
Camden, NJ Metro. Div.	5.6%	3.2%	8.0%	5.6%	10.0%	7.0%
Canton-Massillon OH	14.9%	2.9%	7.5%	6.2%	5.7%	4.7%
Cape Coral-Fort Myers FL	6.3%	3.5%	5.2%	5.8%	7.1%	4.8%
Cedar Rapids IA	9.7%	4.4%	4.2%	7.0%	8.0%	4.1%
Charleston WV	6.5%	0.9%	0.5%	2.5%	4.0%	-0.4%
Charleston-North Charleston SC	10.5%	2.4%	10.8%	5.6%	8.0%	7.0%
Charlotte-Gastonia-Concord NC-SC	9.6%	4.6%	9.0%	6.2%	9.1%	4.8%
Chattanooga TN-GA	6.7%	3.7%	4.0%	4.6%	5.5%	4.4%
Chicago-Naperville-Joliet, IL Metro. Div.	9.8%	1.5%	5.3%	7.5%	10.6%	5.0%
Cincinnati-Middletown OH-KY-IN	13.0%	1.8%	8.3%	7.0%	7.4%	4.1%
Clarksville TN-KY	7.0%	1.8%	4.1%	4.6%	2.9%	1.4%
Cleveland-Elyria-Mentor OH	10.8%	1.4%	5.6%	5.7%	5.0%	2.5%
Colorado Springs CO	12.5%	2.6%	9.2%	11.5%	14.1%	7.0%
Columbia SC	7.4%	3.9%	5.0%	4.9%	6.8%	2.1%
Columbus GA-AL	7.4%	1.5%	4.3%	4.6%	4.1%	3.3%
Columbus OH	13.0%	2.4%	6.9%	6.9%	8.3%	4.5%
Corpus Christi TX	2.8%	0.8%	0.4%	2.2%	2.8%	1.2%
Dallas-Plano-Irving, TX Metro. Div.	4.1%	2.7%	3.7%	3.8%	6.2%	2.3%
Davenport-Moline-Rock Island IA-IL	6.1%	2.9%	3.4%	5.9%	8.9%	3.4%
Dayton OH	10.8%	-0.4%	6.8%	5.4%	5.1%	1.7%
Deltona-Daytona Beach-Ormond Beach FL	9.0%	2.5%	2.7%	4.9%	6.1%	7.2%
Denver-Aurora CO	8.3%	4.3%	10.6%	9.8%	12.6%	5.4%
Des Moines IA	12.0%	1.7%	6.4%	6.4%	10.7%	5.4%
Detroit-Livonia-Dearborn, MI Metro. Div.	8.6%	3.4%	5.1%	4.7%	6.6%	1.6%

**Appendix 3: Mortgage Equity Extraction as a Share of Personal Disposable Income (cont.)**

	00	01	02	03	04	05
Duluth MN-WI	5.0%	0.8%	6.2%	9.2%	9.3%	4.7%
Durham NC	13.9%	2.4%	7.6%	5.5%	7.3%	3.7%
Edison, NJ Metro. Div.	6.9%	3.2%	6.0%	8.2%	11.9%	9.5%
El Paso TX	4.2%	0.0%	2.0%	3.3%	4.0%	2.5%
Erie PA	5.2%	1.5%	4.5%	4.3%	4.8%	1.5%
Essex County, MA Metro. Div.	11.0%	2.5%	9.4%	7.8%	16.2%	10.7%
Eugene-Springfield OR	9.1%	4.8%	2.0%	5.4%	9.4%	4.4%
Evansville IN-KY	3.2%	5.0%	5.7%	7.0%	3.2%	0.0%
Fayetteville NC	7.3%	3.6%	2.6%	4.2%	2.6%	1.8%
Fayetteville-Springdale-Rogers AR-MO	15.5%	2.4%	4.3%	7.7%	8.0%	10.3%
Flint MI	12.0%	5.1%	5.2%	8.4%	8.3%	4.1%
