

Foundations for
**future
growth**
in the Remodeling Industry

IMPROVING AMERICA'S HOUSING 2007

Joint Center for Housing Studies of Harvard University

Harvard Design School

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1

Introduction and Overview



Over the last decade, the US home improvement market nearly doubled in size to \$280 billion. Indeed, the combination of low financing costs, strong growth in homeowner equity, and high payback on home projects made 2000–2005 the best five-year period ever for the remodeling industry.

But with the slowdown in housing in 2006, many homeowners have put their remodeling plans on hold. This pause in spending should, however, be relatively brief. Several factors—including the recent underinvestment in portions of the owner-occupied and rental housing stock, as well as the long-term strength of the high-end improvement market—ensure a robust recovery in spending. These and other opportunities will provide the bridge to real growth in home improvement expenditures of almost 45 percent over the coming decade.

Spending at New Highs

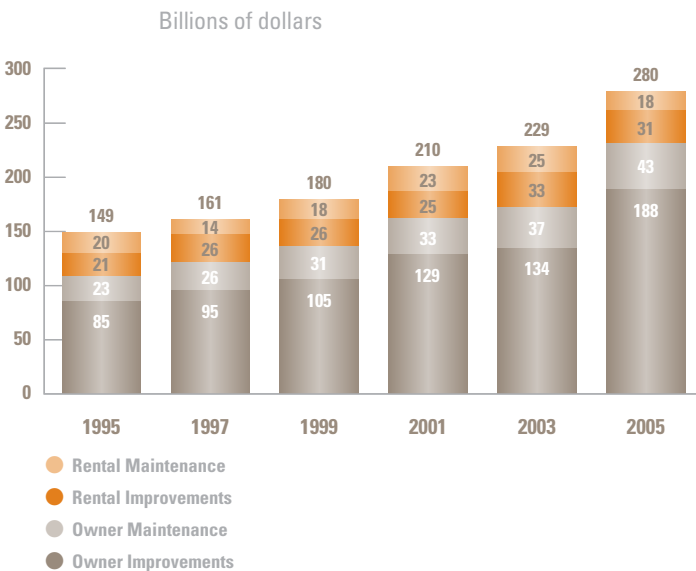
The remodeling market is rapidly approaching \$300 billion a year, climbing at a 7.5 percent compound average annual rate between 2000 and 2005 (4.9 percent after adjusting for inflation). The strongest segment by far has been homeowner spending for improvements—projects that upgrade rather than merely maintain a home—which rose some 10 percent a year over this interval. By comparison, homeowner expenditures for maintenance and repair were up a still-healthy six percent annually. Meanwhile, owners of rental properties increased their investment in improvements less than four percent annually, while cutting back on maintenance and repair by 2.5 percent (**Figure 1**).

Just as homeowner improvements have driven growth in the overall remodeling market, these expenditures have become

increasingly concentrated at the high end. In 1995, projects such as major kitchen and bath remodels, room additions, and other significant alterations to the home accounted for just over one in five dollars of homeowner improvement budgets. By 2005, the share spent on upper-end projects had grown to almost one in three dollars.

Not surprisingly, high-income households living in high-valued homes are the primary source of demand for upper-end improvements. As a result, a fairly small pool of homeowners has been responsible for an increasingly large share of total expenditures. Indeed, owners spending \$25,000 on home improvement projects accounted for fully 40 percent of expenditures in 2005, up from just 17 percent in 1995 in inflation-adjusted terms.

Figure 1 *The Home Remodeling Market Is Approaching \$300 Billion*



Sources: JCHS tabulations of 1995–2005 American Housing Survey (AHS) and the US Department of Commerce Survey of Expenditures for Residential Improvement and Repairs (c50 reports).

Remodeling in Transition

After several years of above-trend growth, the residential construction sector began to cool in late 2005. By that point, the steady rise in short-term interest rates finally exerted a drag on housing markets, raising the cost of adjustable-rate mortgages for homebuyers and the cost of loans for owners using home equity or revolving credit for their remodeling projects.

House price appreciation, which had been running at high single- or low double-digit rates since 2000, also slowed. The easing in prices dampened the pace of equity growth and, in the process, reduced the incentive for owners to reinvest in their homes given that the payback on their expenditures would be lower. As the housing market correction has progressed, many potential remodeling projects, like many potential home purchases, are being deferred until local house prices hit bottom.

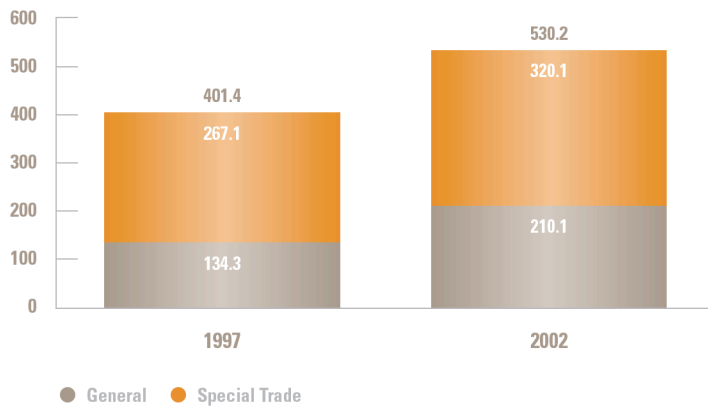
Figure 2 *By Late 2006, Remodeling Market Indicators Pointed to an Emerging Slowdown*

	Percent Change Year-Over-Year				
	2004	2005	2006	2004–2005	2005–2006
Quarterly Retail Sales of Building Materials and Supply Dealers (Seasonally adjusted, billions of 2005 dollars)	69.8	72.7	72.2	4.3	-0.8
Remodeling Market Index	51.8	50.9	47.8	-1.7	-6.1
Existing Home Sales (Millions of units, annual rate)	5.9	6.3	5.5	6.8	-12.7

Notes: Indicators are for the third quarter of each year. Retail sales are deflated by the producer price index for single-family construction materials. The Remodeling Market Index is a diffusion index where any score above 50 indicates that activity is increasing, and any score below 50 indicates activity is declining.
Sources: US Department of Commerce, National Association of Home Builders, and National Association of Realtors.

Figure 3**Rather Than Consolidate, Remodeling Contractors Have Increased in Number**

Payroll establishments plus self-employed contractors with revenues of \$25,000 or more (Thousands)



Note: The 1997 figures include the estimated number of nonpayroll partnerships and corporations serving the remodeling industry.

Source: Unpublished tabulations of the 1997 and 2002 Census of Construction.

Between the rise in interest rates and the slowdown in house price appreciation, sales of existing homes softened in 2006. Existing home sales are an important driver of remodeling activity, with sellers of older properties typically making improvements before putting their homes on the market, and recent buyers typically making changes to customize their new homes to their tastes.

While signs of a construction cutback have been appearing since early 2006, direct evidence of a remodeling slowdown is only now emerging (**Figure 2**). Retail sales at building materials and supply dealers have weakened slightly after adjusting for inflation in product prices. These businesses sell home products and supplies to do-it-yourself (D-I-Y) and buy-it-yourself (B-I-Y) homeowners, as well as directly to professional general contractors and the trades.

Remodeling contractors are themselves reporting a change in business conditions. The Remodeling Market Index, a national survey of remodeling contractors conducted quarterly by the National Association of Home Builders, did indicate a decline in activity beginning in the fourth quarter of 2005, although current perceptions of the business climate vary considerably. In particular, the index shows large differences in contractor sentiment

according to project costs, region of the country, and homeowner vs. rental property owner projects.

The timing of the downturn in remodeling indicators is consistent with past cycles. Key measures of improvement activity typically lag those of new construction by about six months and are less volatile. Changing economic conditions have more impact on upper-end discretionary projects than on replacements, which often involve structural elements of the home and are therefore risky to defer. Maintenance and repair expenditures also remain fairly stable over an economic cycle.

Persistent Industry Fragmentation

During a time of unprecedented consolidation across the entire residential construction sector—from home builders to building product manufacturers and distributors—the number of small firms serving the remodeling market was instead growing. In 2002, the number of both payroll and nonpayroll businesses specializing in home improvements had reached 530,000, up from 400,000 just five years earlier (**Figure 3**). These figures do not include businesses classified as remodeling contractors but generating less than \$25,000 a year in gross revenue.

Most of the growth in remodeling businesses over this period was among nonpayroll firms, reinforcing the already fragmented character of the remodeling industry. And with the percentage increase in firms almost matching the growth in home improvement spending, average revenue per business between 1997 and 2002 remained flat.

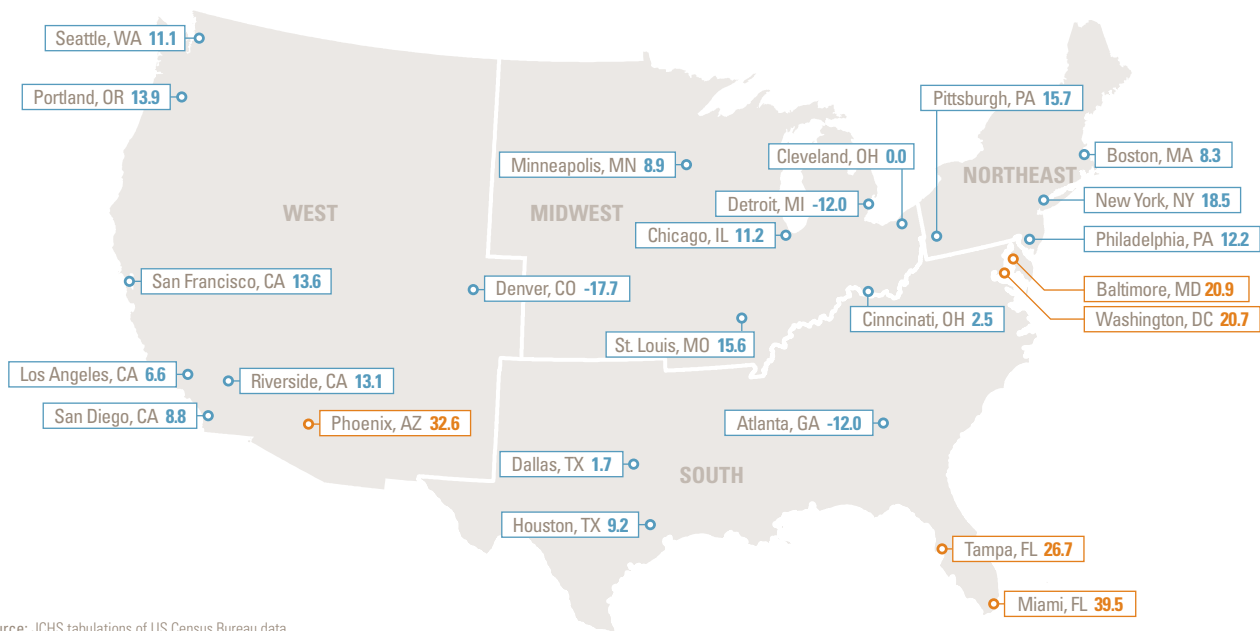
Nevertheless, remodeling contractors are finding ways to improve their profitability. Rather than consolidate, remodelers are becoming more specialized. For example, many general contractors are focusing on particular types of remodeling projects such as kitchen and bath remodels or deck construction, while others are offering complete design/build services for upper-end additions or alterations. Another emerging strategy is franchising, which provides contractors the business systems they need to operate more efficiently.

Regional Shift in Activity

While increasingly concentrated by household income and wealth, remodeling activity has become more geographically

Figure 4**The Top Five Fastest-Growing Remodeling Markets Are in the South and West**

Percent change in remodeling permit values for 25 largest metro areas (2004–2005)



Source: JCHS tabulations of US Census Bureau data.

diffused. In the past, the Northeast and Midwest captured a disproportionately large share of home improvement spending because the housing stocks in these regions are older. Today, however, the millions of homes built in the Sunbelt during the post-World War II construction boom are prime targets for remodeling.

In 1989 (the first year for which data are available), less than half of improvement spending was on homes in the South and West. In 2005, the Sunbelt share was up to more than 60 percent. Recent changes in permitting activity reflect this trend. From 2003 to 2005, remodeling permit values increased 38.4 percent in the South and 27.2 percent in the West, compared with 24.9 percent in the Northeast and just 5.1 percent in the Midwest (**Table A-6**).

Indeed, the majority of the fastest-growing large home remodeling markets in 2005 were located in the Sunbelt, with Miami, Phoenix, and Tampa leading the list (**Figure 4**). Even in areas such as Atlanta and Denver that reported a slowdown in permitting activity, the drop came after strong gains in the preceding year.

Although average spending on home improvements will still be stronger in the Frost Belt regions where homes are older and incomes are higher, activity in the Sunbelt is rapidly catching up as the housing stock moves into the ages when remodeling expenditures generally increase. With the long-term shift of population and jobs to the South and West, spending on home improvements in these regions should thus show healthy growth in the decades ahead.

Drivers of Future Growth

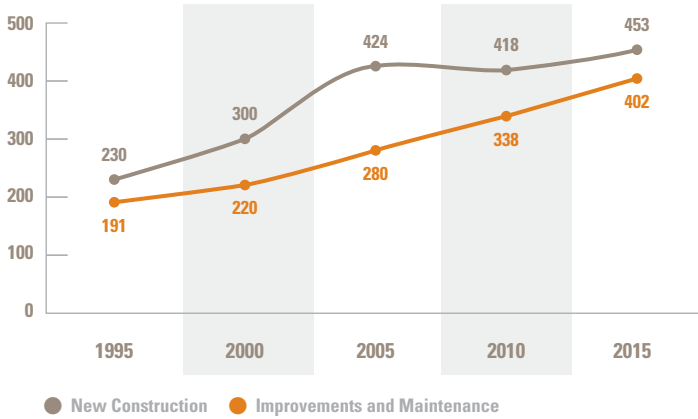
Once the current housing market slowdown is over, the home improvement industry is set for a sustained upturn. The continued strength of immigration, as well as the movement of the echo boomers (children of the baby boomers) into the ages when they are most likely to participate in the housing market, ensures growth in the number of households over the next decade. Indeed, the Joint Center projects the addition of over 12 million homeowners by 2015.

