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Using age banding to estimate spending in retirement

Michael Kitces | Pinnacle Advisory Group | 30 November 2016 | 0.50 CE

EXECUTIVE SUMMARY

The very essence of saving for retirement is to accumulate a nest egg sufficiently large enough to replace the retiree's employment income and sustain a stable standard of living throughout retirement. If the prospective retiree doesn't have enough saved up to maintain his/her lifestyle for the next several decades, it's not yet time to retire.

Yet a growing volume of research studying the actual spending habits of retirees is revealing that this traditional approach may not be entirely appropriate after all. Because as it turns out, retirees don't actually maintain a stable lifestyle in retirement. Instead, spending levels tend to decline (in real terms), as the retiree goes from the "Go-Go" early years of retirement, to the "Slow-Go" years, and eventually the "No-Go" years.

In addition, not only does retirement spending slow in the later years, but the underlying composition of the retirement spending begins to shift as well as clients cross through these age bands. Spending on housing and entertainment activities fall significantly in the later years, while health care expenses are rising. And, discretionary spending tends to fall by more than health care expenses rise, leading to an overall decrease in retiree spending as retirees proceed through the age bands.

Ultimately, this suggests that rather than merely assuming a stable standard of living throughout retirement, a better approach may be to look more directly at not just the composition of the retiree's spending goals, but also how those particular types of expenses tend to change as the retiree moves through the different age bands. In other words, projecting retirement expenses using an age-banding approach may allow for a more nuanced and accurate representation of how spending will change over time. Which is important, because the data indicating that retiree expenses tend to fall throughout retirement – especially in some categories – implies that retirees may not actually need to be saving as much, or accumulating as large of a nest egg, to retire in the first place.

AGE BANDING TO UNDERSTAND HOW RETIREMENT SPENDING NEEDS CHANGE

The traditional view of retirement spending is that the person who can no longer work will aim to generate enough income to replace their earnings as a worker and maintain their existing standard of living. Of course, some aspects of that standard of living itself will no

longer be necessary – from taxes paid on employment wages, to the savings that were being made to generate that retirement nest egg, and perhaps a handful of expenses (like commuting to work) that aren't relevant anymore – and thus it may only be necessary to replace 70% to 80% of pre-retirement income in retirement itself (the so-called "replacement ratio"). Nonetheless, whatever the actual expenses are that need to be supported in retirement, the assumption is simply that the goal is to support them at a continuing rate. Indefinitely.

Thus, the early approaches to securing retirement income were all various forms of pensions and lifetime annuities, which provided a fixed ongoing payment for life (made annually or perhaps monthly). With the inflation of the 1970s, though, combined with ever-increasing life expectancy, it became clear that the purchasing power of a fixed pension in retirement could be severely undermined over time, especially for retirees that might live decades in retirement. Thus, by the 1990s, the prevailing view – as embodied by Bill Bengen's "4% rule" research – was that retirees should maintain retirement cash flows that weren't just level, but adjust annually for inflation which simply means sustaining a level real (inflation-adjusting) standard of living.

At the same time, a growing base of data on retirees in their later years began to reveal that the assumption of stable spending may not actually be an accurate reflection of reality. Instead, retirees appear to shift their spending behavior over time, in a manner that Michael Stein of "The Prosperous Retirement" first dubbed the three phases of retirement:

- the Go-Go years – the active first decade of retirement, largely a continuation of the pre-retirement lifestyle;
- the Slow-Go years – the less active second decade of retirement, as health and energy begin to decline, and some discretionary spending slows; and,
- the No-Go years – the final decade of retirement, as most discretionary lifestyle spending stops altogether, supplanted with health care expenses instead.

Figure 1: The three phases of retirement

Sources: © Michael Kitces, www.kitces.com & Michael Stein, "The Prosperous Retirement".

In essence, the idea is that spending behavior is retirement is not a consistent level amount (in nominal or real terms), but instead is distinct across several age bands in the first, second, and third decades of retirement. And, during each of those bands, retirees shift in not only the level of their retirement spending, but also the composition. For instance, Somnath Basu suggested that spending in categories like basic living, leisure, health care, and taxes, may be substantively different (in different ways) across each age band. Retirement spending patterns vary as retirees cross age-banding thresholds!

And as it turns out, subsequent research into the actual spending patterns amongst retirees across each age band is beginning to support the age banding hypothesis.

HOW RETIREMENT SPENDING DECLINES AS RETIREES AGE

For over 30 years, the US Bureau of Labor Statistics has gathered information annually on household spending behavior through its Consumer Expenditure Survey (with select data available going back to the 1970s and early 1960s), providing a rich database to analyse consumer spending behaviors across different age cohorts and over time. When researchers delve into the CES data, a clear trend emerges - retirement spending declines, persistently, over time.

For instance, a study in the Journal of Financial Planning by Ty Bernicke found that based on the 2002 CES data, for every five years older a retiree was, their spending was on average about 15% lower. The cumulative impact meant that those in their late 70s were spending less than half of what those in their late 50s were spending.