Fort Collins-Loveland CO	10.2%	6.7%	10.2%	11.1%	16.0%	7.9%
Fort Lauderdale-Pompano Beach-Deerfield Beach, FL Metro. Div.	6.2%	0.3%	5.3%	6.0%	6.2%	5.5%
Fort Smith AR-OK	4.9%	4.1%	1.6%	3.6%	2.1%	2.9%
Fort Wayne IN	9.6%	4.2%	3.5%	4.1%	7.5%	3.1%
Fort Worth-Arlington, TX Metro. Div.	3.3%	3.5%	4.2%	4.0%	5.5%	2.4%
Fresno CA	6.7%	1.5%	0.4%	7.1%	12.2%	10.8%
Gainesville FL	5.7%	0.9%	5.4%	3.5%	4.8%	4.9%
Gary, IN Metro. Div.	7.7%	2.8%	4.7%	5.1%	8.1%	2.9%
Grand Rapids-Wyoming MI	12.7%	2.1%	4.9%	7.3%	7.8%	4.5%
Green Bay WI	9.2%	3.9%	2.0%	8.5%	8.9%	7.8%
Greensboro-High Point NC	8.6%	3.8%	5.8%	6.8%	6.6%	4.5%
Greenville SC	8.5%	4.0%	8.3%	5.5%	8.1%	2.0%
Gulfport-Biloxi MS	8.3%	4.3%	5.0%	2.2%	1.9%	-4.0%
Hagerstown-Martinsburg MD-WV	6.4%	3.5%	6.2%	2.2%	10.3%	8.6%
Harrisburg-Carlisle PA	5.7%	5.4%	4.2%	2.7%	5.5%	4.8%
Hartford-West Hartford-East Hartford CT	7.6%	5.0%	5.5%	6.7%	8.1%	5.5%
Hickory-Lenoir-Morganton NC	9.6%	4.9%	6.5%	4.9%	7.1%	3.1%
Holland-Grand Haven MI	17.9%	3.3%	7.6%	7.8%	11.3%	6.2%
Honolulu HI	4.4%	0.6%	-1.8%	11.1%	11.2%	5.9%
Houston-Sugar Land-Baytown, TX Metro. Statistical Area	4.0%	1.8%	2.7%	3.4%	4.0%	1.8%
Huntington-Ashland WV-KY-OH	7.4%	3.6%	2.7%	2.8%	3.6%	1.6%
Huntsville AL	12.3%	3.3%	3.4%	3.1%	5.3%	5.7%
Indianapolis IN	11.8%	2.4%	6.7%	5.5%	7.5%	4.5%
Jackson MS	9.1%	2.0%	3.1%	1.0%	4.9%	0.7%
Jacksonville FL	7.6%	3.8%	4.7%	7.2%	8.6%	6.1%
Kalamazoo-Portage MI	9.3%	4.5%	5.3%	6.2%	6.0%	4.5%
Kansas City MO-KS	8.4%	3.1%	5.9%	6.6%	8.8%	4.0%
Killeen-Temple-Fort Hood TX	2.9%	2.0%	1.2%	3.9%	3.1%	3.1%
Kingsport-Bristol-Bristol TN-VA	8.3%	2.9%	3.5%	4.5%	2.3%	3.3%
Knoxville TN	6.8%	3.2%	4.6%	4.4%	5.9%	4.9%
Lafayette LA	5.1%	2.6%	5.2%	4.3%	7.2%	-0.9%
Lake County-Kenosha County, IL-WI Metro. Div.	11.4%	2.6%	5.4%	8.4%	14.8%	7.5%
Lakeland FL	6.7%	2.3%	3.6%	2.8%	5.3%	3.8%
Lancaster PA	4.9%	4.0%	5.6%	4.1%	6.2%	4.5%
Lansing-East Lansing MI	12.6%	1.6%	6.4%	8.9%	8.8%	2.4%
Las Vegas-Paradise NV	10.5%	4.4%	7.2%	2.4%	8.2%	13.6%
Lexington-Fayette KY	11.9%	1.2%	5.5%	4.4%	6.2%	4.0%