Not only will there be more households to make home improvements, but per household spending will also be on the

Figure 5

With New Construction Slowing from Its Record Pace and Improvement and Maintenance Activity Strengthening...

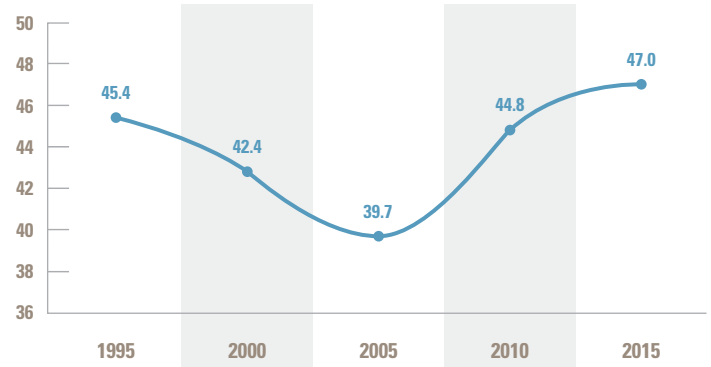
Billions of 2005 dollars



Sources: JCHS tabulations of 1995–2005 AHS and Commerce Department c50 reports, and JCHS and NAHB projections.

...The Remodeling Share of Residential Investment Will Increase Over The Coming Decade

Percent



rise as owners continue to make investment in their homes a priority. The growing population of younger families, who traditionally spend larger shares of their incomes on home improvements, will offset the rising number of older households, who tend to spend smaller shares.

At the same time, however, upper-income owners living in high-valued homes will still contribute a disproportionately large share of spending. These households have the financial resources necessary to undertake high-end discretionary projects like major kitchen and bath remodels, as well as the incentive to protect the equity they have accumulated after years of strong house price appreciation.

What will be different over the coming decade is the mix of remodeling projects most in demand. The aging of the nation’s housing stock ensures steady growth in replacements and system upgrades in the years ahead. Demographic changes will reinforce demand for these types of projects, with senior, minority, and nonfamily households becoming the fastest-growing segments of the homeowner population. These groups generally devote higher shares of their remodeling expenditures to replacements and system upgrades, and are more apt to hire professional contractors for installation than to do the projects themselves.

The Industry Outlook

The next decade should be another strong one for the residential construction sector. Once it works off current excess inventory, the home building industry is expected to fare well thanks to the strong pace of household formation. According to the National Association of Home Builders, home building expenditures in 2015 should outrun the record 2005 level in inflation-adjusted terms by about seven percent.

The home improvement market should be even more robust. The Joint Center for Housing Studies projects a nearly 45 percent real increase in homeowner spending between 2005 and 2015. As a result, spending on maintenance and improvements to both the owner-occupied and rental stock is likely to make up a larger share of overall residential investment. In fact, with growth moderating on the construction side, the remodeling share of total spending in the residential sector will reach a new high of 47 percent (Figure 5).

2

Professional Contractors Serving the Remodeling Industry



Despite the dramatic increase in home improvement activity in recent years, companies that focus on the remodeling business have yet to see the consolidation that has occurred elsewhere in the residential construction sector. Whether general or special trade contractors, these firms still tend to be small operations that serve a limited geographical area.

Increase in Self-Employed

According to estimates generated by the US Census Bureau and the Joint Center for Housing Studies, the number of general contractors with payrolls earning more than half their revenue from remodeling was up 33 percent between 1997 and 2002, to nearly 83,000. Meanwhile, the number of special trade remodeling contractors with payrolls increased by a modest 8 percent, to just over 117,000 (**Figure 6**).

These figures, however, understate the total number of professional contractors serving the remodeling industry, which is increasingly dominated by nonpayroll businesses. Excluding those with annual revenues of less than \$25,000 (under the assumption that these individuals are part-timers), there were over 127,000 self-employed general contractors in 2002 and almost 203,000 self-employed special trade contractors. This brings the total number of both payroll and self-employed remodelers to more than 530,000.

Self-employed contractors not only account for a majority of businesses in the industry, but also for most of the recent growth in remodeling firms. Between 1997 and 2002, the number of general remodeling contractors that are self-employed increased twice as fast as the number of firms with payrolls. In the special trades, growth in self-employed contractors outpaced that of payroll firms by a magnitude of 3.5.

The sharp increase in self-employed remodelers is especially noteworthy in light of the less than 40 percent rise in

homeowner spending during this same five-year period. With the total number of remodelers up by nearly a third, average revenues per business remained low. Indeed, the scale of operations among remodeling contractors has shown virtually no increase in recent years.

Figure 6 *The Number of Self-Employed Contractors Has Risen Rapidly*

Number of Businesses			
	1997	2002	% Change
General Contractors			
Payroll	62,400	82,900	33
Self-Employed	71,900	127,200	77
Total General	134,300	210,100	56
Special Trade Contractors			
Payroll	108,900	117,200	8
Self-Employed	158,200	202,900	28
Total Special Trade	267,100	320,100	20
Total	401,400	530,200	32

Notes: Includes self-employed contractors with annual revenues of at least \$25,000. The 1997 figures are adjusted to include the estimated number of nonpayroll partnerships and corporations. Source: Unpublished tabulations of the 1997 and 2002 Census of Construction.

Size and Competitive Advantage

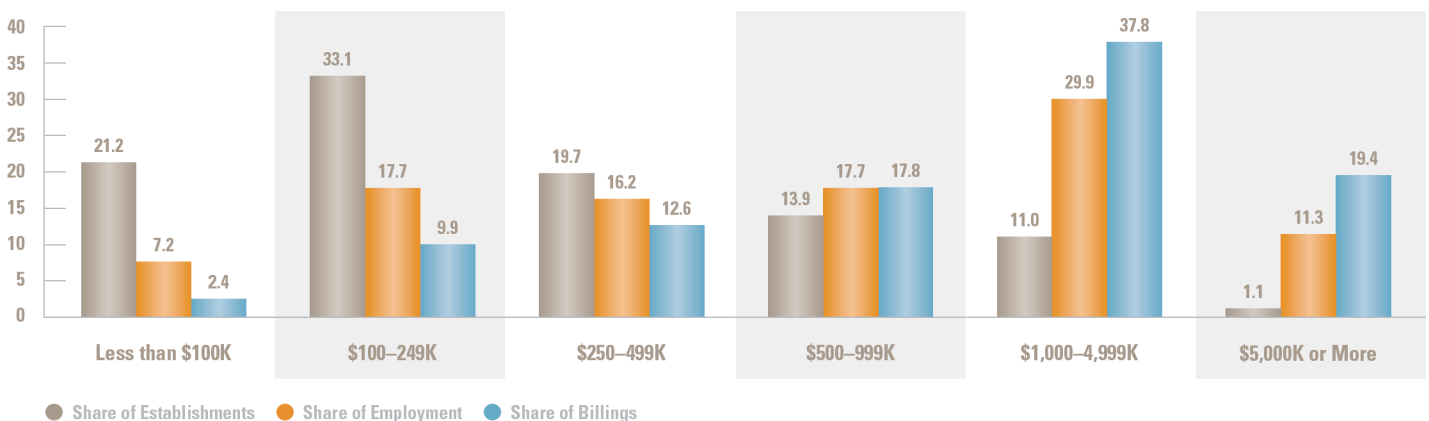
As of the 2002 Census of Construction, almost three-quarters of general remodeling contractors with payrolls reported gross revenues of less than \$500,000. Nearly 90 percent of these businesses had revenues under \$1 million. The shares of smaller firms among special trade remodelers are even greater, with over 80 percent earning less than \$500,000 and 92 percent earning less than \$1 million.

Still, the few large remodeling companies that do exist are responsible for a disproportionate share of industry activity. In particular, the 11 percent of general remodeling contractors earning \$1–5 million in 2002 generated almost 30 percent of employment among these contractors and well over a third of total revenue in their category. Meanwhile, the 1.1 percent with \$5 million or more in revenue accounted for over 10 percent of total employment and almost 20 percent of revenue. Together, these million-dollar-plus general contracting firms contributed over 40 percent of employment and captured nearly 60 percent of revenue in 2002 (Figure 7).

Larger firms are thus beginning to play a more dominant role in the remodeling industry, although their share increases have been relatively modest. In 1997, million-dollar general contractors represented 8.8 percent of all payroll remodeling businesses and earned just over half of all revenue. While not adjusted for inflation, these estimates suggest some potential benefits of scale for larger firms.

Figure 7 *Larger Payroll Firms Generate More Than Half of All Remodeling Contractor Revenues*

General remodeling contractor shares by annual revenue, 2002 (Percent)



Source: Unpublished tabulations of 2002 Census of Construction.

Figure 8

The Remodeling Contractor Industry Remains More Fragmented Than Other Parts Of the Residential Construction Sector

Share of total revenue in 2002 (Percent)



Source: Unpublished tabulations of the 2002 Census of Construction, and 2002 Censuses of Retailers and Manufacturers.

Nevertheless, remodeling firms in general have resisted the consolidation that characterizes much of the residential construction sector. In 2002, the top 4 general contractors nationally accounted for just 1.4 percent of total remodeling revenue, while the top 50 generated 5.2 percent.

By comparison, dealers of building materials—particularly retailers that primarily serve D-I-Y homeowners and smaller contractors—have undergone significant consolidation. This trend is also picking up pace among dealers serving home builders and larger subcontractors. As of 2002, the top 4 building material supply dealers (both retail and pro combined) accounted for over 40 percent of all industry sales, while the top 50 accounted for over half (**Figure 8**).

Manufacturers of residential building products have not consolidated as much as dealers, although considerably more than remodeling contractors. The degree of concentration varies greatly by product. For example, the top 4 manufacturers of household appliances were responsible for over 60 percent of overall revenue in 2002 and the top 50 for nearly 96 percent. At the other end of the spectrum, the top 4 manufacturers of wood products (including dimensional lumber, sheathing, engineered products and so forth) captured only 10 percent of total revenue and the top 50 slightly more than a third.

The disparity in scale between remodelers and their suppliers puts contractors at a disadvantage when it comes to negotiating prices and services. After years of consolidation in the home builder sector, more and more residential building product distributors have chosen to target high-volume production firms. Similarly, increasing numbers of building product manufacturers are reorienting their products and services for this same segment. Many product manufacturers are also considering direct distribution to large builders, and others are looking at ways to provide installation services for these customers. The net result is that fewer suppliers now focus on the needs of the remodeling contractor market.

Emerging Specialization

Despite little evidence of industry concentration, residential remodelers are becoming more specialized. General remodeling contractors with payrolls, for example, have little involvement in new residential construction, with almost 94 percent of 2002 revenues coming from remodeling projects. Special trade contractors also concentrate heavily on remodeling, earning 78 percent of their revenue from improvement projects. The special trade contractors generating the largest shares of revenue from remodeling are siding companies (almost 90 percent of their revenue) and finish carpenters (over 87 percent).

At the same time, general contractors primarily serving the new residential construction market have become less and less focused on remodeling projects. In 1997, these contractors reported just over \$5 billion in remodeling receipts, or about 18 percent of total activity among general contractors. By 2002, their share of remodeling revenue had declined to less than 15 percent (**Figure 9**).

The degree of specialization among special trade remodeling contractors is somewhat lower. In 1997, this group accounted for just over 82 percent of all remodeling revenue generated by special trade contractors. In 2002, that share had dropped

to about 75 percent, indicating that special trade remodeling contractors have been more successful than general contractors in performing a mix of new construction and remodeling projects.

Strategic Advantages

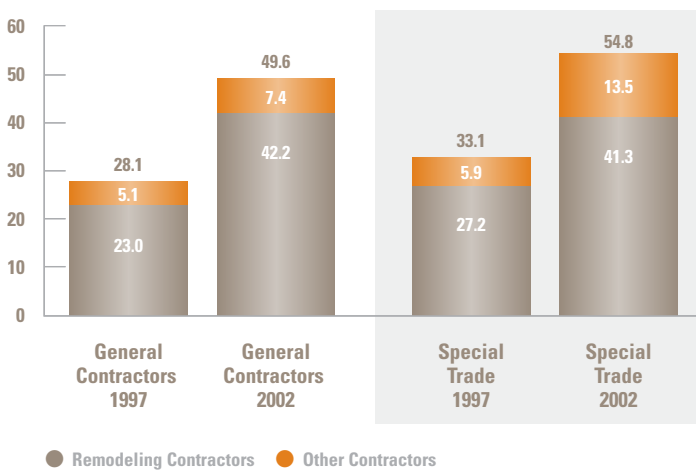
Remodeling firms can achieve efficiencies through specialization even if their revenues do not reach the levels usually associated with scale economies. For example, a contractor with \$1 million in annual revenue can develop more efficient systems and procedures—and therefore become more profitable—if performing only siding replacements than a business generating the same revenue from a mix of siding projects, kitchen and bathroom remodels, and HVAC upgrades. At the same time, however, diversifying their services may provide remodeling firms a better buffer against the ebbs and flows of the business cycle.

To estimate the relative advantages of these two opposing business strategies, the Joint Center analyzed the performance of a panel of contractors tracked by *Qualified Remodeler* magazine. The annual survey collects information on the business focus of many of the nation’s top 500 remodeling companies, allowing analysis of revenue growth by specialization.

