

**Joint Center for Housing Studies  
Harvard University**

**A Long-Term Outlook for Homeowner Remodeling Activity:  
Results and Implications  
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## **Introduction**

In recent years, the home remodeling market in the United States has enjoyed solid growth. Spending on residential improvements and repairs has climbed steadily, setting a new record of \$280 billion in expenditures in 2005.<sup>1</sup> Building on previous work<sup>2</sup> done regarding demographic drivers to the remodeling industry, the Joint Center for Housing Studies developed a ten-year projection of homeowner remodeling activity. The Joint Center maintains a ten-year panel database of the American Housing Survey with extensive remodeling data which is used as the basis for this projection. Using a cohort-component method of projection, we forecast inflation-adjusted remodeling spending for all owner households. With age, race/ethnic, and family composition as the main parameters, the projection produces detail on total home improvement activity, installation type, and project detail from 2005 - 2015.

Between 2005 and 2015, homeowner spending on remodeling projects is projected to increase at a 3.7 percent inflation-adjusted compound annual rate, generating 43.6 percent inflation-adjusted growth for the decade. The share of the home improvement activity done by professional contractors should rise by 45.7 percent by 2015, while spending in the do-it-yourself segment (DIY) should increase by 37.0 percent for the same time period. Higher spending per owner household for improvements across most 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 inflation-adjusted dollars (see Appendix 2).

## **Projection Theory and Methodology: Cohort-Component Method**

The basic premise of the cohort-component methodology relies on two concepts: the first is the number of households and the composition of these households will be different in the future. This means not only will the total number of homeowner households be different in the future, but the shares of different age and demographic groups will also change. The second concept is that there will be a change in the average per household spending across all groups across time. This means that, for example, 20 - 25 year olds in 2015 will have different average expenditures than 20 - 25 year olds in 1995 or 2005, even if the characteristics of these households has not changed. The cohort-component methodology independently projects

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<sup>1</sup> Joint Center tabulations of the American Housing Survey, 2005.

<sup>2</sup> See Joint Center for Housing Studies, "Foundations for Future Growth in the Remodeling Industry," 2007, and Bendimerad, "Understanding Generational Differences in Home Remodeling Behavior," 2005.

spending for each of these cohorts by extrapolating each cohort's historical spending trends. The aggregate of these cohorts' projected spending creates total projected remodeling spending. With these two concepts in place, we created a remodeling forecast of all owner households through 2015. This forecast projects spending by five-year age groups, by racial/ethnic categories of minority or non-Hispanic whites, and by family or non-family households (see Appendix 2).

To create the projection, we first split all owner households in 2005 into cohorts based on five year age groups, minority or non-minority (non-Hispanic whites), and family or non-family. This creates a grouping of all of our cohorts resulting in a three way matrix for all owner households by age, minority status, and family type. As the second part of the projection, we calculate the historical change in spending across these cohorts, so that we can extrapolate this change in spending through 2015. To do so, we calculated the change in expenditure for each cohort between 1995 and 2000<sup>3</sup> as a ratio and applied this ratio to current spending in 2005 for each corresponding cohort. This new average expenditure was then multiplied by the number of projected owner households for each cohort in 2015 (see Appendix 1) to get the total remodeling spending for that cohort. The sum of all remodeling spending for each cohort is thus the total remodeling spending across all owner households for 2015.

**For each cohort,  $x_1 \dots x_n$ :**

$R_n$  = Average Per Household Spending, 2000 / Average Per Household Spending, 1995

$S_n$  = Average Household Expenditure, 2005

$H_n$  = Projected Number of Households in each cohort for 2015

$\text{Total Remodeling Expenditure for 2015} = \sum (S_n * R_n) * H_n \text{ for cohorts } x_1 \dots x_n.$
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Projected total remodeling expenditure, therefore, is a function of the change in average per household spending ( $S_n * R_n$ ), and the change in the total number of households in every and all cohorts ( $H_n$ ).

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<sup>3</sup> Detailed remodeling data is available in the American Housing Survey from 1995 - 2005. However, the time period from 2000 - 2005 was a time of exceptionally high growth in the industry based on a very specific set of economic factors not likely to repeat themselves in the coming decade. For that reason, we use the period from 1995 - 2000 as the historical basis used to extrapolate future spending.

## **Changes in the Number of Households and the Composition of Cohorts**

### **Growing Number of Households and Increased Homeownership Rate**

The outlook for homeowner improvement spending is in part a reflection of the increase in the total number of owner households, which is a function of both an increase in the total number of households and the rise in national homeownership rate. According to Joint Center projections, the number of households will increase by about 15 million by 2015, of which approximately 12.1 million will be owner households. This means that the number of homeowners will rise from 74.2 million to 86.3 million between 2005 and 2015. This national homeownership rate has been growing steadily, and continued favorable housing market conditions, in the long-term, should push the homeownership rate up to 71 percent from its 2005 level of 68.9 percent.<sup>4</sup> As each owner household contributes to total remodeling spending, an increase in the number of owners by 2015 will translate to higher levels of aggregate spending.

### **The Changing Composition of Households: Age, Race, Family Type**

Home improvement activity is driven in part by age-related spending. Typically, average expenditures per household increase steadily through peak spending years, which are between the ages of 35 - 45. After that, remodeling decreases slowly as household heads reach their 50s, before dropping off more significantly as they reach 60s and 70s. Moreover, the method of installation also shifts with age. Younger households devote a larger share of total spending to DIY projects while older households spend an increasingly higher share on professionally contracted work.