Lincoln NE	1.6%	8.1%	3.6%	8.8%	10.1%	2.4%
Little Rock-North Little Rock AR	7.7%	2.7%	3.3%	3.6%	4.2%	2.5%
Los Angeles-Long Beach-Glendale, CA Metro. Div.	8.0%	0.7%	1.8%	7.5%	12.8%	8.9%

**Appendix 3: Mortgage Equity Extraction as a Share of Personal Disposable Income (cont.)**

	00	01	02	03	04	05
Louisville KY-IN	9.5%	2.3%	6.2%	4.3%	7.1%	3.5%
Lubbock TX	3.6%	0.8%	2.3%	3.1%	3.3%	2.8%
Lynchburg VA	7.9%	2.0%	4.7%	4.1%	6.0%	5.9%
Madison WI	11.2%	1.3%	5.3%	7.2%	11.9%	6.4%
Manchester-Nashua NH	10.7%	0.8%	9.8%	7.6%	15.3%	10.2%
McAllen-Edinburg-Mission, TX Metro. Statistical Area	3.4%	2.0%	2.1%	4.5%	3.9%	4.0%
Memphis TN-MS-AR	6.0%	1.5%	3.4%	3.9%	3.6%	2.6%
Merced CA	5.9%	2.2%	6.2%	8.9%	12.8%	12.5%
Miami-Miami Beach-Kendall, FL Metro. Div.	5.1%	0.8%	3.5%	5.2%	5.3%	3.3%
Milwaukee-Waukesha-West Allis WI	9.2%	0.9%	3.6%	5.2%	6.4%	6.6%
Minneapolis-St. Paul-Bloomington MN-WI	9.2%	2.7%	8.4%	8.9%	16.0%	8.3%
Mobile AL	9.3%	2.2%	3.0%	3.3%	4.8%	-1.9%
Modesto CA	5.2%	4.0%	9.1%	10.8%	14.3%	15.0%
Montgomery AL	11.6%	4.0%	2.3%	2.1%	4.2%	3.4%
Naples-Marco Island FL	7.4%	5.7%	8.1%	3.4%	4.1%	5.0%
Nashville-Davidson--Murfreesboro TN	8.7%	2.1%	5.0%	4.0%	6.9%	3.3%
Nassau-Suffolk, NY Metro. Div.	7.6%	3.8%	9.5%	8.7%	13.0%	9.0%
New Haven-Milford CT	7.7%	2.2%	4.8%	6.7%	7.5%	6.7%
New Orleans-Metairie-Kenner LA	6.5%	1.2%	6.0%	3.8%	6.6%	-5.6%
New York-White Plains-Wayne, NY-NJ Metro. Div.	4.1%	2.3%	4.8%	5.9%	6.4%	4.2%
Newark-Union, NJ-PA Metro. Div.	5.2%	2.7%	7.0%	7.7%	10.4%	8.0%
Norwich-New London CT	7.3%	3.0%	4.6%	9.1%	10.1%	9.5%
Oakland-Fremont-Hayward, CA Metro. Div.	9.3%	6.3%	6.8%	13.7%	20.6%	16.6%
Ocala FL	9.7%	2.9%	3.9%	3.0%	6.1%	8.1%
Ogden-Clearfield UT	12.0%	2.0%	4.8%	6.8%	11.3%	4.0%
Oklahoma City OK	6.0%	1.9%	3.1%	4.3%	4.7%	1.9%
Omaha-Council Bluffs NE-IA	4.6%	3.3%	4.3%	6.0%	12.3%	3.0%
Orlando-Kissimmee, FL	8.1%	3.8%	4.3%	5.8%	9.1%	7.5%
Oxnard-Thousand Oaks-Ventura CA	12.2%	3.8%	5.8%	13.6%	21.2%	17.1%
Palm Bay-Melbourne-Titusville FL	7.1%	-1.0%	4.3%	4.9%	9.1%	8.8%