The evidence suggests that, at least in the 1999 to 2005 period, specialization among remodeling contractors not only led to stronger revenue growth, but also to more stable receipts (**Figure 10**). Firms on this list in 1999 that reported revenue through 2004 or 2005 saw median compound earnings growth of 5.4 percent. Design/build firms (offering design as well as construction services and typically focused on higher-end projects) reported the largest average revenue increase of 6.6 percent, followed by specialty contractors (performing

Figure 9 *Firms Specializing in Remodeling Capture Most of the Home Improvement Market*

Remodeling receipts for payroll firms (Billions of dollars)

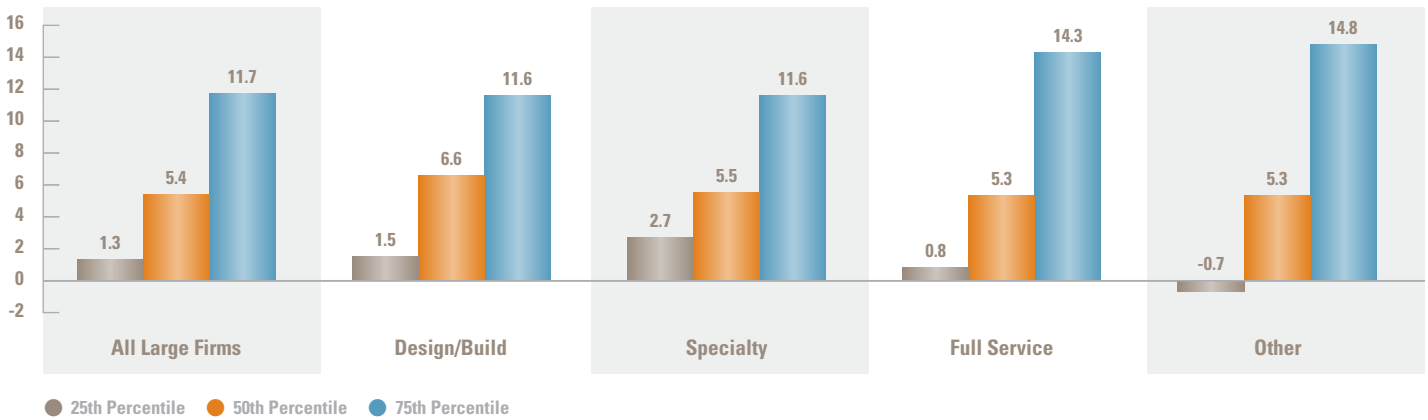


Source: Unpublished tabulations of the 1997 and 2002 Census of Construction.

Remodeling firms can achieve efficiencies through specialization even if their revenues do not reach the levels usually associated with scale economies.

Figure 10**While All Types of Firms Have Seen Strong Growth, Design/Build and Specialty Remodelers Have Achieved the Most Consistent Gains**

Compound annual revenue growth, 1999–2005 (Percent)

Source: JCHS tabulations of *Qualified Remodeler* magazine top 500 remodelers.

single-line services such as replacements of roofing, siding, or windows), full-service remodeling firms (undertaking a broad range of home improvement projects), and other contractors (including franchise operations, “handyman” companies, and insurance restoration).

Given the significant growth in high-end remodeling projects in recent years, it is no surprise that design/build firms reported the biggest revenue gain. Increases across the other three categories of remodeling businesses are roughly comparable. Within each category, however, variations in revenue growth are noteworthy. Interestingly, revenues varied least among firms that might be considered the most specialized (design/build and specialty companies). Half of the specialty contractors reported average annual growth between 2.7 percent and 11.6 percent, while half of the design/build firms reported annual growth between 1.5 percent and 11.6 percent. In contrast, the performance among full-service and other remodeling firms ranged widely between –0.7 percent and 14.8 percent.

Implications for the Future

While million-dollar general contractors have increased their share of payroll remodeling firms from under 9 percent in 1997 to over 12 percent in 2002, consolidation among

remodelers has been much slower than in other parts of the residential construction sector. Remodeling contractors thus face the challenge of running small, service-oriented businesses in a competitive environment that favors larger operations.

To date, remodeling contractors have found it difficult to provide a range of services within a limited geographic area and still achieve the scale economies that make consolidation advantageous. New business models are, however, emerging. One path to greater profitability is to specialize in a limited number of home improvement activities. Under this strategy, the firm focuses its marketing efforts, on-site operations, and purchasing power on projects where it can claim special expertise such as mid-range bath remodels or upper-end design/build room additions. Recent evidence indicates that specialized remodeling companies have indeed achieved stronger, more consistent growth than more diversified firms.

Another emerging model is franchising. With a franchise, the owner starts out with established systems for such functions as marketing, scheduling, and operations, allowing the firm to focus more on its customers and less on simply running the business. While still too early to evaluate, this business model does hold out the possibility that remodeling contractors can remain small and still be profitable.

3

The Remodeling Market In Transition



After five years of dramatic growth, both the pace and composition of improvement spending shifted in 2006. Rising interest rates, slower house price appreciation, and faltering home sales put the damper on the high-end projects that had propelled spending growth earlier in the decade. During the current slowdown, many homeowners are simply keeping up with routine replacements.

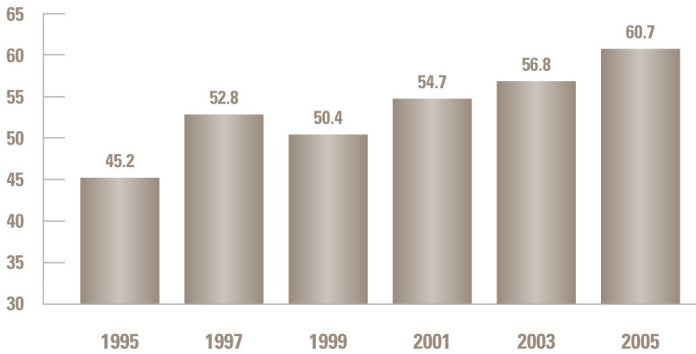
The recent strength of the remodeling market was driven largely by improvements to a relatively small number of high-value homes. The households living in these homes typically had high incomes and undertook expensive projects such as kitchen remodels or room additions. By 2005, these upper-end improvements—bath upgrades of \$5,000 or more, kitchen renovations of \$10,000 or more, and room additions of \$25,000 or more—were the mainstay of the remodeling industry, accounting for almost one out of every three homeowner improvement dollars. By comparison, these projects represented just over 20 percent of remodeling activity in 1995.

The growing concentration of spending on upper-end discretionary projects mirrors the concentration of spending within a small pool of households. Indeed, in 2004–2005, the five percent of households spending the most for home improvements (defined here as top spenders) accounted for 60.7 percent of total remodeling expenditures—up from 45.2 percent in 1994–1995 (**Figure 11**).

But just as high-spending households were accelerating their home improvements over the course of 2000–2005, many other households were restraining their expenditures in the face of the weakening economy. The nation was in recession for much of 2001 and the ensuing recovery was slow. Business payrolls, typically a key indicator of economic health, were on the decline through 2003.

Figure 11 *Top Spenders Have Accounted For an Increasingly Large Share of the Market...*

Share of expenditures by top 5% (Percent)



Source: JCHS tabulations of 1995–2005 AHS.

...And the Percent of Owners Making Improvements Has Declined

Share of owners reporting expenditures (Percent)

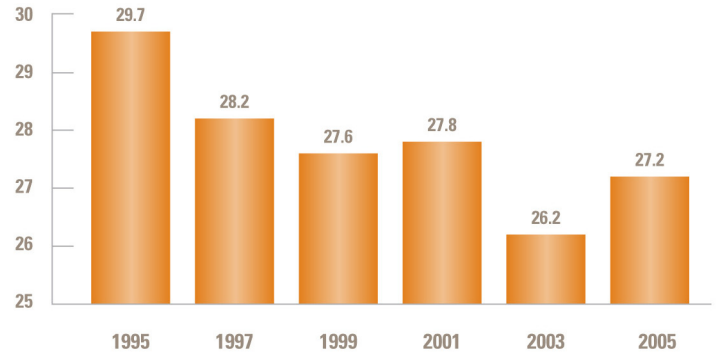
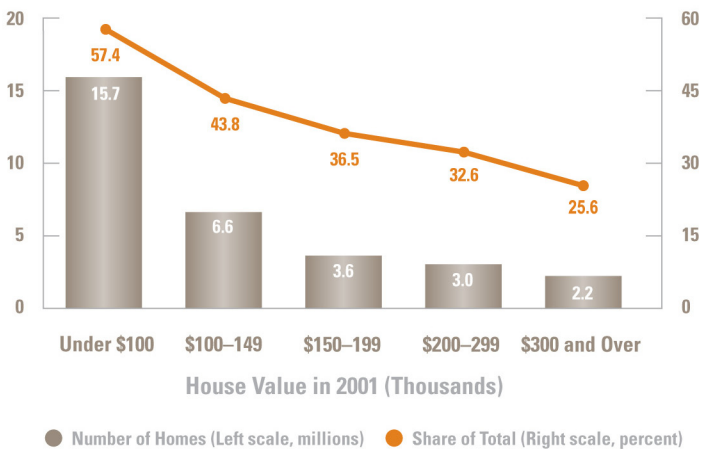


Figure 12 *Periodic Underinvestment Is Common For Homes Across the Price Spectrum*

Homes with less than \$1,000 in average annual improvement and maintenance spending in 2000–2005



Source: JCHS tabulations of 2001, 2003, and 2005 AHS.

offset the modest spending by other households, pushing average expenditure levels for home improvement projects from \$5,800 in 1995 to \$6,900 in 2000 and up to \$9,300 in 2005.

Cycle of Underinvestment

With a smaller share of owners generating a growing share of activity, real improvement and maintenance spending on almost 45 percent of—or 31 million—owner-occupied homes averaged less than \$1,000 a year from 2000 to 2005. This level of expenditure is well below the overall average of \$2,500 across all owners and, in many cases, insufficient to maintain homes in their current condition.

While many of the properties with below-normal expenditures are lower-value homes, underinvestment is a common phenomenon across the entire housing stock. For example, owners of 3.0 million homes valued between \$200,000 and \$300,000 in 2001 spent less than \$1,000 a year on their properties in 2000–2005, as did another 2.2 million owners with homes valued at \$300,000 or more (Figure 12).

Homes that have had only modest improvements in recent years are prime targets for new investments. Indeed, these figures likely understate future spending by owners of higher-valued homes. Many of these homeowners reached the \$1,000

As a result, the share of owners reporting home improvement expenditures has been stable to declining in recent years. While almost 30 percent of homeowners undertook one or more projects in 1995, this share dropped to just over 26 percent in 2003 before bouncing back to more than 27 percent in 2005. From a market perspective, strong spending by the small share of owners reporting high-end projects more than

a year spending threshold over this period through routine replacement activity and are now ready to take on discretionary projects. Improvement spending typically occurs in waves, with owners undertaking a series of projects to modernize their homes and then waiting a few years before beginning another round of upgrades. As a result, it is not unusual for spending on a large share of the housing stock to be relatively low for a period of time—even when economic conditions are favorable and incentives for making improvements are strong.

Current owners of some underinvested homes may therefore be planning to take on a new set of home improvement projects over the next few years. In other cases, upgrades may not come until the home is sold and the new owners invest in remodeling to meet their particular preferences for style and features. Eventually, though, a majority of today’s underinvested homes will receive upgrades, with higher-valued properties being ready candidates for improvements.

Homeowner Priorities

Higher mortgage rates, together with a slowdown in house price appreciation, have cooled the feverish pace of existing

home sales. With properties turning over less often, owners are remaining in their homes longer—a trend that has direct implications for home improvement spending.

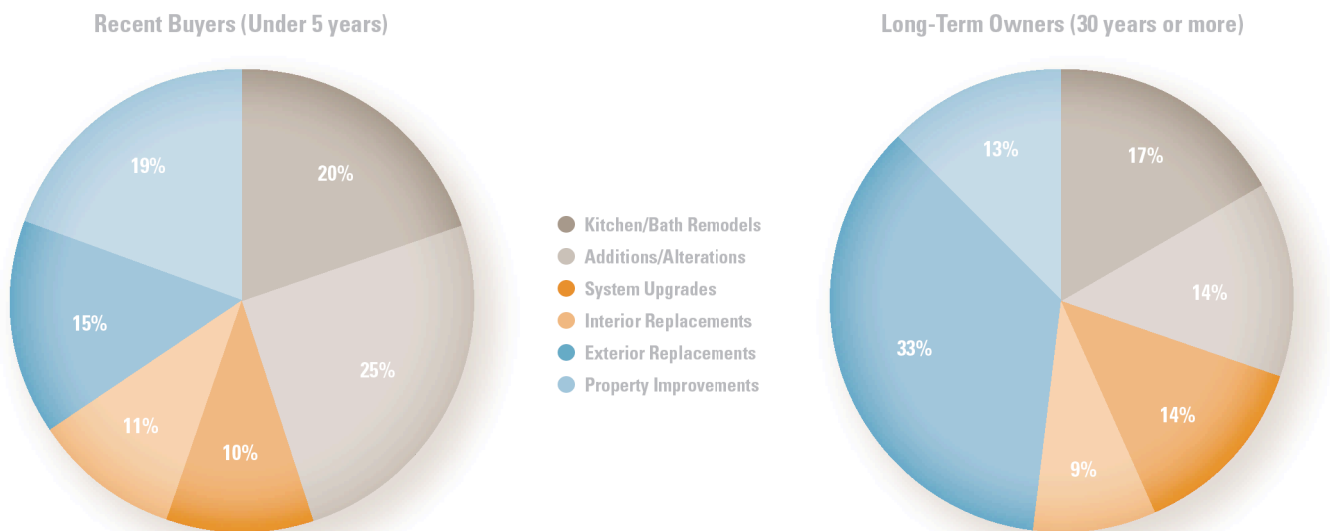
Recent buyers are traditionally the group that spends the most on improvement projects, particularly if they can adjust their financing to include any remodeling costs and then coordinate the work with their move. By completing the changes at the time of purchase, new owners are also able to enjoy the improvements for the entire time they occupy the home.

Recent buyers often focus on updating their kitchen and baths, as well as adding rooms or making other structural alterations (**Figure 13**). The projects may range in scope from customizing the home to the owner’s decorative preferences to completely remodeling certain rooms. New owners also devote a higher share of their spending to property improvements such as garages and sheds, outdoor living facilities, fencing, stone walls, patios, and swimming pools.