Over the coming decade, there are some major projected shifts in the age composition that will help shape demand in home improvement activity. As the population continues to age, Baby Boomers will move past the traditional peak years of remodeling, and there will continue to be higher shares of Seniors among owner households. On the younger end, members of Generation X<sup>5</sup> will continue household formation, followed closely by the younger Echo Boomers, a group that is nearly as large in size as the Baby Boomers. Therefore, the changing

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<sup>4</sup> U.S. Census Bureau, Housing Vacancy Survey.

<sup>5</sup> For this analysis, generations are defined at ten-year intervals which roughly coincide with standard generational definitions. In 2005, Leading Echo Boomers are in their 20s, Generation X are in their 30s, Trailing Baby Boomers are in their 40s, Leading Baby Boomers are in their 50s, Matures are in their 60s, and Seniors are in their 70s.

age structure going forward will not only affect total remodeling activity, but also the mix of projects and installation type.

Moreover, the changing structure of the composition of owners, both in terms of racial/ethnic composition and in terms of family composition will impact future demand and activity in the home improvement sector. Historically, the mainstay of the remodeling industry has been spending by non-Hispanic white families. However, the number of minority<sup>6</sup> owner households is projected to increase by 40.6 percent by 2015, dwarfing the growth of non-Hispanic white owners, which is projected to grow at just under 10 percent in the same time period. Meanwhile, the number of non-family<sup>7</sup> owners is expected to increase by 20 percent, while family households will increase by 14 percent. Because of their size in absolute numbers, non-Hispanic white families will continue to contribute the greatest share of total remodeling activity; however, the growth in minorities and non-traditional households will be making larger contributions to the remodeling market in the years to come.

### **Changes in Spending Across Cohorts**

An essential part of the cohort-component projection is tracking the change in spending across cohorts. In this exercise, cohorts are defined by combinations of age, race/ethnicity, and family type. While remodeling spending is in part a function of age, there is evidence that cohorts exhibit differences in spending that is not specific to their age group. This is a combination of specific economic factors that exist at any given point in their lives, as well as unique behavioral distinctions that may exist between these groups. These differences in cohort attitudes and behavior in turn produce differential home improvement activity. This differential behavior is then applied to the projected number of households for any given cohort to create total projected remodeling expenditure. Figure 1 shows average household expenditures by age cohort (or generation) for 1995, 2005, and 2015. A clear pattern is exhibited, as each generation has higher outlays than its predecessor. There is a significant upward trajectory in spending, as every younger generation spends more on average than the preceding generation. This is true not only for aggregate age groups, but also for age groups across different minority and family type

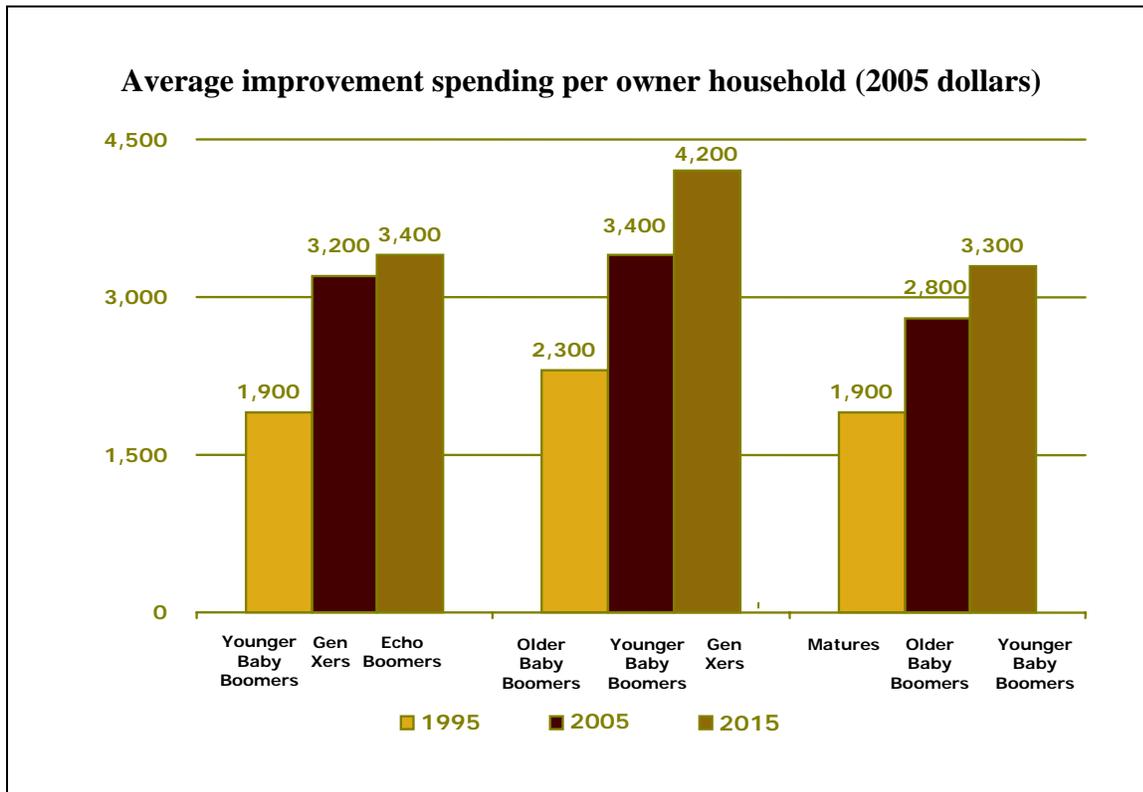
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<sup>6</sup> For this purpose, minority households are defined as such if the head of the household is not self-identified as a non-Hispanic white. This definition would include Hispanic, African-American, Asian, Pacific Islander, Multi-Racial, and all other minority group.

