

Three retirement spending surprises

New insights into real-world retirement spending behaviors

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IN BRIEF

- We recently analyzed the spending patterns of more than 5 million households to evaluate real-world retirement behaviors.
- Our research uncovered three surprising patterns: a lifetime spending curve, a retirement spending surge and a high degree of retirement spending volatility.
- These new insights indicate helping investors make the most of their retirement assets may require a more dynamic approach to withdrawals than the static rules of the past.

INTRODUCTION

Americans work hard over the course of their careers to save as much as they can to enjoy a financially successful retirement. When they begin to shift from savings to spending, it is critical to help them get the most out of their assets.

A key part of this process is understanding how people tend to spend in retirement. J.P. Morgan's unique access to the real-world spending patterns of more than 5 million de-identified Chase households has provided new insights on how behaviors can change as people transition into and move through retirement.

For years, conventional wisdom about prudent retirement income¹ strategies has typically centered around two much-touted rules of thumb. The first is the 4% rule, which sets a 4% initial withdrawal rate (adjusted annually for inflation) as a "safe" level to provide a steady, sustainable income stream throughout retirement with relatively little risk of premature asset depletion.

The second is that *post-retirement income can be broadly modeled using a fixed, reduced benchmark rate* relative to someone's pre-retirement income level. For example, a typical target may be 70% to 80% of a person's final pre-retirement salary to be able to meet the observed, reduced spending needs of comparable retirees.

Our research into real-life retirement spending patterns, however, uncovered three surprising trends that suggest it may be time to re-examine these popular replacement income strategies. In general, we found that:

- There is a lifetime *spending curve*.
- There is a retirement *spending surge*.
- There is notable *spending volatility* at and through retirement.

¹ For the purposes of this paper, the term "retirement income" references the process by which post-retirement spending needs are achieved through the use of investment income, appreciation and/or principal.

AUTHORS



Katherine Roy
Chief Retirement Strategist



Yoojin Kim-Steiner
Investment Specialist
Multi-Asset Solutions

Understanding and applying these insights may offer stronger options to optimize withdrawals and help retirees make the most of their assets.

SPENDING CURVE

Our research indicated that there is a general curve in median spending that can be observed across a lifetime. **EXHIBIT 1** shows the median spending across various age categories in 2016. On average, spending steadily climbed in households between the ages of 20 and 40 and peaked in households in their late 40s and early 50s, after which we observed older households spending less.

Additionally, just as how much people tended to spend changed by age, what they spent their money on also changed. This can have significant implications for how best to plan for inflationary spending increases throughout retirement.

Keep in mind that the graph shows dollars across all ages at a constant 2016 value. This means that median spending for a 70-year-old is relatively lower than for a 60-year-old in the same year. Yet the reality is that once that 60-year-old actually reaches age 70 in 2026, the amount of absolute dollars needed to maintain similar purchasing power as the 70-year-old today will likely be notably higher due to the erosive effects of inflation. For example, say he or she usually spends \$100 a week on groceries today. How much will a similar amount of

weekly groceries cost in 10 years? In 20? To account for this, retirement income modeling typically increases an assumed initial spending rate level by the consumer price index (CPI) to help maintain purchasing power over time.

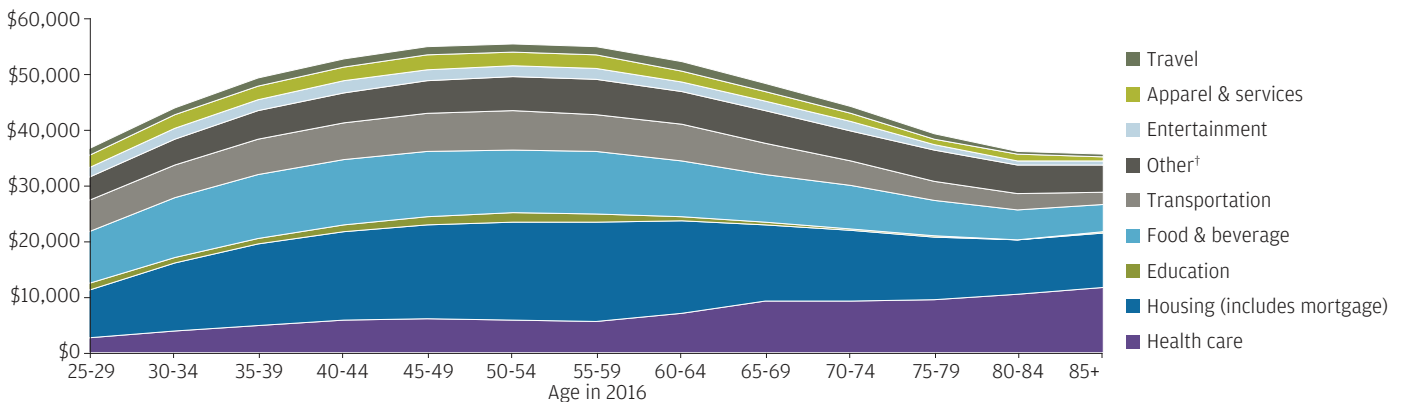
The spending curve shown in our research suggests two problems with this approach:

- **Using broad CPI numbers assumes retirees at age 65 buy the same basket of goods at ages 75, 85, 95, etc.** Our research shows that this is not the case. The median 85-year-old spends more on health care and less on every other major spending category compared with the median 65-year-old. Interestingly, the decline in most other categories tends to more than offset rising health care spending (excluding the impact of long-term care), even at lower affluence levels, where health care can make up a greater percentage of spending overall.
- **CPI is based on a basket of goods representing purchases by urban consumers of all ages—not the spending habits of retirees.** If the spending differences are notable between a typical 85-year-old and 65-year-old, consider the even greater variance between retirees and much younger consumers.

Both of these challenges may be painting an unrealistic picture of how much retirees might need to increase their income to meet their lifestyle needs over time.

Lifestyle spending, median household

EXHIBIT 1: MEDIAN SPENDING—CHASE DATA WITH ESTIMATED CATEGORIZATION OF CHECKS AND CASH



Source: Total spending and all category sub-totals except checks, cash and health care costs: Chase data, including Chase credit card (excluding some co-branded cards), debit card, electronic payment, ATM withdrawal and check transactions from January 1–December 31, 2016; J.P. Morgan analysis. Health care costs age 65+: Employee Benefit Research Institute (EBRI) data as of December 31, 2016; SelectQuote data as of January 16, 2017; J.P. Morgan analysis. Health care costs pre-age 65 and check and cash distribution excluding health care costs after age 65: 2016 Consumer Expenditure Survey, College Educated; J.P. Morgan analysis. Information that would have allowed identification of specific customers was removed prior to the analysis.

†Other includes: gifts and donations, gambling, personal care, tax payments, insurance and uncategorized items.

Key takeaway: Assuming static spending and inflation throughout retirement may be overstating actual spending needs by as much as 26% by the age of 95.

A more realistic view of retirement spending should consider participant behavior and inflation at a category level. The table on the left in **EXHIBIT 2** shows various spending categories, indicating for each the real change in median spending behavior from ages 65 to 95 for households at various asset levels and the historical spending inflation and inflation-adjusted change in spending. This deeper analysis suggests a much lower inflation-adjusted change—roughly one-third lower—than the 3% long-term CPI average often used in planning.

Overstating inflation’s potential effects on future spending needs may lead to flawed participant guidance and sub-optimal retirement outcomes, such as delaying retirement; spending less in early years, when participants are healthier and have

newfound time; or holding too much in equities in an effort to keep pace with overstated capital growth requirements. A dynamic analysis based on actual spending patterns appears to offer a more realistic planning framework.

SPENDING SURGE

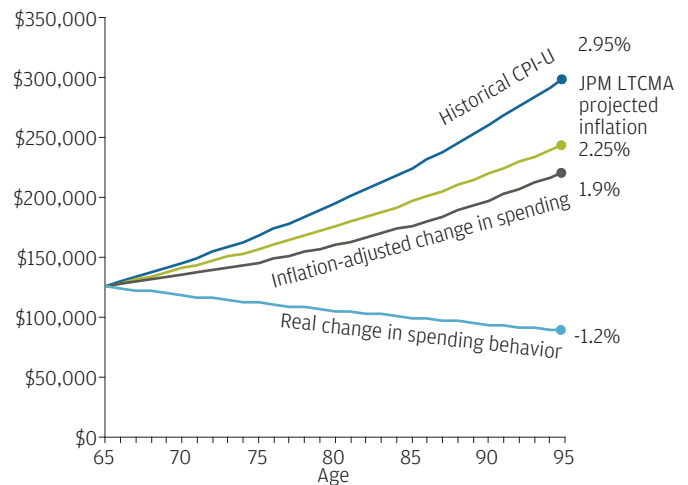
We took a close look at household spending during the critical five years around the retirement transition period, two years before and three years after. **EXHIBIT 3** (next page) highlights how rolling annual one-year median spending experienced a significant increase that peaked in the month of retirement and then slowly dissipated in the following three years as people began this next life stage. Anecdotal observations suggest that this relatively short-term surge is frequently the result of increased travel, housing-related changes such as relocation or renovation and other types of lifestyle changes as people transition into retirement.