Given that their use of space is already well-established, longer-term owners typically make different spending choices. Their principal concerns are maintaining their homes in good

Figure 13 *New and Long-Term Owners Have Different Spending Priorities*

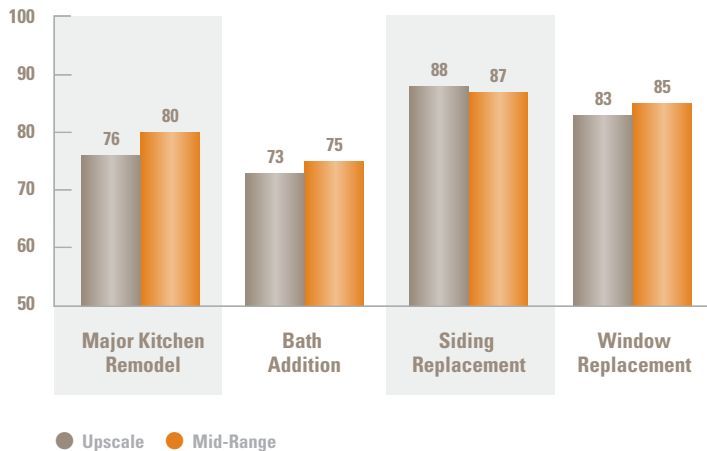
Share of 2005 spending



Source: JCHS tabulations of 2005 AHS.

Figure 14 *Mid-Range Improvements and Replacements Generally Have Better Payback Today Than Upscale Projects*

Share of cost recovered in 2006 (Percent)



Notes: Upscale and mid-range projects are defined in terms of quality of products used. For more information, see www.remodelingmagazine.com. Source: *Remodeling* magazine and National Association of Realtors, 2006 Cost vs. Value Study.

Rising prices provide owners not only an incentive to improve their homes in order to protect their growing values, but also the resources to pay for these improvements. Many homeowners are therefore reinvesting much of their cashed-out equity back into their homes.

condition and protecting their investment. On average, longer-term owners spend almost half of their home improvement dollars on such projects as exterior replacements and updated systems. By comparison, recent buyers spend less than 30 percent of their budgets on these types of improvements.

Payback on Investments

With the strength of the high-end housing market earlier in the decade, upscale improvements such as major kitchen and bath remodels, room additions, and structural alterations captured a significant share of homeowner spending. In part, the concentration of spending at the upper end reflects the fact that owners could recover more of their costs at resale. In their comparisons of remodeling costs vs. value returned, *Remodeling* magazine and the National Association of Realtors confirmed that upscale improvements from 2000 to 2005 generally repaid a larger share of expenditures than mid-range versions of the same projects.

Starting in 2005, however, the survey results indicate that mid-range versions of projects now pay off better for homeowners than upscale versions in most cases (Figure 14). This shift may

be a response to the change in overall housing market conditions, with demand for more moderate-priced homes now strengthening relative to that for high-end homes. Alternatively, this trend may indicate that even owners of higher-valued homes are concerned about the future affordability of their properties and are therefore scaling back on their improvement projects.

Even more significant, however, is the survey finding that replacement projects currently provide a better return on average than discretionary improvements. In particular, homeowners who remodel their kitchens or add baths can now expect to recover just 70–80 percent of their expenses in the form of higher house values. In contrast, siding and window replacements generally pay back 80–90 percent of the investment—a possible reflection of Americans’ growing concerns about energy conservation.

The Role of Home Equity Gains

Over the past decade, house prices nearly doubled across the country. Aggregate home equity stood at \$10.2 trillion in 2005, up from \$6.4 trillion in 2000 and \$4.6 trillion in 1995.

Rising house prices not only provide an incentive for owners to improve their homes in order to protect their growing values, but also the resources to pay for these investments. Owners can easily tap their increased housing wealth through home equity loans and lines of credit. Indeed, owners now have almost a trillion dollars outstanding in home equity borrowing. In 2006 alone, Freddie Mac estimates that owners extracted a record \$295 billion from their homes through cash-out refinancing of their mortgages.

Owners are reinvesting much of this wealth back into their homes. The greater the house price appreciation owners have seen, the more they are likely to spend on home improvements. On average in 2005, households whose homes had appreciated by at least 100 percent over the previous decade spent over two-and-a-half times more on improvements than those whose home values increased less than 50 percent. The discrepancy is even larger at the upper end of the market, with spending on improvements averaging almost \$10,000 among owners with the greatest home price appreciation, compared with about \$3,000 among owners with the least (Figure 15).

Implications for the Future

With the slowdown in the entire residential construction sector, the home improvement market has downshifted to a more sustainable rate of growth. Rather than taking on expensive discretionary projects, homeowners are investing in more routine replacement projects, system upgrades, and mid-range rather than upscale improvements.

The dip in spending should, however, be both mild and short-lived. The fundamentals of remodeling demand remain positive, and the backlog of under-improved homes ensures a ready market for upgrades in the near term. And with home equity still at record levels, owners have the means as well as the motivation to continue to invest in their properties over the coming years.

Figure 15 *The More Their Homes Have Appreciated, The More Owners Spend on Improvements*

Average spending in 2005

1995 House Value (Thousands)	House Price Appreciation 1995–2005		
	Under 50%	50–100%	Over 100%
Under \$100	1,110	1,500	2,270
\$100–149.9	1,800	2,480	4,020
\$150–199.9	2,030	2,970	4,500
\$200–299.9	2,580	3,190	6,790
\$300 or More	2,910	3,730	9,790
All Homes	1,520	2,090	3,980

Source: JCHS tabulations of the 1995 and 2005 AHS.

4

Trends Supporting Sustained Growth



Several economic and demographic forces are at work that should support solid spending growth.

First and foremost is the need to reinvest in the aging housing stock. But rising energy costs, strengthening rental demand, the growing concentration of wealth, and the changing mix of homeowners will play significant roles as well.

The Aging Housing Stock

Even with the net addition of some 11.4 million owner-occupied homes over the past decade, the nation's housing stock is growing older. The median age of the owner-occupied inventory stood at 31 years in 2005, up from 23 years in 1985.

The aging of the housing stock in part reflects the massive building effort after World War II. The number of owner-occupied homes built before 1960 totals some 23.6 million units, with another 9.2 million homes constructed in the 1960s, and almost 14 million in the 1970s—the strongest decade of home building in US history. As a result, about a third of the owner-occupied housing stock is now at least 45 years old and an additional third is between 25 and 45 years old.

A large majority of homes are therefore in increasing need of remodeling and repair. Spending on improvements generally increases over the first 20 to 25 years after construction. At that point, many exterior features—such as the roofing, siding, and windows—may need replacement. It is also around this age that basic systems and equipment such as HVAC and electrical systems often require upgrading.

Once engaged in these replacement projects, owners may decide it is time to undertake other types of upgrades. Particularly if financing is available, owners may choose to remodel the kitchen or even add a family room. After peaking

when the home is about 20 to 25 years old, improvement spending moderates for a few decades until another round of replacements and upgrades becomes necessary (Figure 16).

Rising Energy Prices

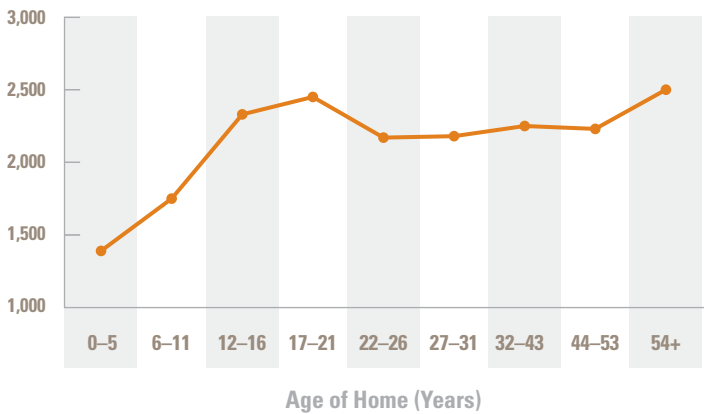
The more than doubling of oil and natural gas prices over the past decade has pushed home energy costs to an all-time high, even in inflation-adjusted terms. While prices have recently retreated somewhat from their latest peak, home

energy costs are unlikely to return to the relatively low levels of just a few years ago.

Owners of older homes are particularly vulnerable to rising energy costs. Homes built prior to the 1970s oil embargo are often much less energy-efficient than newer units. For example, homes built in the Northeast since 1990 use about 30 percent less energy per square foot on average than those constructed before 1970. Newer homes in the Midwest and South use an average of 20–25 percent less energy per square foot, while homes in the more temperate West use about 10 percent less (Figure 17).

Figure 16 *Spending on Improvements and Maintenance Increases as Homes Age*

Average annual spending per unit, 2000–05 (2005 dollars)

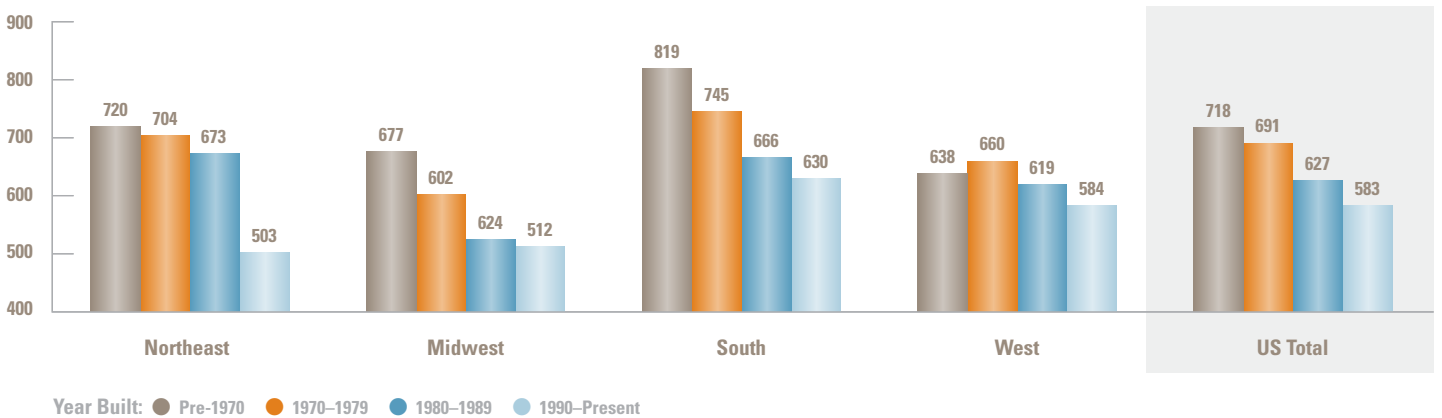


Source: JCHS tabulations of 2001, 2003, and 2005 AHS.

According to a recent Joint Center study, homeowners have been slow to respond to rising energy costs with retrofits, waiting instead until replacement is necessary to choose more energy-efficient products and systems. Nonetheless, owners of older homes are now making more efforts to conserve energy. In 2005, owners of homes built before 1970 spent over 17 percent of their total improvement budgets—an average of almost \$500—on projects that promote greater energy efficiency including HVAC system upgrades, added insulation, and siding, window and exterior door replacements. By comparison, owners of homes built since 1990 spent about 10 percent of their budgets, or less than \$200 on average, for these energy-efficient changes (Table A-11).

Figure 17 *Older Homes Are in Greater Need of Energy-Efficient Improvements*

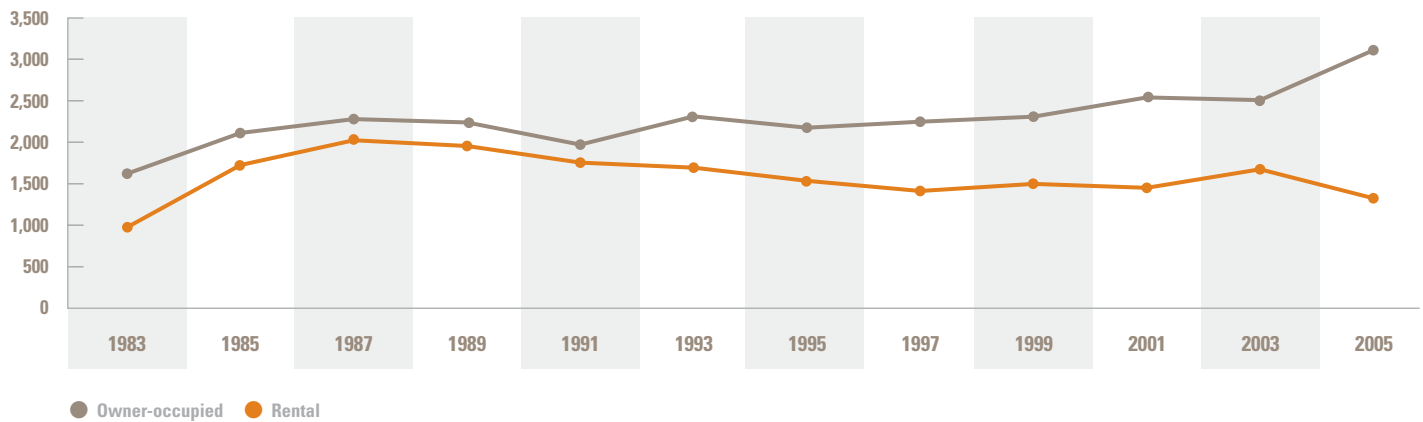
Annual energy consumption per 1,000 sq. ft., 2001 (Dollars)



Source: JCHS tabulations of the 2001 Residential Energy Consumption Survey.

Figure 18**Spending on Owner-Occupied and Rental Units Has Diverged Over the Past Decade**

Average annual expenditures per unit for improvements and maintenance (2005 dollars)



Note: Owner expenditures for 1983–1993 are JCHS estimates based on US Commerce Department and AHS data. Sources: Commerce Department c50 reports and JCHS tabulations of 1995–2005 AHS.