<sup>7</sup> Non-family households consist of one or many persons with no family relation occupying the same home. This includes cohabitation among roommate households, households with foster children, and single-person households.

groups. Combined with a greater overall number of owner households, the trend of increased spending per cohort contributes to positive growth in remodeling spending through 2015.

**Figure 1: Over Time, Each Generation is Projected to Outspend its Predecessor**



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

**The Next Decade Will Bring Strong Growth in Remodeling Activity**

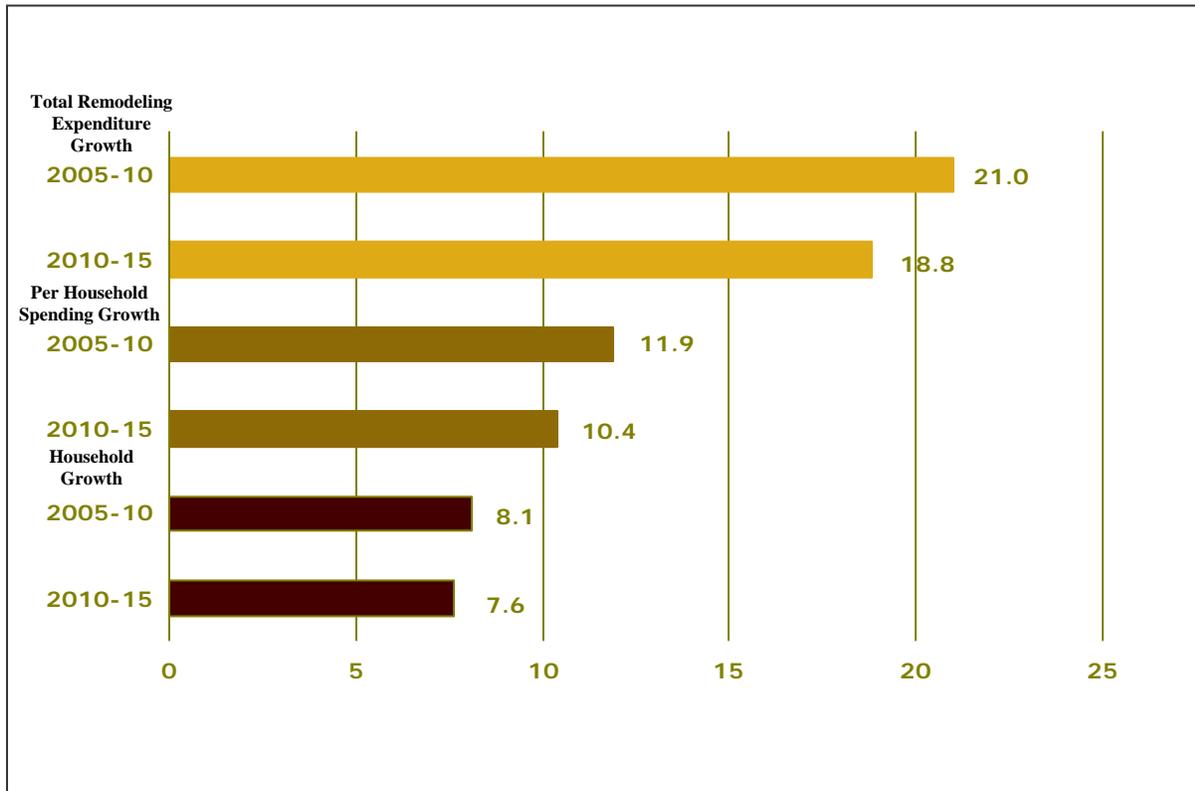
Between 2005 and 2015, homeowner improvement activity is projected to grow by 43.6 percent, from \$188 billion to over \$270 billion. This translates to a 3.7 percent inflation-adjusted average annual growth rate. How do these patterns compare with historical trends? We estimate that patterns exhibited in the next decade will reflect long-term historical trends of the late 1990s and settle into positive solid growth at rates slightly lower than trends experienced in very recent years. Between 2000 and 2005, the home improvement market grew by an astounding 42.5 percent in nominal dollars. Much of this growth was fueled by atypical factors in the housing market—historically low interest rates, exceptional home price appreciation, and rapid housing turnover. As many of these factors start to transition towards more typical trends, we expect the

remodeling market to follow suit. However, continued household growth, increased spending, and a growing accumulation of wealth will support sustained strength in the market.