Calculating real-world inflation-adjusted annual increases

EXHIBIT 2A: CATEGORY-SPECIFIC CHANGES*

	Real change in spending behavior (%)	Historical spending inflation (%)	Inflation-adjusted change in spending (%)
Apparel & services	-3.4	0.7	-2.8
Education	-4.0	5.1	0.9
Entertainment	-2.5	1.1	-1.4
Food & beverage	-1.4	2.8	1.3
Health care	0.7	4.9	5.6
Housing	-0.6	2.8	2.2
Transportation	-3.0	2.1	-0.9
Travel	-4.7	2.8	-2.0
Other†	-0.2	2.8	2.7
Total inflation-adjusted change in spending (%)			1.9
... excluding health care (%)			1.3

2B: PROJECTED CHANGE IN SPENDING AT AGE 65 – \$250,000-\$500,000 IN ASSETS**



*Historical spending inflation estimates based on BLS, consumer price index, J.P. Morgan Asset Management. Data represent annual percentage increase from December 1981 through December 2016 with the exception of entertainment and education, which date back to 1993. The inflation rate for the Other category is historical CPI-E 1984 - 2016. Total spending and all category sub-totals except checks, cash and health care costs: Chase data including Chase credit card (excluding some co-branded cards), debit card, electronic payment, ATM withdrawal and check transactions from January 1-December 31, 2016; J.P. Morgan analysis. Health care costs age 65+: Employee Benefit Research Institute (EBRI) data as of December 31, 2016; SelectQuote data as of January 16, 2017; J.P. Morgan analysis. Health care costs pre-age 65 and check and cash distribution excluding health care costs after age 65: 2016 Consumer Expenditure Survey, College Educated; J.P. Morgan analysis. Information that would have allowed identification of specific customers was removed prior to the analysis. Real change in spending by category is based on the average for the category.

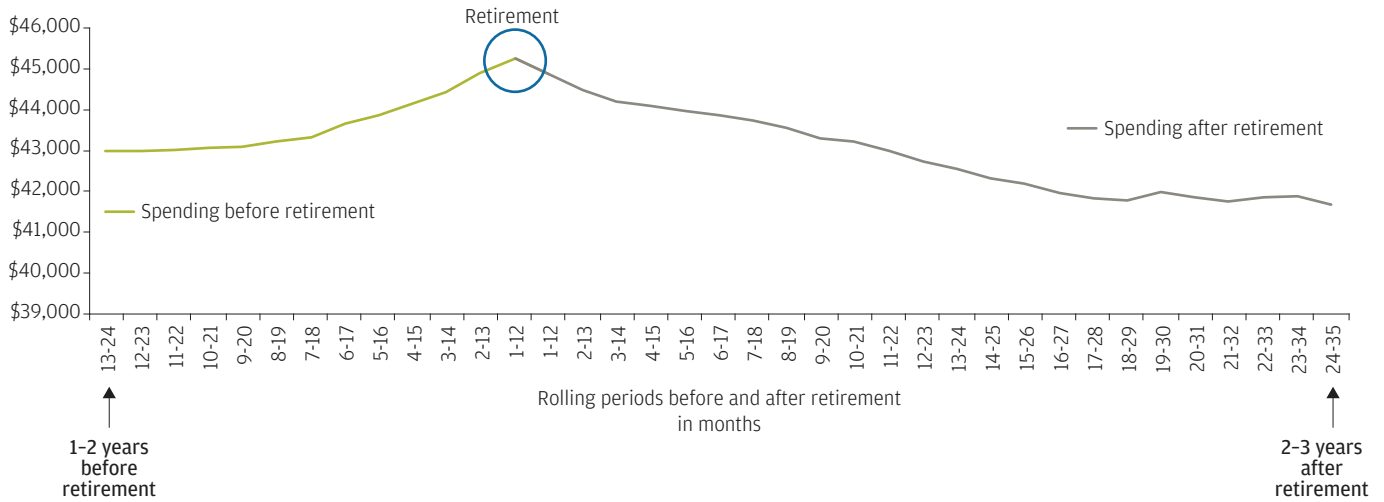
**CPI-U represents annual average between 1926 and 2016. Historical spending inflation for apparel and services represents annual average December 1981 through December 2016. LTCMA: Long-Term Capital Market Assumptions. Used average spending by category.

Source: BLS, J.P. Morgan Asset Management analysis, 2017 J.P. Morgan Long-Term Capital Market Assumptions.

†Other includes: gifts & donations, gambling, personal care, tax payments, insurance and uncategorized items.