After two decades of rising costs, homeowners are now putting energy efficiency near the top of their remodeling concerns. In a 2006 national survey of residential architects, 54 percent of respondents reported that energy management systems were gaining popularity—up from 38 percent in 2005. The latest survey also revealed that products with higher energy-efficiency ratings have shown the fastest rise in popularity. Indeed, residential architects and remodeling contractors have noted a growing interest in sustainable (“green”) design features.

Rebound in Rental Demand

While spending on owner-occupied homes has accelerated in recent years, investment in rental properties has languished. In 2005, inflation-adjusted expenditures for improvements, maintenance, and repairs per rental unit averaged almost 35 percent below their late-1980s peak. By comparison, average spending on owner-occupied units increased by 36 percent over this same period (Figure 18).

Underinvestment in the rental stock reflects in part the 20-year climb in homeownership. Favorable mortgage rates, along with the aging of the baby boomers into the peak homeownership years, lifted the national homeownership rate from below 64 percent in the late 1980s to almost 69 percent in 2005. With the corresponding drop in rental demand,

property owners scaled back their investments in improvements and maintenance.

The recent pause in the housing market, however, has made renting more attractive. Now below 10 percent, the national rental vacancy rate has dropped about half a percentage point over the past two years. This tightening of the rental market is widespread, with most of the 51 major metropolitan areas tracked by MJPY Yieldstar, Inc. reporting lower vacancies in recent years (Figure 19).

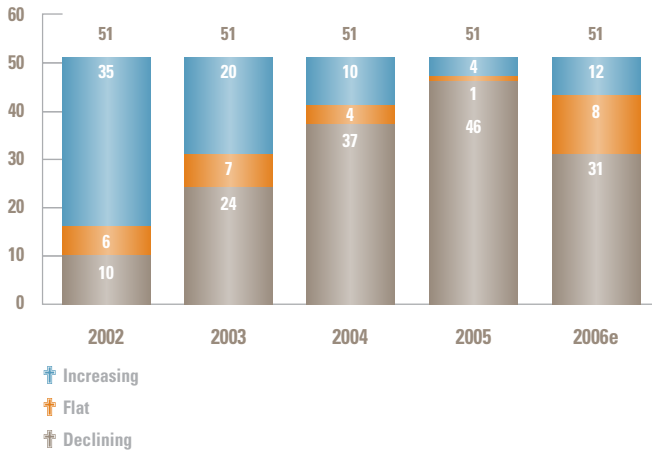
Growing demand for higher-end apartments is a key factor in the comeback of the rental market. The decline in vacancy rates has been particularly marked for units at the upper end. According to Commerce Department figures, national rates for units that rent for \$800 or more a month (fully a quarter of the country’s rental stock) retreated from 10.4 percent in 2004 to 9.3 percent in 2005, a significantly larger drop than in the overall vacancy rate.

Developers and investors are now rushing to meet the growing demand for high-end rentals. In recent years, typical rents for new units have been 30–40 percent higher than those for existing units. Indeed, recent Census Bureau estimates indicate that rental property owners have begun to increase their maintenance and repair expenditures, an activity that typically portends additional upgrading.

Figure 19

Rental Markets Have Been Tightening In Most Major Metropolitan Areas

Major metros by change in vacancy rates (Number)



Notes: Includes the 51 metros surveyed by Yieldstar each quarter over this period. Vacancy rates for 2002–2005 are measured fourth quarter to fourth quarter. Rates for 2006 are measured third quarter to third quarter. "Flat" is defined as an increase of 0.0–0.5 percentage point.
Source: M|PF Yieldstar, Inc.

With new higher-quality apartments coming on line, owners of existing rental properties must continue to improve their units to stay competitive. Indeed, government reports are already showing increases in maintenance and repair spending.

Concentration of Wealth

At any point in time, a relatively small number of high-income homeowners accounts for a large share of remodeling activity. Indeed, the average income of the top five percent of households spending the most on improvements was over \$125,000 in 2005, a 38 percent increase (in inflation-adjusted dollars) over the income of the top group in 1995.

The concentration of remodeling expenditures within a relatively small pool of homeowners reflects the broader trend toward the concentration of income and wealth. Over the past decade, the average income of the top 20 percent of households rose 15 percent in real terms while that for the bottom 20 percent increased only 0.4 percent.

Not surprisingly, wealth is even more concentrated within a few hands than income. Fueled in part by rapid home price appreciation, the average holdings of households in the top income quintile have grown almost three times faster than those of households in the bottom quintile. As a result, top-quintile households have more than 21 times the wealth of bottom-quintile households.

During the current pause in the overall housing sector, demand for upper-end homes is likely to cool at least until house prices settle. Similarly, upper-end home improvement projects will likely account for a smaller share of the remodeling market than in recent years. Nevertheless, given that the distribution of income and wealth is unlikely to change significantly any time soon, the concentration of home improvement spending at the high end will serve to bolster the remodeling market in the decade ahead.

Changes in Homeowner Characteristics

While high-income and high-wealth households will contribute significantly to spending growth between 2005 and 2015, three key (and often overlapping) homeowner groups—minorities, seniors, and nonfamilies—will reshape the mix of improvement demand over the coming decade.

With the ongoing strength of immigration, minorities are expected to achieve the greatest gains in homeownership over the next 10 years—and thus post the largest increase in share of homeowner growth. Meanwhile, the aging of the

baby-boom generation and the increasing longevity of the population mean that a growing share of homeowners will be age 65 and older (**Figure 20**).

Growth in the number of nonfamily households (single persons and unrelated individuals sharing living quarters) is also expected to be strong. Americans are marrying later in their life, if at all, increasing the number of younger single-person households. In addition, longer life expectancy for surviving spouses is adding to the number of older single-person households. At the same time, rising housing costs have encouraged many unrelated individuals to live together to reduce their expenses. Over the next decade, many of these nonfamily households will buy homes to take advantage of the financial benefits of ownership.

The rapidly rising population of senior, minority, and nonfamily homeowners will support sustained growth in spending on replacement projects. Senior and nonfamily households, in particular, tend to concentrate their home improvement spending on projects that enhance the condition and operation of the home rather than change the use of space.

These two groups, as well as minorities, typically favor professional installation and the B-I-Y market. These prefer-

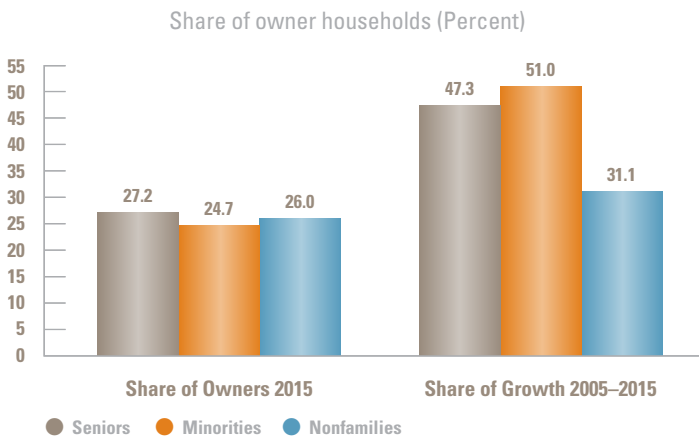
ences reflect both their focus on replacement projects (which frequently are installed by pro contractors) and their tendency to live in urban areas. Remodeling activity in metropolitan areas has a high pro share, probably because building codes are more complicated and more likely to be enforced than in nonmetro regions.

Implications for the Future

With two-thirds of the nation’s housing stock now at least a quarter-century old, the demand for repairs and replacements—particularly for energy-saving systems—is on the rise. After years of underinvestment, much of the rental inventory is also in need of upgrades.

While the high-end improvement market will continue to fuel spending in the remodeling sector, new sources of growth are emerging. The increasing numbers of minority, senior, and nonfamily owners will reinforce demand for replacements and system upgrades as well as professional installation. With a more diverse set of homeowners and rental property owners helping to propel market growth, remodeling activity will thus become more balanced over the coming decade.

Figure 20 Senior, Minority, and Nonfamily Households Will Account for Significant Shares of Projected Growth



Notes: Seniors are age 65 and older. Minorities include all races and ethnicities other than non-Hispanic whites. Nonfamily households are single individuals and unrelated persons living in the same home. Source: JCHS ten-year projections.

5

Outlook for Homeowner Improvement Spending



Over the coming decade, the rising number of US homeowners and increases in the levels of spending per household mean healthy overall gains in the home improvement market. The changing demographic characteristics of tomorrow's homeowners will, however, reshape the mix of projects most in demand.

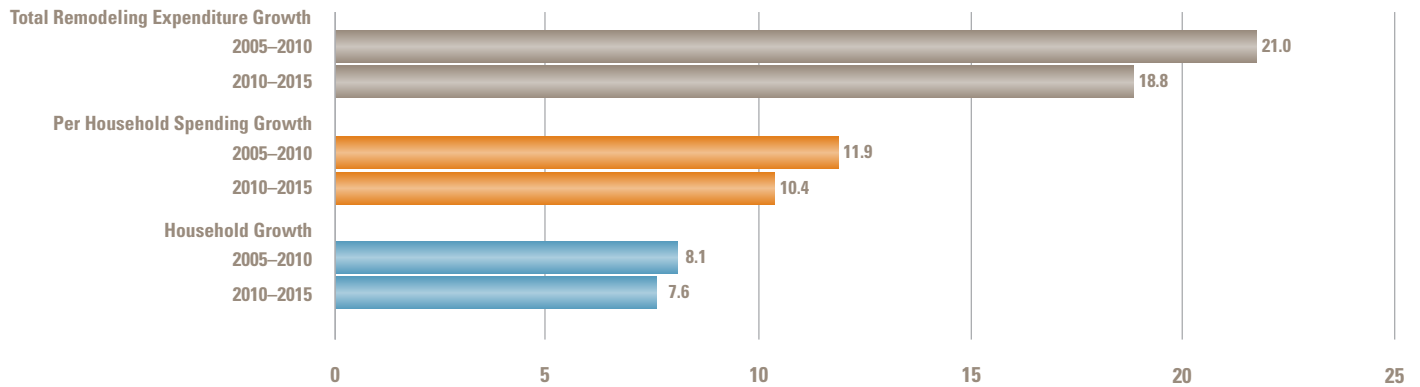
Strong Growth Ahead

Between 2005 and 2015, homeowner spending on remodeling projects is projected to increase at a 3.7 percent compound annual rate, generating 43.6 percent inflation-adjusted growth for the decade. Increases over the first five years are expected to outpace gains in the second five because a higher share of households will be in their peak spending years between 2005 and 2010 than between 2010 and 2015.

The favorable outlook for improvement spending reflects increases in both the number of homeowners and expenditures per household (**Figure 21**). According to Joint Center projections, the number of homeowners will rise by 16.2 percent between 2005 and 2015. This growth assumes an increase in the total number of households of about 15 million, and an increase in the national homeownership rate from 68 percent to 71 percent. Higher spending per household for improvements across all age and racial/ethnic groups will also contribute to growth, with average expenditures climbing from just over \$2,500 in 2005 to more than \$3,100 in 2015 (in 2005 dollars).

Much of the projected increase in per household spending is based on the fact that, in recent years, each generation of homeowners has outspent its predecessor at the same age. Compare, for example, the home improvement expenditures

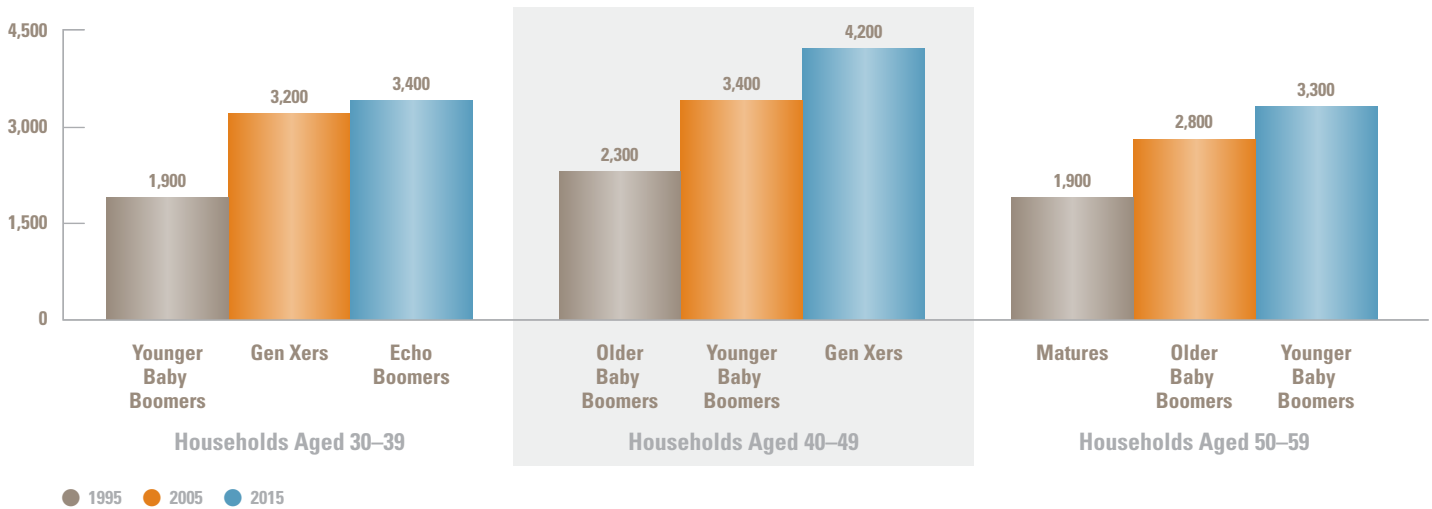
Figure 21 *Strong Household Growth and Increased Spending per Household Will Contribute to Future Gains*



Sources: JCHS tabulations of the 1995–2005 AHS and JCHS ten-year projections.