### **Future Growth will be a Function of Household Growth and Increased Spending by Generations**

This growth in activity is a result of total owner household growth, as well as growth in spending. A projected 16.2 percent growth in owner households over the next ten years will contribute to increases in spending. Likewise, increased spending across all age and racial/ethnic groups will also contribute to higher levels of spending. Between 2005 and 2010 average per household expenditures across all demographic groups is projected to grow by 11.9 percent, slowing slightly in the second half of the decade to 10.4 percent. Between 2005 and 2015, average per household expenditure will grow from \$2,500 to over \$3,100 in 2005 dollars. Together, the increase in owner households and increase in average spending will fuel steady growth in the remodeling industry. Figure 2 shows the share of growth attributed to each of these two components.

**Figure 2: Strong Household Growth and Increased Real Spending per Household Will Contribute to Future Growth**

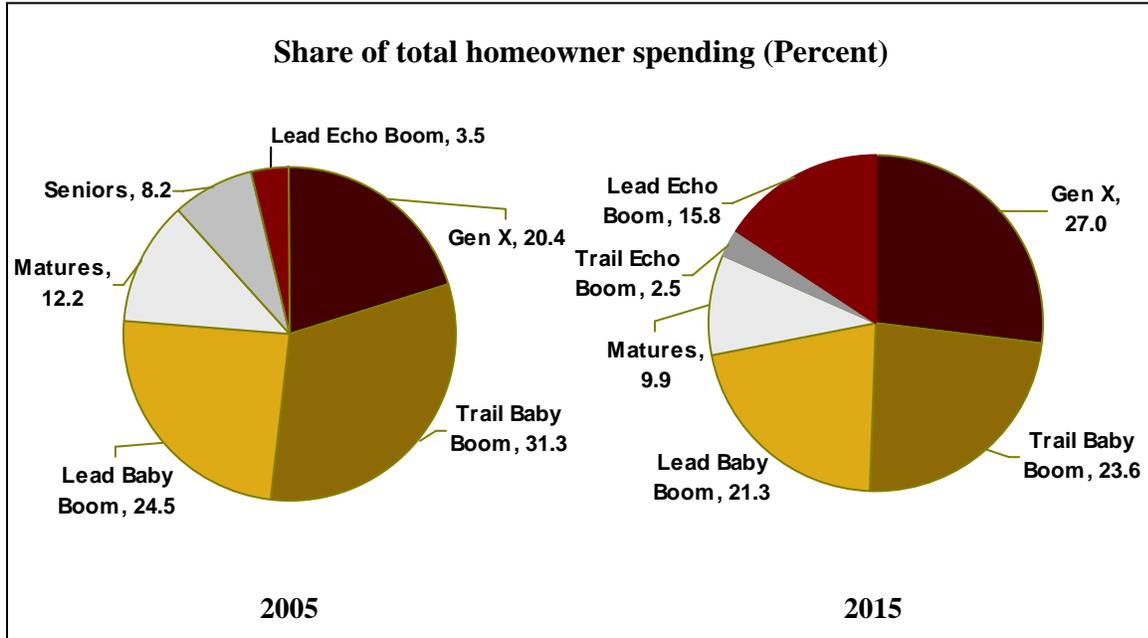


Sources: JCHS tabulations of the 1995-2005 AHS and JCHS ten-year projections.

**The Changing Age Structure of Households Will Impact the Remodeling Industry**

In the following decade, there are some major projected shifts in the age composition that will help shape demand in home improvement activity. As generations age, there is a continued rotation of spending leadership within the market. When members of a generation reach the peak years of remodeling, they become the dominant spending group within the market. As time continues, these groups eventually taper their spending, and younger groups move in to replace them with higher shares of spending. In the coming decade, members of Generation X will be between the ages of 40 and 49. As they continue household formation and reach peak years of remodeling, they will become the dominant force in the market, constituting 27 percent of total owner activity. Members of Generation X have already demonstrated higher average levels of expenditure relative to Baby Boomers, and we project these trends to continue. Moreover, members of Generation X have higher homeownership rates and higher average incomes than any preceding generation at comparable ages, boding well for a continued upward trajectory of spending.

**Figure 3: Generation Xers are Joining Baby Boomers as the Key Generations for Remodeling**



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

Additionally, as the population continues to age, Baby Boomers will move past the traditional peak years for remodeling. Already, the leading edge of the older Baby Boomers turned 60 years old in 2005. Historically, households in their 60s and 70s tend to taper their spending significantly. However, both the Leading and Trailing Baby Boomer groups have not followed their predecessors in their spending patterns, and are exhibiting continued strength in their spending. In fact, Leading Baby Boomers, who will be between the ages of 60 and 69 over the 2005-2015 period, are projected to contribute to over 21 percent of total spending. In comparison, the Mature generation, a relatively smaller group in size, who are currently in their 60s, contributed only 12.2 percent to total spending in 2005.

As the population continues to age, higher shares of Seniors will also change the mix of remodeling demand. In fact, between 2005 and 2015, the number of owner households over the age of 65 will grow by 32 percent. While older generations have slowed their spending levels, they also remain unique in their tastes and ideas about growing old. Studies have shown that the vast majority of persons over 60 years old stated that they wanted to stay in their current homes as they age, rather than move. A recent study by the American Association of Retired Persons (AARP) confirmed that over 90 percent of their respondents would prefer to live in their current

home as long as they were able.<sup>8</sup> This fact, coupled with higher levels of wealth and a proliferation of financial tools for retirement, such as reverse mortgage products, will bode well for the industry. Aging in place will likely become an increasingly important segment of the market, leaning heavily on professionally installed work, and with a very different mix of projects than other generations might demand. As such, we predict that spending for households over the age of 60 will grow by 185 percent by 2015.