Retirement transitional spending tends to rise

EXHIBIT 3: ROLLING MONTHLY ONE-YEAR MEDIAN SPENDING BEFORE AND AFTER RETIREMENT (RETIREMENT AGE 60 TO 69)



Note: For those who retired age 60-69. Percentages may not add to 100 due to rounding.

Source: Chase credit card, debit card (excluding some co-branded cards), electronic payment, ATM withdrawal and check transactions from October 1, 2012 to December 31, 2016. Outliers in each asset group were excluded (0.1% of top spenders in each spending category). Information that would have allowed identification of specific customers was removed prior to the analysis. Excludes some co-branded cards.

Key takeaway: People don't reduce spending in retirement overnight and often use more capital earlier than might be expected as they prepare for a new life stage.

We make two important observations with this data. First, while there is an overall downward trend in post-retirement spending, it does not occur at a static, reduced rate relative to pre-retirement income immediately once people stop working. Instead, there tends to be a gradual transition period for many people that should be incorporated into withdrawal modeling.

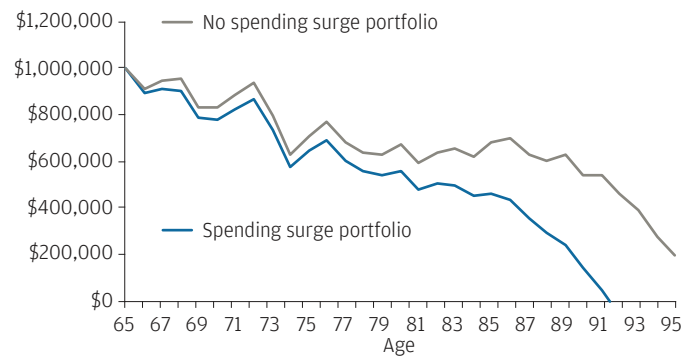
Second, it is important to pay close attention to investment risk in the years leading up to retirement. For example, equities can be an important asset class in combating the loss of purchasing power over time, but the level and timing of equity risk exposure during the transition into and living in retirement require careful consideration. Withdrawing assets in volatile markets early in retirement can ravage a portfolio with too much equity exposure, and a surge in spending can have even greater ramifications.

EXHIBIT 4 offers a hypothetical example of this sequence of return risk. It assumes a person has entered retirement with a \$1 million dollar portfolio consisting of a standard 60/40 equity-bond

allocation. Withdrawals for both portfolios start at a 5% rate, increased by 3% annually to adjust for inflation. The "Spending surge portfolio" has a 30% spending surge in the first three years of retirement, and in the fourth year resumes withdrawals at the same rate as the "No spending surge portfolio."

The risk of retirement dollar cost ravaging

EXHIBIT 4: THE NEGATIVE COMPOUNDING EFFECTS OF A SPENDING SURGE IN VOLATILE MARKETS (1966-95)



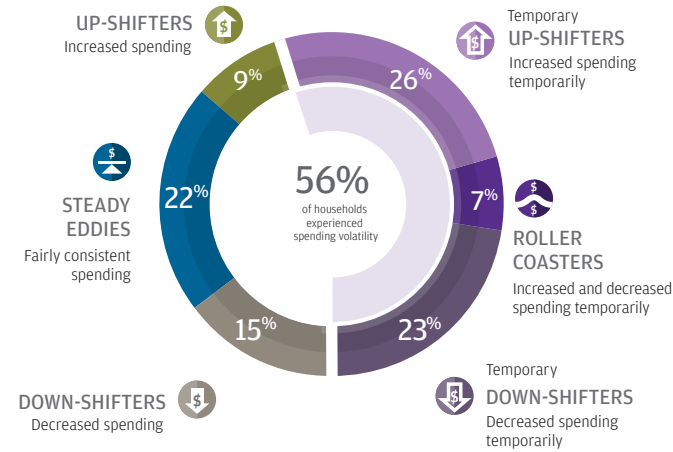
Source: J.P. Morgan Asset Management. Returns for both the 'No spending surge portfolio' and 'Spending surge portfolio' are based on hypothetical portfolios, assumed to be invested 60% in the S&P 500 Total Return Index and 40% in the Barclays Capital U.S. Aggregative Index. The assumptions are presented for illustrative purposes only. They must not be used, or relied upon, to make investment decisions. There is no direct correlation between a hypothetical investment and the anticipated future return of an index. Past performance does not guarantee future results.