Figure 22 *Over Time, Each Generation Is Likely to Outspend Its Predecessor*

Average improvement spending per household (2005 dollars)



Notes: Generations are defined at ten-year intervals. In 2005, echo boomers are in their 20s, gen Xers are in their 30s, younger baby boomers are in their 40s, older baby boomers are in their 50s, and matures are in their 60s.
Sources: JCHS tabulations of the 1995–2005 AHS and JCHS ten-year projections.

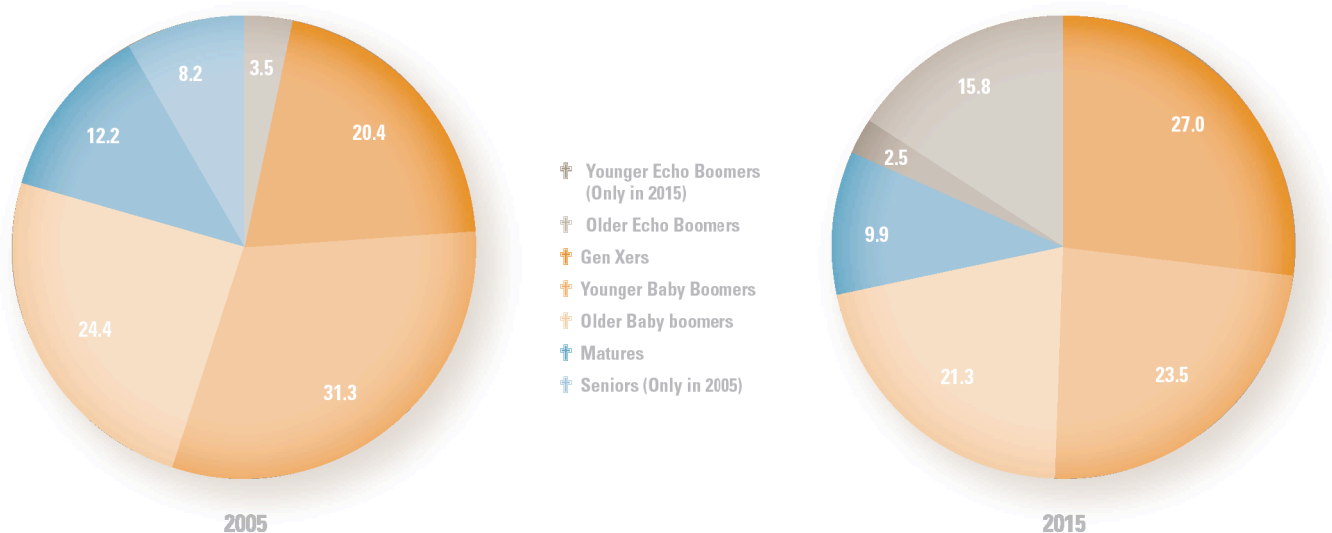
of gen Xers with those of younger baby boomers when each group was between the ages of 30 and 39 (Figure 22). In 1995, the younger baby boomers spent \$1,900 on average on home improvements. In 2005, members of generation X spent \$3,200 on average. In keeping with this trend, the echo boomers are projected to spend even more than gen Xers when they reach their 30s in 2015. This pattern of rising per-household expenditures holds true for all other generations as well.

Generational Spending Patterns

Households typically spend the most on improvement projects when they are between 35 and 45 years old, a time when they often have both the need and the income to remodel their homes. As each generation passes through these peak spending years, it becomes the leading source of demand. Over the coming decade, members of generation X will therefore be the prime force in the remodeling market, expanding their share

Figure 23**Gen Xers Are Joining Baby Boomers as the Key Markets for Remodeling**

Share of total homeowner spending (Percent)



Notes: Generations are defined at ten-year intervals. In 2005, echo boomers are in their 20s, gen Xers are in their 30s, younger baby boomers are in their 40s, older baby boomers are in their 50s, matures are in their 60s, and seniors are in their 70s.

Sources: JCHS tabulations of the 1995–2005 AHS and JCHS ten-year projections.

of homeowner spending from 20.4 percent in 2005 to 27.0 percent in 2015 (**Figure 23**). Indeed, gen Xers will account for the largest share of improvement spending of any generation by that year. Since they also have higher homeownership rates and higher average incomes than any preceding generation at comparable ages, they are likely to continue to outspend older age groups even beyond 2015.

Meanwhile, the baby boomers are expected to remain active participants in the remodeling market. While previous generations tended to significantly reduce their spending on home improvements once they moved beyond age 45, the baby boomers are already demonstrating a marked departure from this trend. The older baby boomers, who will be in their 60s over the coming decade, are thus expected to contribute over 21 percent of homeowner remodeling expenditures in 2015. By comparison, the “mature” generation (currently in their 60s) contributed only 12.2 percent of spending in 2005.

In part because of their sheer numbers and in part because of their home improvement preferences and buying behavior, the baby boomers have generated much of the growth in

upper-end remodeling projects. As the generation with the greatest wealth accumulation in history, the baby boomers are likely to continue to invest in their homes. In particular, as they become empty-nesters over the coming decade, they will have a new set of remodeling-related needs.

Given their age and prior preferences, baby boomers are also apt to choose professional installers for many of their projects. At the same time, though, members of this generation take an active interest in their home improvements. This interest, together with greater amounts of leisure time and better health, point to their increased participation in both the D-I-Y and B-I-Y markets.

Meanwhile, the number of homeowners above the age of 65 will grow by 32 percent over the next decade. Numerous studies show that an overwhelming majority of older households want to stay in their homes as they age rather than move in with their children or go to an adult-living facility. This preference, coupled with higher levels of wealth and the proliferation of financial options such as reverse mortgages allowing retirees to tap into their home equity, bodes well for the remodeling

industry. Households that are “aging in place” will likely become an increasingly important segment of the market.

While professional contractors will capture a large share of the work, the aging-in-place trend may also boost the D-I-Y market. With their desire to stay in their homes beyond retirement years, many young and healthy baby boomers are likely to make modifications to their homes to ensure their comfort and safety as they age. Given that they are starting earlier, much of this work may be done as D-I-Y and B-I-Y projects.

Homeowners at the other end of the age spectrum will also provide an important source of growth. The echo boom generation is almost as large as the postwar baby boom. By 2015, the echo boomers will be in their 30s and account for nearly 16 percent of improvement expenditures. Because they are expected to have somewhat lower rates of household formation and homeownership, members of this generation are likely to spend slightly less per household on home improvement than their generation X counterparts at the same age. But given their numbers and continued household formation

and homebuying behavior, the echo boomers should be a future source of strength for the remodeling sector—particularly for the D-I-Y market.

Changing Household Composition

Minority and nonfamily households will be the fastest-growing homeowner categories over the coming decade. The number of minority homeowners will increase by 40 percent in the next ten years while the number of nonfamily households (composed of single persons or unrelated persons) grows by 20 percent. Among family households, the number of minority homeowners is projected to increase by some 39 percent—more than four times the growth in white family homeowners. In addition, the number of nonfamily minority homeowners will rise by 45 percent, while the number of nonfamily white owners increases less than 15 percent.

With their growing presence in the homeowner market, these groups will be an important source of demand for the remodeling industry. In fact, minority homeowners are projected to

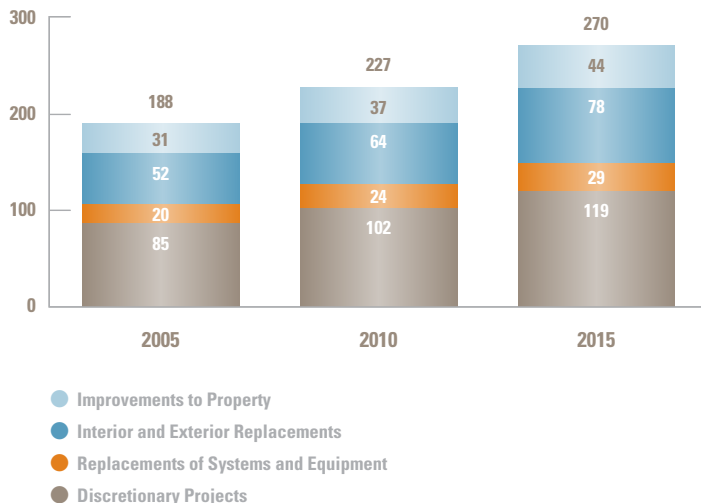
Figure 24 *Minorities Will Account for Almost a Quarter of Expenditures in 2015, But a Third of the Projected Growth over the Next Decade*

	Total Homeowners		Share of Total Spending		Share of Spending Growth 2005–2015 (Percent)
	2005 (Millions)	2015 (Millions)	2005 (Percent)	2015 (Percent)	
Minorities	15.1	21.3	18.4	22.9	33.1
Families	12.0	16.8	15.9	17.9	22.5
Nonfamilies	3.1	4.5	2.5	5.0	10.6
Whites	59.2	65.1	81.6	77.1	66.9
Families	43.6	47.2	68.5	65.0	57.2
Nonfamilies	15.6	17.9	13.1	12.1	9.7
Total	74.3	86.4	100.0	100.0	100.0

Notes: Minorities include all races and ethnicities other than non-Hispanic whites. Family households are all married couples and single parents. Nonfamily households are single individuals and unrelated persons living in the same home. Sources: JCHS tabulations of the 1995–2005 AHS and JCHS ten-year projections.

Figure 25 *Discretionary Projects Will Still Dominate as Overall Spending Grows*

Total homeowner improvement expenditures
(Millions of 2005 dollars)



Sources: JCHS tabulations of the 1995–2005 AHS and JCHS ten-year projections.

contribute nearly one-quarter of all improvement spending by 2015, up from 18.4 percent in 2005 (Figure 24). Ongoing immigration as well as growing shares of native-born minorities ensures that these households will expand their share of total expenditures. Average improvement spending per minority household has already increased significantly, rising from \$1,900 in 1995 to \$2,300 in 2005. This trajectory is expected to continue, with minority homeowners spending an average of \$2,900 per household by 2015.

With younger generations relatively slow to form households and overall divorce rates high, the share of single-person and nonfamily homeowners will also continue to rise. On average, nonfamily households spend less than family households on remodeling projects, and per-household spending by minorities has historically lagged that by whites. Nevertheless, these homeowners are projected to become a significant component of the remodeling market by 2015, with nonfamily minority household expenditures up by an astounding 187 percent and white nonfamily household expenditures by 32 percent.

Of course, there are far fewer nonfamily households than family households. As a result, while their share of growth in

the home improvement market is increasing, their impact on spending is more modest in absolute terms. By 2015, nonfamily homeowners will account for 17 percent of improvement spending and minority owners for 22 percent. White family homeowners will therefore still be responsible for the great majority of remodeling expenditures.

Industry Opportunities

In the short run, the homeowners and rental property owners who have underinvested in their units in recent years are prime candidates for renewed improvement spending. Over the longer run, fundamental economic and demographic forces are in place that should ensure sustained growth in all segments of the remodeling market.

Homeowner spending is expected to increase at a steady 3.7 percent compound annual rate over the coming decade. While unlikely to return to the overheated pace of 2000–2005, spending on high-end discretionary improvements will no doubt continue to lead overall growth. Indeed, expenditures on such projects as major kitchen and bath remodels are projected to make up 45 percent of homeowner expenditures (Figure 25). Meanwhile, spending on replacements of interior and exterior home components (including windows, doors, roofing, and flooring) will see above-trend growth. This category of projects is projected to grow by 50 percent, with replacements of systems not far behind at 48 percent.

With the population of older and minority homeowners growing rapidly, professional contractors are likely to capture a consistently large share of the remodeling market—particularly in the next five years. Over the entire decade, spending in the professional segment is expected to grow 46 percent while the D-I-Y segment increases at a solid 37 percent.

In absolute terms, the pro contractor share of the home improvement market should rise from \$143 billion in 2005 to \$209 billion in 2015 in inflation-adjusted dollars. At the same time, spending in the D-I-Y segment should increase from \$45 billion to nearly \$62 billion. As a result, the division of spending will stay essentially the same, with professional contractors still accounting for more than three-quarters of home improvement expenditures.