Of course, on the younger end of the age spectrum, there are also signs of continued strength in the market. Generation X is followed by the Echo Boom, a group that will have 1.13 million more households in 2015 than the members of Generation X do now. This generation is nearly as large in size as the Baby Boomers. By 2015, when Echo Boom households are in their 30s, they will contribute nearly 16 percent of total home improvement expenditures. For the time being, members of the Echo Boom have slightly lower rates of homeownership and household formation, since they are only beginning to reach the age associated with homeownership. However, given their sheer size, and continued household formation and homeownership attainment in later years, the Echo Boom will become a source of strength in the next decade and beyond.

### **The Changing Racial/Ethnic and Family Composition of Households Will Impact Demand**

Between 2005 and 2015, the largest projected growth in households will come from minority households and non-family households. Minority family owner households are expected to grow by 39 percent, relative to an 8.3 percent growth of non-Hispanic white owners. Likewise, single-person and non-family minority owner households will increase by 46 percent, and non-family white owners will grow by 14.9 percent. Because of that, there will be greater impact by these groups in the remodeling industry.

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<sup>8</sup> See American Association of Retired Persons, 2005 and 2006.

**Figure 4: Minorities Will Account for Quarter of Expenditures in 2015, but More Than a Third of the Increase in Projected Growth in the Next Decade**

	Total Homeowners 2005 (Millions)	Total Homeowners 2015 (Millions)	Share of Total Spending 2005 (Percent)	Share of Total Spending 2015 (Percent)	Share of Growth 2005-2015 (Percent)
Minority Families	12.0	16.8	15.9	17.9	22.5
White Families	43.6	47.2	68.5	65.0	57.2
Minority Non-Families	3.1	4.5	2.5	5.0	10.6
White Non-Families	15.6	17.9	13.1	12.1	9.7
<b>Total</b>	<b>74.3</b>	<b>86.4</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Sources: JCHS tabulations of the 1995-2006 AHS and JCHS ten-year projections.

Minority spending is projected to represent nearly one-quarter (22.9 percent) of all home improvement spending by 2015, up from a share of 15.9 percent in 2005 (see Figure 4). With continued immigration, as well as higher shares of native-born minorities, especially in younger age groups, minorities will continue to make strides in the remodeling market. Already, average expenditure levels for minorities are increasing significantly. In 1995, average expenditure for minority homeowners was \$1,900. In 2005, minority households spent, on average, 21 percent more, or \$2,300. This trajectory is projected to increase, with average household expenditure reaching \$2,900 by 2015. Moreover, younger generations, which have higher shares of minorities, also demonstrate higher levels of minority spending, a trend that is also projected to continue.

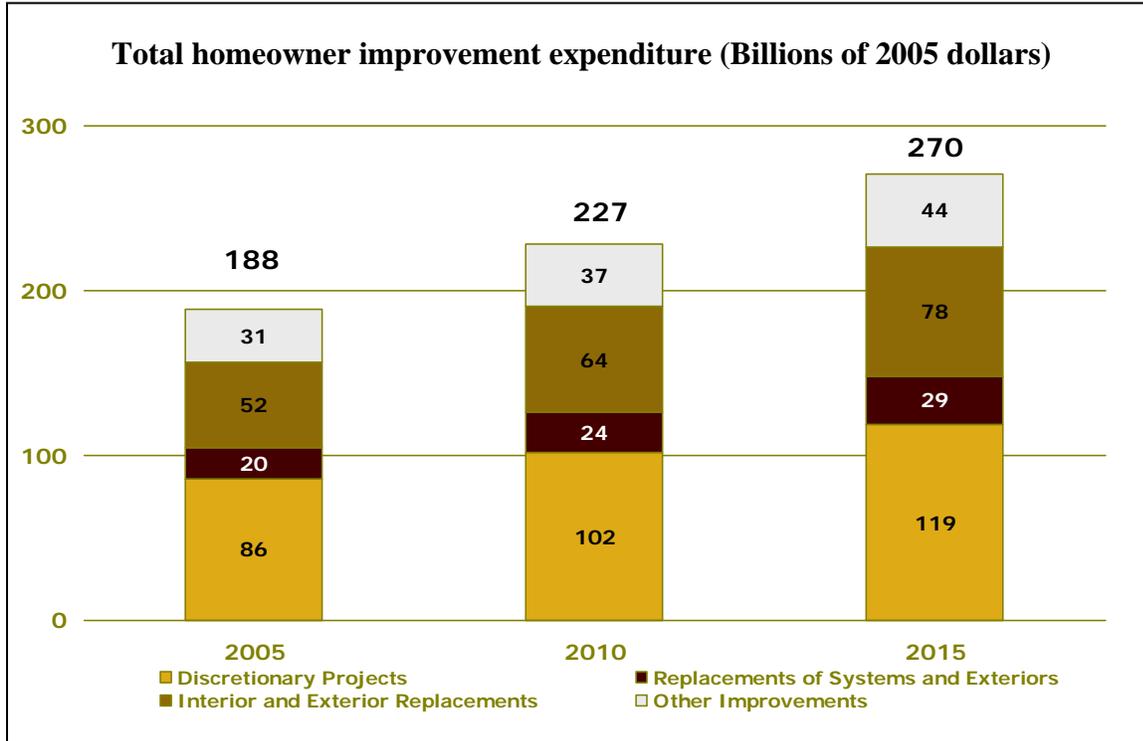
As younger groups remain relatively slower in household formation and divorce rates remain high, there are higher shares of single-person and non-traditional owner households in the housing market. This too, will have an important impact on remodeling spending. On average, non-traditional households spend less than family households. Moreover, a higher share of non-traditional households are minority households, which, while making gains in spending, still lag behind non-Hispanic white families in average per household expenditure. Still, non-traditional households are projected to continue an upward trajectory of spending, making significant contributions to the remodeling market by 2015. Projected spending by minority non-traditional households will grow by an incredible 187 percent. Likewise, non-Hispanic white non-