Pensacola-Ferry Pass-Brent FL	8.6%	2.3%	2.1%	4.0%	5.5%	2.6%
Peoria IL	6.6%	4.8%	2.1%	4.9%	3.8%	3.4%
Philadelphia, PA Metro. Div.	6.3%	2.2%	2.6%	5.0%	10.7%	5.9%
Phoenix-Mesa-Scottsdale AZ	10.7%	3.1%	7.1%	7.2%	10.0%	6.1%
Pittsburgh PA	3.9%	2.6%	3.5%	3.9%	5.8%	2.7%
Port St. Lucie-Fort Pierce FL	4.4%	2.0%	1.4%	4.1%	9.7%	9.2%
Portland-South Portland-Biddeford, ME	16.4%	3.3%	7.0%	6.5%	14.2%	7.2%
Portland-Vancouver-Beaverton OR-WA	10.6%	2.1%	6.9%	5.9%	11.5%	5.3%
Poughkeepsie-Newburgh-Middletown NY	8.1%	2.3%	8.7%	9.3%	14.9%	10.5%
Providence-New Bedford-Fall River RI-MA	9.9%	1.7%	4.9%	9.7%	13.0%	9.7%
Provo-Orem UT	16.4%	2.9%	4.4%	9.1%	15.7%	6.8%
Raleigh-Cary NC	14.6%	3.9%	9.2%	5.8%	10.3%	6.1%
Reading PA	3.1%	5.0%	6.4%	4.4%	7.1%	5.8%
Reno-Sparks NV	7.6%	1.7%	6.6%	4.6%	10.9%	14.5%
Richmond VA	7.6%	2.1%	4.3%	5.2%	9.2%	6.8%
Riverside-San Bernardino-Ontario CA	12.8%	6.3%	3.7%	9.3%	16.6%	18.1%
Roanoke VA	6.6%	4.1%	4.2%	3.8%	5.8%	7.1%
Rochester NY	5.3%	2.4%	3.7%	3.4%	3.4%	1.7%
Rockford IL	6.1%	-0.1%	5.7%	3.1%	6.1%	5.1%
Rockingham County-Strafford County, NH Metro. Div.	12.9%	2.7%	8.1%	10.3%	17.3%	9.8%
Sacramento--Arden-Arcade--Roseville CA	7.1%	3.6%	7.8%	12.4%	19.5%	16.9%

**Appendix 3: Mortgage Equity Extraction as a Share of Personal Disposable Income (cont.)**

	00	01	02	03	04	05
Salem OR	7.6%	4.1%	7.6%	5.4%	8.4%	4.8%
Salinas CA	7.3%	4.6%	9.7%	8.8%	18.3%	18.2%
Salt Lake City UT	11.5%	2.3%	2.3%	4.7%	9.8%	2.7%
San Antonio TX	4.4%	2.4%	2.6%	3.7%	6.5%	2.6%
San Diego-Carlsbad-San Marcos CA	9.9%	3.3%	6.5%	13.0%	19.9%	15.9%
San Francisco-San Mateo-Redwood City, CA Metro. Div.	8.5%	4.1%	4.5%	9.3%	13.5%	12.1%
San Jose-Sunnyvale-Santa Clara CA	9.9%	6.2%	3.8%	11.9%	15.8%	12.3%
San Luis Obispo-Paso Robles CA	12.0%	5.8%	8.5%	12.1%	26.8%	19.2%
Santa Ana-Anaheim-Irvine, CA Metro. Div.	11.4%	3.9%	4.1%	11.0%	18.0%	14.6%
Santa Barbara-Santa Maria, CA	10.3%	3.1%	3.9%	14.9%	20.5%	14.6%
Santa Cruz-Watsonville CA	10.5%	6.9%	10.4%	11.1%	23.0%	20.0%