6

Appendix Tables



- Table A-1** Homeowner Improvement Expenditures: 1994–2005
- Table A-2** Professional and Do-It-Yourself Home Improvement Expenditures: 2005
- Table A-3** Total Improvement Expenditures by Homeowner Characteristics: 1995 and 2005
- Table A-4** Professional Improvement Expenditures by Homeowner Characteristics: 1995 and 2005
- Table A-5** Do-It-Yourself Improvement Expenditures by Homeowner Characteristics: 1995 and 2005
- Table A-6** Changes in Home Improvement Permit Values by Region and Metropolitan Area: 2003–2005
- Table A-7** Residential Construction and Remodeling Establishments: 2002
- Table A-8** Nonpayroll Residential Remodeling Contractors by Annual Receipts: 2002
- Table A-9** Remodeling Contractor Establishments with Payrolls: 1997 and 2002
- Table A-10** Energy Costs and Expenditures on Energy-Sensitive Remodeling Projects: 1994–2005
- Table A-11** Energy-Sensitive Home Improvements as Share of Remodeling Expenditures by Age of Home: 2005

Table A-1 Homeowner Improvement Expenditures: 1994–2005

	2005			Annual Averages, 1994–2005		
	Homeowners Reporting Projects (000s)	Average Expenditure (\$)	Total Expenditures (Millions of \$)	Homeowners Reporting Projects (000s)	Average Expenditure (2005 \$)	Total Expenditures (Millions of 2005 \$)
Kitchen Remodels						
Minor	1,391	2,329	3,240	1,431	2,226	3,186
Major	784	19,709	15,461	500	17,736	8,874
Bath Remodels						
Minor	1,547	1,161	1,795	1,621	1,102	1,787
Major	922	11,420	10,525	607	9,801	5,953
Room Additions and Alterations						
Kitchen	49	20,211	990	127	13,356	1,697
Bath	449	6,528	2,932	451	9,342	4,211
Bedroom	645	19,159	12,354	620	12,674	7,852
Other	1,458	15,439	22,515	1,377	10,036	13,822
Other Interior Improvements						
Add/Replace Deck/Porch	913	3,917	3,575	1,021	3,096	3,160
Disaster Repairs	803	12,498	10,038	650	9,594	6,233
Other	859	3,567	3,065	906	2,332	2,113
Replacements of Systems and Equipment						
Plumbing/Pipes	1,525	1,061	1,618	1,455	790	1,150
Electrical System	2,241	870	1,949	2,136	776	1,658
Plumbing Fixtures	3,683	656	2,414	2,955	570	1,685
HVAC	2,881	3,562	10,264	2,809	3,080	8,651
Appliances/Major Equipment	5,867	566	3,321	5,368	485	2,602
Interior and Exterior Replacements						
Roofing	3,472	4,604	15,985	3,081	3,860	11,895
Siding	1,211	5,106	6,185	1,169	4,750	5,554
Window/Door	4,249	2,391	10,160	4,096	1,903	7,797
Insulation	1,312	1,895	2,486	1,286	812	1,044
Flooring/Paneling/Ceiling	7,562	2,196	16,609	6,168	1,824	11,251
Improvements to Property						
Add/Replace Garage/Carport	201	9,343	1,880	209	7,926	1,654
Other	6,349	4,565	28,984	6,504	3,488	22,684
Total	20,742	9,080	188,345	19,583	6,971	136,512

Notes: Annual averages are adjusted for inflation. Numbers do not add to total because homeowners may report projects in more than one category. Household totals were estimated using American Housing Survey (AHS) and American Community Survey (ACS) data. Major remodels are defined as professional home improvements of more than \$10,000 for kitchen projects and more than \$5,000 for bath projects, and D-I-Y improvements of more than \$4,000 for kitchen projects and \$2,000 for bath projects. Job categories are aggregations of the detailed projects reported in the AHS. The average number of households between 1994 and 2005 was 69.1 million.

Source: JCHS tabulations of the 1995–2005 American Housing Survey (AHS).

Table A-2 Professional and Do-It-Yourself Home Improvement Expenditures: 2005

	Professional			Do-It-Yourself		
	Homeowners Reporting Projects (000s)	Average Expenditure (\$)	Total Expenditures (Millions of \$)	Homeowners Reporting Projects (000s)	Average Expenditure (\$)	Total Expenditures (Millions of \$)
Kitchen Remodels						
Minor	733	3,275	2,402	658	1,275	839
Major	395	26,916	10,632	389	12,398	4,828
Bath Remodels						
Minor	684	1,766	1,208	862	681	587
Major	445	16,383	7,294	476	6,782	3,232
Room Additions and Alterations						
Kitchen	35	19,404	682	14	22,260	308
Bath	248	8,430	2,088	205	4,114	844
Bedroom	281	35,245	9,920	370	6,572	2,434
Other	706	23,792	16,786	787	7,277	5,729
Other Interior Improvements						
Add/Replace Deck/Porch	408	6,008	2,449	511	2,205	1,126
Disaster Repairs	605	14,397	8,711	198	6,698	1,327
Other	581	3,915	2,274	348	2,275	791
Replacements of Systems and Equipment						
Plumbing/Pipes	836	1,462	1,222	689	574	396
Electrical System	1,354	1,144	1,549	888	451	400
Plumbing Fixtures	1,600	901	1,443	2,082	467	971
HVAC	2,439	3,605	8,791	506	2,909	1,473
Appliances/Major Equipment	3,594	657	2,363	2,488	385	959
Interior and Exterior Replacements						
Roofing	2,666	5,280	14,079	806	2,366	1,907
Siding	817	6,326	5,165	395	2,583	1,020
Window/Door	2,532	2,995	7,582	1,717	1,501	2,578
Insulation	592	2,361	1,398	720	1,513	1,089
Flooring/Paneling/Ceiling	4,647	2,660	12,363	3,477	1,221	4,245
Improvements to Property						
Add/Replace Garage/Carport	132	10,486	1,388	69	7,143	492
Other	3,713	5,822	21,616	3,041	2,423	7,368
Total	14,907	9,620	143,406	10,723	4,191	44,940

Notes: Numbers do not add to total because homeowners may report projects in more than one category. Household totals were estimated using American Housing Survey (AHS) and American Community Survey (ACS) data. Major remodels are defined as professional home improvements of more than \$10,000 for kitchen projects and more than \$5,000 for bath projects, and D-I-Y improvements of more than \$4,000 for kitchen projects and \$2,000 for bath projects. Job categories are aggregations of the detailed projects reported in the AHS.
Source: JCHS tabulations of 2005 AHS.

Table A-3 Total Improvement Expenditures by Homeowner Characteristics: 1995 and 2005

	2005			1995		
	No. of Homeowners (000s)	Homeowners Reporting Projects (000s)	Total Expenditures (Millions of \$)	No. of Homeowners (000s)	Homeowners Reporting Projects (000s)	Total Expenditures (Millions of 2005 \$)
Total	74,293	20,742	188,345	63,544	18,890	108,884
Income (2005 dollars)						
Under \$40,000	26,315	6,242	38,425	25,883	6,769	26,197
\$40–79,999	24,894	7,209	49,069	20,483	6,467	35,288
\$80–119,999	13,043	4,047	41,234	9,602	3,184	21,527
\$120,000 and Over	10,010	3,236	59,605	7,496	2,449	25,797
Home Value (2005 dollars)						
Under \$100,000	21,581	5,543	27,223	26,100	7,589	28,079
\$100–149,999	12,339	3,418	18,386	14,452	4,394	22,052
\$150–199,999	9,657	2,800	17,579	9,597	2,912	19,132
\$200–249,999	6,611	1,929	15,791	4,763	1,428	11,169
\$250–399,999	11,698	3,434	31,368	5,917	1,811	18,379
\$400,000 and Over	12,406	3,617	77,999	2,715	755	10,072
Age of Household Head						
Under 35	9,621	2,778	19,369	9,561	3,028	14,000
35–44	15,339	4,577	51,763	14,746	4,726	32,077
45–54	17,631	5,201	58,104	13,446	4,247	29,365
55–64	13,962	3,935	34,816	9,492	2,821	15,294
65 and Over	17,740	4,251	24,294	16,299	4,068	18,148
Generation						
Echo Boom (Born 1975 and later)	5,398	1,518	8,895	78	20	36
Generation X (Born 1965–74)	12,769	3,798	42,208	4,435	1,367	5,555
Younger Baby Boom (Born 1955–64)	17,659	5,212	56,939	13,716	4,450	26,643
Older Baby Boom (Born 1945–54)	15,779	4,590	45,000	14,629	4,665	33,122
Matures (Born 1935–44)	10,822	2,892	21,482	10,644	3,198	20,257
Seniors (Born before 1935)	11,865	2,732	13,820	20,041	5,190	23,271
Race/Ethnicity						
White	59,159	16,757	153,758	53,627	16,209	95,399
Black	5,953	1,447	13,164	5,033	1,343	6,071
Hispanic	5,651	1,610	10,606	3,245	914	4,605
Asian and Other	3,530	927	10,817	1,639	424	2,808
Spending Level (2005 dollars)						
\$0	53,551			44,654		
\$1–2,499	9,711	9,711	8,486	9,299	9,299	8,869
\$2,500–4,999	3,727	3,727	13,028	3,822	3,822	13,572
\$5,000–9,999	3,360	3,360	23,250	2,992	2,992	20,848
\$10,000–19,999	2,072	2,072	28,273	1,748	1,748	24,127
\$20,000–34,999	967	967	24,999	625	625	16,214
\$35,000–49,999	350	350	14,308	170	170	7,054
\$50,000 and Over	554	554	76,001	234	234	18,200

Notes: Income data exclude households not reporting income. Expenditures for 1995 are adjusted for inflation.
Source: JCHS tabulations of 1995 and 2005 AHS.

Table A-4 Professional Improvement Expenditures by Homeowner Characteristics: 1995 and 2005

	2005			1995		
	No. of Homeowners (000s)	Homeowners Reporting Projects (000s)	Total Expenditures (Millions of \$)	No. of Homeowners (000s)	Homeowners Reporting Projects (000s)	Total Expenditures (Millions of 2005 \$)
Total	74,293	14,907	143,406	63,544	13,660	82,951
Income (2005 dollars)						
Under \$40,000	26,315	4,418	29,755	25,883	4,987	20,652
\$40–79,999	24,894	4,890	36,404	20,483	4,387	25,032
\$80–119,999	13,043	2,964	30,777	9,602	2,311	15,627
\$120,000 and Over	10,010	2,629	46,460	7,496	1,958	21,577
Home Value (2005 dollars)						
Under \$100,000	21,581	3,517	19,890	26,100	5,150	20,040
\$100–149,999	12,339	2,378	13,542	14,452	3,154	16,104
\$150–199,999	9,657	2,013	12,438	9,597	2,141	13,906
\$200–249,999	6,611	1,427	11,995	4,763	1,090	8,533
\$250–399,999	11,698	2,614	23,151	5,917	1,475	15,387
\$400,000 and Over	12,406	2,957	62,390	2,715	650	8,980
Age of Household Head						
Under 35	9,621	1,697	12,876	9,561	1,785	8,380
35–44	15,339	3,132	39,177	14,746	3,153	23,335
45–54	17,631	3,667	42,660	13,446	3,063	22,517
55–64	13,962	2,963	27,874	9,492	2,204	12,250
65 and Over	17,740	3,448	20,819	16,299	3,455	16,469
Generation						
Echo Boom (Born 1975 and later)	5,398	914	5,445	78	6	19
Generation X (Born 1965–74)	12,769	2,591	32,210	4,435	793	3,190
Younger Baby Boom (Born 1955–64)	17,659	3,519	40,968	13,716	2,810	17,910
Older Baby Boom (Born 1945–54)	15,779	3,388	35,324	14,629	3,322	25,488
Matures (Born 1935–44)	10,822	2,218	17,521	10,644	2,392	15,627
Seniors (Born before 1935)	11,865	2,277	11,938	20,041	4,338	20,717
Race/Ethnicity						
White	59,159	12,055	117,457	53,627	11,728	72,606
Black	5,953	1,131	11,437	5,033	1,057	5,019
Hispanic	5,651	1,058	7,622	3,245	559	3,105
Asian and Other	3,530	663	6,889	1,639	315	2,222
Spending Level (2005 dollars)						
\$0	59,386			49,884		
\$1–2,499	5,540	5,540	4,860	5,281	5,281	5,259
\$2,500–4,999	2,952	2,952	9,134	3,183	3,183	9,837
\$5,000–9,999	2,881	2,881	17,074	2,641	2,641	15,583
\$10,000–19,999	1,812	1,812	21,075	1,594	1,594	18,497
\$20,000–34,999	888	888	19,707	571	571	12,482
\$35,000–49,999	333	333	11,671	160	160	5,763
\$50,000 and Over	500	500	59,884	230	230	15,529

Notes: Income data exclude households not reporting income. Expenditures for 1995 are adjusted for inflation. Source: JCHS tabulations of 1995 and 2005 AHS.

Table A-5 Do-It-Yourself Improvement Expenditures by Homeowner Characteristics: 1995 and 2005

	2005			1995		
	No. of Homeowners (000s)	Homeowners Reporting Projects (000s)	Total Expenditures (Millions of \$)	No. of Homeowners (000s)	Homeowners Reporting Projects (000s)	Total Expenditures (Millions 2005 \$)
Total	74,293	10,723	44,940	63,544	10,310	25,933
Income (2005 dollars)						
Under \$40,000	26,315	2,905	8,671	25,883	3,153	5,545
\$40–79,999	24,894	4,136	12,665	20,483	4,025	10,255
\$80–119,999	13,043	2,215	10,457	9,602	1,946	5,900
\$120,000 and Over	10,010	1,463	13,145	7,496	1,176	4,220
Home Value (2005 dollars)						
Under \$100,000	21,581	3,156	7,333	26,100	4,358	8,038
\$100–149,999	12,339	1,877	4,844	14,452	2,485	5,948
\$150–199,999	9,657	1,513	5,141	9,597	1,608	5,226
\$200–249,999	6,611	979	3,796	4,763	746	2,636
\$250–399,999	11,698	1,720	8,218	5,917	842	2,993
\$400,000 and Over	12,406	1,477	15,608	2,715	271	1,092
Age of Household Head						
Under 35	9,621	1,905	6,492	9,561	2,268	5,619
35–44	15,339	2,736	12,586	14,746	3,084	8,743
45–54	17,631	2,839	15,443	13,446	2,420	6,848
55–64	13,962	1,839	6,942	9,492	1,327	3,044
65 and Over	17,740	1,404	3,475	16,299	1,212	1,679
Generation						
Echo Boom (Born 1975 and later)	5,398	1,044	3,450	78	16	17
Generation X (Born 1965–74)	12,769	2,370	9,999	4,435	1,025	2,365
Younger Baby Boom (Born 1955–64)	17,659	3,030	15,971	13,716	3,134	8,733
Older Baby Boom (Born 1945–54)	15,779	2,272	9,676	14,629	2,747	7,634
Matures (Born 1935–44)	10,822	1,232	3,962	10,644	1,676	4,630
Seniors (Born before 1935)	11,865	776	1,883	20,041	1,711	2,554
Race/Ethnicity						
White	59,159	8,758	36,301	53,627	8,894	22,793
Black	5,953	578	1,727	5,033	601	1,053
Hispanic	5,651	938	2,983	3,245	604	1,501
Asian and Other	3,530	449	3,928	1,639	211	587
Spending Level (2005 dollars)						
\$0	63,570			53,234		
\$1–2,499	5,414	5,414	3,626	5,313	5,313	3,610
\$2,500–4,999	1,772	1,772	3,894	1,885	1,885	3,735
\$5,000–9,999	1,638	1,638	6,177	1,615	1,615	5,265
\$10,000–19,999	1,036	1,036	7,198	949	949	5,630
\$20,000–34,999	468	468	5,292	357	357	3,732
\$35,000–49,999	154	154	2,636	79	79	1,291
\$50,000 and Over	241	241	16,117	111	111	2,671

Notes: Income data exclude households not reporting income. Expenditures for 1995 are adjusted for inflation. Source: JCHS tabulations of 1995 and 2005 AHS.