traditional households are also growing at a steady rate of 32 percent. Because the number of these households is relatively small, the total impact to the market is still not dominant; however, we project that non-family owners will represent 17 percent of total spending.

**As the Market continues to Expand, Project Demand Holds Steady**

Of course, the changing demographics of households will not only impact total spending, but also the mix of projects and installation types. Largely because of higher shares of older households, as well as higher shares of minority spending, we project the professional installation share of the market will grow slightly faster than the DIY market, particularly in the next five years. Over the ten year period, the professional market is expected to grow by 45.7 percent, while the DIY segment will grow at a solid 37.0 percent. By 2015, the professional market will grow from \$143 billion to \$209 billion, while the DIY market will reach nearly \$62 billion from a 2005 level of \$45 billion. Because of the strong growth in both segments, the division of spending is not expected to change significantly. Total professional spending accounted for 76 percent of all spending in 2005; we expect that share to creep up just slightly to 77 percent by 2015.

**Figure 5: Spending on Discretionary Projects Will Still Dominate as Overall Spending Grows**



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

Note: See footnote for project definitions.

The previous five years have experienced outstanding growth in discretionary projects, which include high-end kitchen and bath remodels, as well as significant room additions<sup>9</sup>. While it is unlikely that growth will continue at the same levels, discretionary projects will continue to stay strong and maintain high shares of total spending. Above-trend growth will be observed in replacement and additions of interior and exterior structures. This includes windows, doors, roofing, and flooring. This category of projects is slated to grow by 50 percent, with replacements of systems not far behind, growing at 48 percent. Still, because discretionary projects are typically much larger in total dollars, high-end projects will continue to dominate the

<sup>9</sup> Project categories are grouped from 46 home improvement project types covered in the American Housing Survey Microfile. Discretionary projects include: minor and major kitchen remodels, minor and major bathroom remodels, and room additions. Interior and exterior replacements include replacements and/or additions of roofing, siding, windows, doors, insulation, flooring, paneling, and ceiling. Replacements of systems and equipment includes replacements and/or addition of plumbing and pipe systems, electrical systems, plumbing fixtures, HVAC, appliances and major equipment. Other Improvements includes: addition and/or replacement of a garage or carport, addition or replacement of a deck or porch, improvements related to disaster repair, and miscellaneous improvements.

market, representing 45 percent of all spending and accounting for 40 percent of total growth between 2005 and 2015.

## **Conclusion**

Over the 1995 – 2005 period, the remodeling market experienced substantial growth. While spending in the remodeling market is rapidly approaching \$300 billion a year, climbing at a 7.5 percent compound annual rate between 2000 and 2005, the future of the remodeling market will be influenced by a broad range of factors. While variation in short-term cycles exist and are influenced by economic and housing market fluctuations, the most important driver of long term activity will be the future growth and change in composition of households.

Using a cohort-component model, the Joint Center developed a long-term projection of remodeling activity for owner households between 2005 and 2015. During that period, 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. A key component in this growth will be the growth in households and the increase in the national homeownership rate; the number of owner households is projected to grow by over 12.1 million by 2015.

The impact of generational groups on the remodeling market will continue to be an important dynamic. Members of Generation X will become the new dominant group in remodeling spending as they make their way into the peak ages of spending. However, aging Baby Boomers will not taper their spending levels as much as their predecessors have, continuing to maintain a strong presence in the industry. Even Seniors will continue to be a source of demand for the remodeling industry as they require professional services for aging-in-place home modifications. Across all age groups, successive generations are continuing to outspend their predecessors, leading to record-level spending and solid growth in the coming decade.

Moreover, new sources of demand will become increasingly important in the coming decade. Minority households, which have been steadily gaining in their presence in the remodeling market, will reach new highs in participation levels, contributing nearly a quarter of all spending by 2015. Furthermore, non-traditional households including single-person households and non-family households will experience some of the highest levels of growth of any demographic group. The number of non-family homeowners is projected to grow by 20 percent, and their total remodeling spending will increase by over 56 percent. Moreover, there

are few signs that show any slowing in this growth, suggesting that these groups will continue to be strong forces in the remodeling market.