Santa Rosa-Petaluma CA	10.6%	6.8%	8.4%	15.1%	20.1%	15.8%
Sarasota-Bradenton-Venice FL	7.3%	2.0%	4.7%	3.8%	7.3%	8.0%
Savannah GA	8.4%	4.2%	3.3%	4.1%	6.7%	5.4%
Scranton--Wilkes-Barre PA	1.7%	3.7%	5.6%	3.6%	4.0%	2.6%
Seattle-Bellevue-Everett, WA Metro. Div.	9.7%	0.9%	7.9%	8.2%	10.9%	6.8%
Shreveport-Bossier City LA	3.8%	1.7%	3.3%	5.2%	4.9%	1.1%
South Bend-Mishawaka IN-MI	8.8%	2.9%	1.7%	5.1%	7.9%	3.5%
Spartanburg SC	7.0%	6.2%	8.5%	6.1%	6.1%	2.9%
Spokane WA	6.1%	1.9%	4.2%	3.6%	8.1%	3.0%
Springfield MA	10.5%	1.2%	4.3%	6.3%	10.0%	6.1%
Springfield MO	8.2%	5.0%	4.1%	7.3%	6.6%	7.3%
St. Louis MO-IL	8.6%	2.9%	4.4%	5.0%	7.9%	4.8%
Stockton CA	6.3%	8.1%	9.3%	11.6%	21.2%	18.7%
Syracuse NY	4.2%	3.9%	3.0%	2.9%	4.8%	2.2%
Tacoma, WA Metro. Div.	10.9%	0.3%	9.2%	6.3%	10.5%	8.4%
Tallahassee FL	8.3%	2.7%	2.6%	5.4%	8.2%	5.6%
Tampa-St. Petersburg-Clearwater FL	7.7%	3.0%	4.5%	5.5%	7.2%	5.7%
Toledo OH	8.9%	2.6%	5.9%	8.1%	6.7%	2.5%
Trenton-Ewing NJ	9.5%	8.0%	0.4%	3.0%	9.7%	6.4%
Tucson AZ	8.0%	2.6%	6.9%	6.1%	9.5%	3.3%
Tulsa OK	7.1%	2.5%	2.7%	5.8%	3.7%	1.6%
Utica-Rome NY	1.2%	7.6%	2.0%	1.7%	4.0%	2.6%
Vallejo-Fairfield CA	9.0%	2.8%	10.6%	13.7%	25.2%	18.4%
Virginia Beach-Norfolk-Newport News VA-NC	9.5%	0.8%	3.7%	5.0%	9.0%	7.8%
Visalia-Porterville CA	8.8%	2.2%	1.4%	4.0%	8.5%	10.2%
Warren-Farmington Hills-Troy, MI Metro. Div.	11.4%	4.6%	7.3%	6.7%	10.0%	4.1%
Washington-Arlington-Alexandria, DC-VA-MD-WV Metro. Div.	10.0%	2.5%	6.2%	7.5%	14.6%	14.5%
West Palm Beach-Boca Raton-Boynton Beach, FL Metro. Div.	4.4%	1.7%	3.1%	4.0%	7.7%	6.4%
Wichita KS	8.1%	2.6%	3.5%	3.4%	3.3%	2.3%
Wilmington NC	12.3%	3.9%	6.2%	4.2%	9.0%	4.8%
Wilmington, DE-MD-NJ Metro. Div.	5.9%	1.5%	4.1%	6.1%	8.6%	4.9%
Winston-Salem NC	8.8%	4.5%	5.1%	5.2%	6.4%	4.0%
Worcester MA	11.0%	2.2%	8.6%	11.9%	15.7%	10.4%
Yakima WA	6.9%	3.7%	4.0%	4.1%	4.7%	2.6%
York-Hanover PA	6.7%	3.8%	6.2%	4.3%	5.9%	10.3%
Youngstown-Warren-Boardman OH-PA	7.1%	0.6%	6.4%	5.7%	3.2%	1.3%

Sources: Equifax, Moody's Economy.com