Table A-6

Changes in Home Improvement Permit Values by Region and Metropolitan Area: 2003–2005

	Percent Change in Permit Values				Percent Change in Permit Values		
	2004–05	2003–04	2003–05		2004–05	2003–04	2003–05
Northeast Region					9.6	13.9	24.9
Allentown, PA	36.4	17.6	60.5	Hartford, CT	7.6	16.2	25.1
Worcester, MA	21.8	2.7	25.0	Bridgeport, CT	7.4	2.0	9.5
New York, NY	18.5	16.6	38.2	Harrisburg, PA	6.2	6.3	12.8
Syracuse, NY	16.0	26.5	46.8	Rochester, NY	4.5	-2.6	1.8
Pittsburgh, PA	15.7	-18.4	-5.7	New Haven, CT	3.9	2.5	6.4
Lancaster, PA	15.6	18.1	36.6	Springfield, MA	3.9	6.4	10.6
Scranton, PA	13.6	7.5	22.1	Poughkeepsie, NY	2.8	16.6	19.9
Buffalo, NY	12.2	-18.3	-8.3	Portland, ME	-2.3	23.7	20.8
Philadelphia, PA	12.2	12.8	26.6	Providence, RI	-2.6	29.9	26.5
Boston, MA	8.3	18.7	28.6	Albany, NY	-17.0	34.6	11.7
Midwest Region					2.1	2.9	5.1
Madison, WI	21.8	1.2	23.3	Omaha, NE	0.9	12.8	13.8
Toledo, OH	17.1	-18.7	-4.8	Des Moines, IA	0.4	18.3	18.8
St. Louis, MO	15.6	9.2	26.3	Cleveland, OH	0.0	7.7	7.7
Indianapolis, IN	14.8	18.8	36.3	Grand Rapids, MI	-2.9	16.3	12.9
Chicago, IL	11.2	6.2	18.1	Dayton, OH	-3.2	7.8	4.3
Minneapolis, MN	8.9	-2.6	6.0	Youngstown, OH	-4.0	3.8	-0.3
Akron, OH	7.6	19.4	28.4	Wichita, KS	-4.0	16.7	12.0
Columbus, OH	5.8	22.0	29.1	Flint, MI	-8.5	15.1	5.3
Cincinnati, OH	2.5	12.2	14.9	Detroit, MI	-12.0	-1.3	-13.1
Lansing, MI	1.6	-5.3	-3.8	Kansas City, MO	-12.0	2.0	-10.3
Milwaukee, WI	1.2	11.2	12.5				
West Region					8.9	16.8	27.2
Phoenix, AZ	32.6	74.0	130.7	San Diego, CA	8.8	10.4	20.1
Boise City, ID	16.8	-12.7	2.0	Salt Lake City, UT	8.6	19.8	30.1
Oxnard, CA	14.1	19.4	36.2	Stockton, CA	7.3	17.9	26.6
Portland, OR	13.9	13.9	29.7	Los Angeles, CA	6.6	13.6	21.1
San Francisco, CA	13.6	13.1	28.4	Tucson, AZ	4.5	21.3	26.8
Honolulu, HI	13.5	14.3	29.7	Colorado Springs, CO	1.1	34.5	36.0
Riverside, CA	13.1	27.5	44.2	San Jose, CA	-6.1	30.5	22.5
Sacramento, CA	12.6	30.7	47.2	Santa Rosa, CA	-7.0	37.6	28.0
Seattle, WA	11.1	-2.2	8.7	Denver, CO	-17.7	23.8	1.9
Albuquerque, NM	10.6	38.9	53.6	Las Vegas, NV	-36.7	17.1	-25.9
South Region					21.5	13.9	38.4
Cape Coral, FL	121.6	-68.2	-29.5	Winston-Salem, NC	17.4	62.7	91.0
New Orleans, LA	97.1	8.1	113.0	Charleston, SC	15.5	19.7	38.2
Palm Bay, FL	80.9	21.2	119.2	Durham, NC	13.0	-35.5	-27.1
Memphis, TN	64.4	-33.3	9.7	Nashville, TN	11.0	11.7	24.0
Louisville, KY	63.3	15.5	88.6	Houston, TX	9.2	-9.0	-0.6
Daytona Beach, FL	58.7	17.6	86.7	Columbia, SC	7.7	-0.6	7.1
Augusta, GA	46.9	14.1	67.6	McAllen, TX	4.8	-13.3	-9.1
Miami, FL	39.5	23.3	72.0	Dallas, TX	1.7	-5.9	-4.3
Lakeland, FL	33.3	14.9	53.1	Raleigh, NC	-2.6	0.5	-2.1
Birmingham, AL	32.4	6.4	40.9	San Antonio, TX	-2.7	-4.7	-7.2
Jacksonville, FL	30.5	27.6	66.5	Greensboro, NC	-6.1	2.1	-4.1
Richmond, VA	29.8	14.1	48.1	Baton Rouge, LA	-9.0	-29.1	-35.4
Virginia Beach, VA	28.2	18.0	51.3	Greenville, SC	-9.6	2.9	-7.0
Tampa, FL	26.7	5.6	33.9	Chattanooga, TN	-11.5	3.0	-8.8
Oklahoma City, OK	23.6	-10.5	10.7	Sarasota, FL	-11.7	-13.1	-23.3
Austin, TX	21.7	6.9	30.0	Atlanta, GA	-12.0	12.2	-1.3
Orlando, FL	21.6	48.4	80.4	Knoxville, TN	-12.2	28.7	13.0
Baltimore, MD	20.9	11.8	35.2	Jackson, MS	-12.2	23.4	8.4
Washington, DC	20.7	21.0	46.1	Charlotte, NC	-35.4	29.5	-16.4
Tulsa, OK	20.0	11.4	33.6				
US Total					11.0	12.1	24.4

Notes: Metropolitan areas are top 100 in terms of annual July 1 estimates of household count in 2005. Geography based on 2005 Office of Management and Budget definitions of metropolitan and micropolitan statistical areas in terms of Core-Based Statistical Areas. Regional totals include data from non-metropolitan areas. Permit values were edited at the place level for extreme outliers in the top 100 only, and some CBSA were removed completely from the analysis due to poor reporting, including the following four CBSA in the top 100: Fresno, CA; Little Rock, AR; Bakersfield, CA and El Paso, TX.

Source: JCHS tabulations of the US Census Bureau's "Residential Building Permits Survey: Additions, Alterations and Renovations Place Level Files."

Table A-7 Residential Construction and Remodeling Establishments: 2002

	All Residential and Nonresidential Establishments	Residential Establishments		Residential Establishments with Remodeling Receipts			Residential Remodeling Establishments		
	Number (000s)	Number (000s)	Value of Total Receipts (Millions of \$)	Number (000s)	Value of Total Receipts (Millions of \$)	Value of Remodeling Receipts (Millions of \$)	Number With More than 50% Remodeling Receipts (000s)	Value of Total Receipts (Millions of \$)	Value of Remodeling Receipts (Millions of \$)
General Building Contractors	211.8	171.7	262,855	136.3	108,616	49,618	82.7	45,026	42,191
Special Trade Contractors	448.6	266.5	168,848	213.9	120,549	54,828	117.2	52,925	41,294
Concrete and Structural Steel	31.5	16.6	16,114	11.0	8,212	2,314	3.6	1,551	1,149
Framing	14.4	13.1	12,718	6.3	4,377	1,244	2.2	842	689
Masonry	25.8	18.8	8,738	12.5	5,128	1,648	4.0	1,173	896
Building Exterior, Glazing and Foundation	8.1	3.3	1,873	2.9	1,576	657	1.9	723	514
Roofing	23.2	16.5	10,779	15.6	9,807	5,946	11.2	6,490	5,126
Siding	6.7	6.2	3,479	5.4	3,059	1,840	3.1	1,706	1,531
Plumbing, HVAC and Electrical	156.9	85.6	59,591	77.6	50,302	23,763	44.4	23,885	18,208
Drywall/Insulation	19.6	12.5	14,200	8.8	9,554	2,550	2.3	1,871	1,231
Painting	39.0	29.4	8,267	25.2	6,446	3,864	16.6	3,841	3,262
Flooring, Tile and Other Finishing	25.6	19.0	10,289	16.1	8,272	3,894	9.7	4,213	3,087
Finish Carpentry	35.1	29.2	12,268	23.2	9,316	5,577	15.1	5,397	4,710
Site Prep and Other	62.7	16.3	10,532	9.3	4,499	1,530	3.0	1,234	892

Note: Includes only establishments that reported revenue.
Source: Unpublished tabulations of the 2002 Census of Construction.

Table A-8

Nonpayroll Residential Remodeling Contractors by Annual Receipts: 2002

	\$25–49,999	\$50–99,999	\$100–199,999	\$200–299,999	Over \$300,000	Total
General Building Contractors	48,235	35,106	22,705	8,753	12,417	127,216
Special Trade Contractors	95,156	63,638	31,553	6,812	5,715	202,873
Concrete and Structural Steel	1,389	856	444	81	104	2,874
Framing	876	1,973	672	147	226	3,895
Masonry	2,072	1,683	975	183	159	5,072
Building Exterior, Glazing and Foundation	536	1,018	645	132	68	2,400
Roofing	4,490	3,654	2,502	862	808	12,315
Siding	4,652	2,057	1,292	362	354	8,716
Plumbing, HVAC and Electrical	15,011	13,288	7,715	1,492	997	38,503
Drywall and Insulation	1,776	1,978	692	255	175	4,875
Painting	25,441	12,960	4,381	734	571	44,087
Flooring, Tile and Other						
Finishing	16,811	10,086	5,089	1,120	843	33,950
Finish Carpentry	18,459	11,179	5,186	1,056	940	36,820
Site Prep and Other	3,643	2,907	1,959	388	469	9,366
Total	143,391	98,744	54,258	15,564	18,132	330,089

Notes: The Census of Construction does not report on nonpayroll residential remodeling businesses. JCHS estimates assume that the distribution of remodeling receipts for nonpayroll businesses is comparable to that for payroll establishments in the same revenue category. The remodeling share of total receipts for payroll establishments was calculated and these shares were applied to nonpayroll businesses within each of the revenue categories to estimate the number of nonpayroll remodeling businesses. The total of 330,000 was calculated by eliminating the 383,000 nonpayroll remodelers who reported less than \$25,000 in gross receipts in 2002. This procedure provides a conservative estimate of the number of businesses concentrating their activities in residential remodeling.

Sources: Unpublished tabulations of the US Census Bureau's 2002 Nonpayroll Statistics and 2002 Census of Construction.

Table A-9 Remodeling Contractor Establishments with Payrolls: 1997 and 2002

	2002	1997	Percent Change (1997–2002)
General Building Contractors	82,851	62,405	32.8
Special Trade Contractors	117,197	108,881	7.6
Plumbing, Heating, and HVAC	32,671	32,030 ¹	2.0
Painting	16,611	16,766	-0.9
Electrical Work	11,412 ²	11,485	-0.6
Masonry, Stone Work, Tile Setting, and Plastering	9,059	6,612	37.0
Carpentry and Floor Work	23,288	18,298	27.3
Roofing and Siding	14,384	15,142 ³	-5.0
Concrete Work	3,495	1,992 ⁴	75.5
Miscellaneous	6,277	6,556 ⁵	-4.3

Notes: Industry classifications for the construction sector were significantly revised in 2002, resulting in the following changes:

1. Includes environmental controls installation contractors and septic tank, cesspool, and dry well contractors.
2. Includes environmental controls installation contractors.
3. Includes metal ceiling, panel, and shelving installation.
4. Includes asphalt, brick and concrete paving.
5. Includes indoor swimming pool contractors and anchored earth retention contractors.

Sources: 1997 and 2002 Census of Construction.

Table A-10**Energy Costs and Expenditures on Energy-Sensitive Remodeling Projects: 1994–2005**

Year	Average Price of Residential Natural Gas (\$ per 1,000 cu. ft.)	Average Price of Residential Electricity (Cents per kilowatt hour)	Average Price of Domestic and Imported Crude Oil (\$ per gallon)	Total Expenditure on Energy-Sensitive Remodeling Projects (Billions of \$)	Share of Spending on Energy-Sensitive Remodeling Projects (%)
1994	6.41	8.38	0.37	14.5	16.0
1995	6.06	8.40	0.41	14.6	17.4
1996	6.34	8.36	0.49	16.8	18.9
1997	6.94	8.43	0.45	16.4	17.5
1998	6.82	8.26	0.30	16.9	17.0
1999	6.69	8.16	0.42	16.7	16.8
2000	7.76	8.24	0.67	15.5	14.8
2001	9.63	8.63	0.55	16.5	15.0
2002	7.89	8.46	0.57	15.4	12.6
2003	9.63	8.70	0.68	15.5	13.0
2004	10.75	8.97	0.88	21.5	15.0
2005	12.82	9.42	1.20	23.0	13.9

Source: Becky Russell, "The Relationship Between Home Energy Costs And Energy-Related Remodeling Activity," JCHS Research Note N06-2, 2006.

Table A-11**Energy-Sensitive Improvements As Share of Remodeling Expenditures by Age Of Home: 2005**

Year House Built	Average per Household Expenditures on All Remodeling (\$)	Energy-Sensitive Share of Remodeling Expenditures (%)
1990–2005	1,986	10.0
1980–1989	2,650	15.6
1970–1979	2,603	15.4
Pre-1970	2,782	17.6
All	2,535	15.4

Source: Russell, JCHS Research Note N06-2.

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