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**Appendix 1: Forecast of Homeowners for Remodeling Forecast**

	Homeowner Counts (Thousands)					Homeowner Growth			
	Observed		Projected			1995-2000	2005-2010	2010-2015	2005-2015
	1995	2000	2005	2010	2015				
Total	63,544	69,391	74,293	80,340	86,358	9.2%	8.1%	7.5%	16.2%
Family Minority	8,223	10,172	12,037	14,363	16,751	23.7%	19.3%	16.6%	39.2%
Family NH White	41,424	42,470	43,554	45,474	47,151	2.5%	4.4%	3.7%	8.3%
NonFamily Minority	1,694	2,412	3,097	3,759	4,534	42.4%	21.4%	20.6%	46.4%
NonFamily NH White	12,203	14,338	15,605	16,745	17,923	17.5%	7.3%	7.0%	14.9%
Less than 30	3,571	4,098	4,382	4,711	4,846	14.8%	7.5%	2.9%	10.6%
30-34	5,990	5,489	5,239	5,334	5,794	-8.4%	1.8%	8.6%	10.6%
35-39	7,121	7,381	6,886	6,751	6,878	3.6%	-2.0%	1.9%	-0.1%
40-44	7,625	8,459	8,453	7,913	7,760	10.9%	-6.4%	-1.9%	-8.2%
45-49	7,387	8,112	9,024	9,283	8,679	9.8%	2.9%	-6.5%	-3.8%
50-54	6,058	7,641	8,606	9,671	9,937	26.1%	12.4%	2.7%	15.5%
55-59	4,838	6,133	7,781	8,801	9,890	26.7%	13.1%	12.4%	27.1%
60-64	4,653	5,022	6,182	8,067	9,125	7.9%	30.5%	13.1%	47.6%
65-69	4,652	4,623	4,977	6,085	7,953	-0.6%	22.3%	30.7%	59.8%
70-74	4,649	4,473	4,243	4,598	5,645	-3.8%	8.4%	22.8%	33.1%
75 and higher	6,998	7,961	8,521	9,127	9,850	13.8%	7.1%	7.9%	15.6%

Note: Projections are adjusted to be consistent with total owner household counts in the 2005 American Community Survey. These numbers are generally lower than published Joint Center household projections that are constructed to be consistent with household counts from the Current Population Survey.

**Appendix 2: Forecast Expenditures by Homeowner Characteristics: 2005-2015**

	<b>2005</b>		
	Expenditure (Millions \$2005)		
	Pro	D-I-Y	Total
<b>Total Expenditure</b>	<b>143,215</b>	<b>45,094</b>	<b>188,309</b>
Family Minority	22,037	7,853	29,890
Family White	97,577	31,324	128,901
NonFamily Minority	3,768	906	4,674
NonFamily White	19,833	5,011	24,844
<b>NH White</b>			
Less than 30	3,332	2,258	5,590
30-40	19,153	7,709	26,863
40-50	36,284	12,584	48,868
50-60	30,572	8,706	39,279
60-70	16,454	3,341	19,795
70 and over	11,615	1,736	13,350
<b>Minorities</b>			
Less than 30	556	280	836
30-40	7,812	2,039	9,850
40-50	7,457	3,930	11,387
50-60	5,888	1,369	7,258
60-70	2,636	862	3,498
70 and over	1,456	279	1,736
<b>Family</b>			
Less than 30	3,172	2,040	5,212
30-40	24,068	8,708	32,776
40-50	38,501	14,804	53,304
50-60	30,235	8,686	38,921
60-70	14,926	3,600	18,526
70 and over	8,714	1,338	10,053
<b>Non Family</b>			
Less than 30	716	498	1,214
30-40	2,897	1,040	3,937
40-50	5,240	1,710	6,950
50-60	6,226	1,389	7,616
60-70	4,164	603	4,767
70 and over	4,357	676	5,033
<b>NH White</b>			
Discretionary	52,467	17,580	70,047
Systems	12,310	3,303	15,612
Interior/Ext	32,628	8,692	41,320
Property	20,005	6,761	26,766
<b>Minorities</b>			
Discretionary	10,824	4,644	15,468
Systems	3,236	810	4,046
Interior/Ext	8,291	2,190	10,481
Property	3,454	1,116	4,570