If that person entered retirement in 1966 upon reaching age 65, the average annual return for the portfolio over the next 30 years was 9.7%. Great news, right? Unfortunately, the first nine years in retirement were characterized by elevated market volatility, with the S&P 500 falling 10% in the first year. Even with this starting headwind, the 5% initial withdrawal rate leaves a \$200,000 balance at age 95. However, if the person experiences this return sequence and surges spending by 30% in the first three years of retirement, the portfolio is fully depleted by age 91. The surge compounds the effects of the poor early returns.

Consequently, it can be critical to make ongoing portfolio adjustments in the context of changing market dynamics and anticipated spending needs even several years out. Many plan sponsors and their advisors and consultants are starting to consider investment solutions that incorporate this insight and seek to mitigate sequence-of-return risk throughout the spending transition period.

Post-retirement spending volatility

EXHIBIT 5: SPENDING PROFILES



SPENDING VOLATILITY

While there is a general spending surge at retirement, based on median behaviors, there is also wide variation in spending at the individual household level, particularly early in retirement. Comparing average spending in the 12 months prior to retirement to annual spending in each of the three years after revealed notable differences among retirees, reinforcing the highly personal nature of retirement.

Our research found that:

- Almost 80% of the people experienced substantial changes in spending
- 24% spent considerably more or less (+/-20%)
- 56% experienced temporary up or down shifts

We also identified six primary segments, based on general spending behaviors (EXHIBIT 5).

This is further evidence that the vast majority of people do not start retirement and then immediately begin a new, static lower spend rate that continues throughout their non-working years. Related research found that some level of spending volatility continued throughout retirement, with a large number of households making a significant payment in medical expenses, automobile repairs or taxes in any given year.² This risk increased as people became older, primarily due to higher exposure to large medical expenses.

² Farrell, Diana, and Fiona Greig. "Coping with Costs: Big Data on Expense Volatility and Medical Payments." JPMorgan Chase Institute, 2017.

Note: For those who retired age 60-69. Total may be more than 100% due to rounding.

Source: Chase credit card (excluding some co-branded cards), debit card, electronic payment, ATM withdrawal and check transactions from October 1, 2012, to December 31, 2016. Outliers in each asset group were excluded (0.1% of top spenders in each spending category). Information that would have allowed identification of specific customers was removed prior to the analysis. Excludes some co-branded cards.

Key takeaway: Spending volatility can remain prevalent early in and throughout retirement—and this can have important ramifications for appropriate risk and liquidity levels.

These findings again highlight the importance of realistically assessing investment risk exposure in the periods leading up to and transitioning into retirement. Investment solutions for the post-retirement period should consider the wide variance in potential behaviors to help participants develop realistic strategies that make the most sense for their particular needs.

Of particular note, keeping equity allocations too high in these sensitive transitioning years may be problematic given the large number of people increasing their spending and the related higher threat of sequencing risk. Emergency liquidity reserves and flexibility also remain critical inputs throughout retirement to help cushion against unexpected expenses, a need that appears only to grow as people age.

CONCLUSION

As plan sponsors and their advisors and consultants consider retirement income solutions, spending behaviors are only part of a complex equation. However, our research suggests that the static approaches often used in the past may be outdated based on how retirees are actually using their retirement assets. The reality is that most retirees exhibit dynamic spending patterns that are much more varied than traditionally expected. This may have a significant impact on the types of investments and withdrawal strategies that are best suited to participants' individual needs as they approach, transition into and move through their retirement years.

THE 4% RULE: DISCOUNTING THE DYNAMIC NATURE OF RETIREMENT?

The 4% rule has gained wide acceptance because it was founded on core planning principles that were considered “a given”—constant spending regardless of market conditions and a focus on not running out of money. Yet both of these can discount the dynamic nature of retirement.

Consider various hypothetical outcomes using the 4% rule, with annual CPI inflation increases of 3%. Assuming a standard 60/40 equity-bond portfolio and long-term historical data, the median remaining nominal wealth across all 30-year rolling periods would have been \$1.8M. Additionally, 70% of the time ending assets were higher than the starting retirement wealth.

These results may be great from a longevity risk perspective, but they completely ignore lifestyle risk and how to maximize the potential enjoyment of retirement assets—both core inputs for more holistic, efficient asset decumulation approaches. For example, retirees who make lifestyle trade-offs early in retirement by sticking to a conservative 4% withdrawal rate may regret not using more wealth when they were younger and healthier.

In addition, markets are dynamic and have a natural impact on spending. Withdrawals are one area where retirees maintain a degree of control, and making spending modifications to adapt to market conditions can better align with their natural spending behaviors (e.g., many households pull back spending when markets get rocky, something often cited in qualitative research).

NEXT STEPS

For more information, please contact your J.P. Morgan representative.

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