**Appendix 2 (cont.): Forecast Expenditures by Homeowner Characteristics: 2005-2015**

	2010					
	Expenditure (Millions \$2005)			2005-2010 Growth		
	Pro	D-I-Y	Total	Pro	D-I-Y	Total
<b>Total Expenditure</b>	<b>175,073</b>	<b>52,827</b>	<b>227,899</b>	<b>22.2%</b>	<b>17.1%</b>	<b>21.0%</b>
Family Minority	29,865	9,872	39,737	35.5%	25.7%	32.9%
Family White	115,401	36,026	151,427	18.3%	15.0%	17.5%
NonFamily Minority	6,406	1,304	7,710	70.0%	43.8%	65.0%
NonFamily White	23,400	5,625	29,025	18.0%	12.3%	16.8%
<b>NH White</b>						
Less than 30	3,561	2,413	5,974	6.9%	6.9%	6.9%
30-40	21,294	8,650	29,944	11.2%	12.2%	11.5%
40-50	35,819	12,393	48,212	-1.3%	-1.5%	-1.3%
50-60	38,402	10,855	49,257	25.6%	24.7%	25.4%
60-70	25,607	5,238	30,845	55.6%	56.8%	55.8%
70 and over	14,119	2,102	16,220	21.6%	21.1%	21.5%
<b>Minorities</b>						
Less than 30	611	308	919	9.9%	9.9%	9.9%
30-40	10,150	2,068	12,217	29.9%	1.4%	24.0%
40-50	9,643	4,988	14,630	29.3%	26.9%	28.5%
50-60	7,570	1,787	9,357	28.6%	30.5%	28.9%
60-70	5,946	1,675	7,622	125.6%	94.3%	117.9%
70 and over	2,351	351	2,701	61.4%	25.6%	55.7%
<b>Family</b>						
Less than 30	3,409	2,190	5,599	7.5%	7.4%	7.4%
30-40	28,302	9,597	37,899	17.6%	10.2%	15.6%
40-50	40,365	15,725	56,090	4.8%	6.2%	5.2%
50-60	37,843	10,785	48,628	25.2%	24.2%	24.9%
60-70	24,124	5,880	30,004	61.6%	63.3%	62.0%
70 and over	11,224	1,720	12,943	28.8%	28.5%	28.8%
<b>Non Family</b>						
Less than 30	763	531	1,294	6.6%	6.5%	6.5%
30-40	3,142	1,120	4,262	8.5%	7.7%	8.3%
40-50	5,097	1,656	6,753	-2.7%	-3.2%	-2.8%
50-60	8,130	1,857	9,986	30.6%	33.7%	31.1%
60-70	7,430	1,033	8,462	78.4%	71.2%	77.5%
70 and over	5,246	733	5,978	20.4%	8.4%	18.8%
<b>NH White</b>						
Discretionary	61,397	19,721	81,118	17.0%	12.2%	15.8%
Systems	14,764	3,874	18,638	19.9%	17.3%	19.4%
Interior/Ext	39,139	10,226	49,366	20.0%	17.7%	19.5%
Property	23,502	7,829	31,330	17.5%	15.8%	17.1%
<b>Minorities</b>						
Discretionary	15,231	5,840	21,071	40.7%	25.8%	36.2%
Systems	4,415	1,067	5,482	36.4%	31.7%	35.5%
Interior/Ext	12,096	2,770	14,866	45.9%	26.5%	41.8%
Property	4,528	1,499	6,027	31.1%	34.3%	31.9%

**Appendix 2 (cont): Forecast Expenditures by Homeowner Characteristics: 2005-2015**

	2015					
	Expenditure (Millions \$2005)			2005-2015 Growth		
	Pro	D-I-Y	Total	Pro	D-I-Y	Total
<b>Total Expenditure</b>	<b>208,670</b>	<b>61,793</b>	<b>270,464</b>	<b>45.7%</b>	<b>37.0%</b>	<b>43.6%</b>
Family Minority	35,739	12,652	48,391	62.2%	61.1%	61.9%
Family White	135,049	40,834	175,883	38.4%	30.4%	36.4%
NonFamily Minority	11,248	2,162	13,410	198.5%	138.6%	186.9%
NonFamily White	26,635	6,145	32,780	34.3%	22.6%	31.9%
<b>NH White</b>						
Less than 30	3,556	2,410	5,966	6.7%	6.7%	6.7%
30-40	25,139	10,185	35,325	31.3%	32.1%	31.5%
40-50	35,083	12,170	47,252	-3.3%	-3.3%	-3.3%
50-60	42,934	12,034	54,968	40.4%	38.2%	39.9%
60-70	36,648	7,449	44,097	122.7%	123.0%	122.8%
70 and over	18,323	2,732	21,054	57.8%	57.4%	57.7%
<b>Minorities</b>						
Less than 30	664	335	999	19.5%	19.4%	19.4%
30-40	6,560	1,534	8,095	-16.0%	-24.7%	-17.8%
40-50	14,867	7,323	22,190	99.4%	86.3%	94.9%
50-60	8,883	2,101	10,984	50.9%	53.4%	51.3%
60-70	10,485	2,637	13,121	297.8%	205.9%	275.1%
70 and over	5,527	884	6,412	279.5%	216.8%	269.4%
<b>Family</b>						
Less than 30	3,452	2,211	5,663	8.8%	8.4%	8.7%
30-40	28,050	10,459	38,509	16.5%	20.1%	17.5%
40-50	45,042	17,877	62,919	17.0%	20.8%	18.0%
50-60	42,750	12,020	54,770	41.4%	38.4%	40.7%
60-70	34,948	8,405	43,353	134.1%	133.5%	134.0%
70 and over	16,545	2,514	19,059	89.9%	87.8%	89.6%
<b>Non Family</b>						
Less than 30	769	534	1,302	7.3%	7.1%	7.3%
30-40	3,650	1,260	4,910	26.0%	21.2%	24.7%
40-50	4,907	1,616	6,523	-6.4%	-5.5%	-6.1%
50-60	9,068	2,115	11,182	45.6%	52.2%	46.8%
60-70	12,185	1,681	13,866	192.6%	178.8%	190.8%
70 and over	7,305	1,102	8,407	67.6%	63.0%	67.0%
<b>NH White</b>						
Discretionary	70,742	22,151	92,893	34.8%	26.0%	32.6%
Systems	17,443	4,445	21,888	41.7%	34.6%	40.2%
Interior/Ext	46,088	11,535	57,623	41.3%	32.7%	39.5%
Property	27,410	8,849	36,259	37.0%	30.9%	35.5%
<b>Minorities</b>						
Discretionary	18,037	7,890	25,927	66.6%	69.9%	67.6%
Systems	6,025	1,378	7,403	86.2%	70.1%	83.0%
Interior/Ext	16,752	3,644	20,396	102.0%	66.4%	94.6%
Property	6,173	1,903	8,076	78.7%	70.5%	76.7%