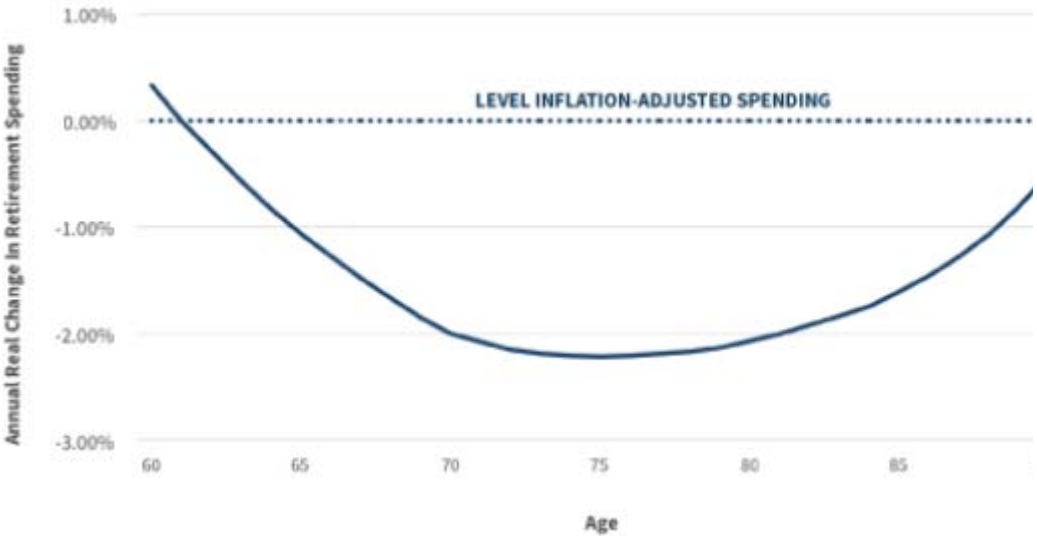
Notably, though, the Bernicke study looked at a cross-section of people in the same year to see the differences in spending by age, rather than actually tracking a cohort of people to see how their spending changed over time. A subsequent study by the Center for Retirement Research looking at multiple age cohorts in the CES data found that retirement spending drops persistently, by about 1% per year as a cohort ages, even after controlling for a number of other factors.

The challenge of cohort analysis, though, is that it still only looks at groups of people who were born in a similar grouping of years, and checks to see how the group as a whole changes its spending behavior over time. It doesn't actually track the spending behavior of specific individuals and how they change over time.

A follow-up study by David Blanchett of Morningstar, though, used the Rand Health and Retirement Study (HRS), which actually does provide some longitudinal data on retiree spending behaviors over time. When Blanchett looked at the available data (which,

admittedly, was somewhat limited by the sample size), a slightly different pattern emerged. Real spending declined a little at the beginning of retirement, accelerated its decline in the middle retirement years, and then slowed its decline again in the final decade, in a pattern that was dubbed the "retirement spending smile".

Figure 2: Retirement spending smile
Annual change in real spending



Sources: © Michael Kitces, www.kitces.com & Figure 5, Annual real change in consumption for Retirees. Adapted from "Estimating the true cost of retirement", by D. Blanchett, 2013, Morningstar.

Notably, Figure 2 graphs the real (inflation-adjusted) change in spending, showing that real spending declines by an average of about 1% per year in the first decade of retirement, 2% per year in the second decade, and about 1% year again in the final decade. Given that inflation itself averages more than 2% year through most of the historical years in the data set, though, this still means that retirees were maintaining or slightly increasing their *nominal* spending each year, just by less than the annual amount of inflation.

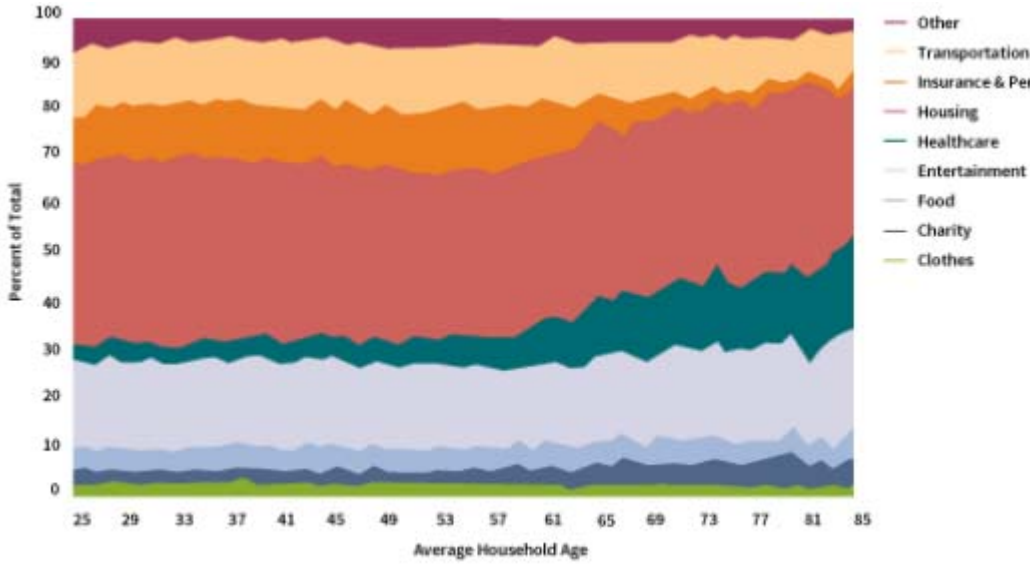
DIFFERENCES IN SPENDING PATTERNS BY RETIREMENT AGE BAND

A key aspect of the Blanchett retirement spending smile is that while real spending declines in retirement – at a rate that is slower, then a bit faster, then a bit slower again – it's not just that the absolute level of (real) spending is changing. The spending pattern itself is largely a reflection in shifts in what retirees are spending on, as they age.

For instance, using the CES data, Blanchett looked at the composition of spending throughout an individual's lifecycle (from age 25 to 85), and found that in the retirement

years, there are distinct shifts (Figure 3). As retirees age, some spending categories steadily decline – for example, insurance premiums (as life insurance, disability insurance, and eventually automobile insurance become less necessary), transportation (as the household consolidates to 1 or even 0 cars), housing (as spending on new furniture and other household goods slows down), and clothing – while other categories rise (most notably, health care).

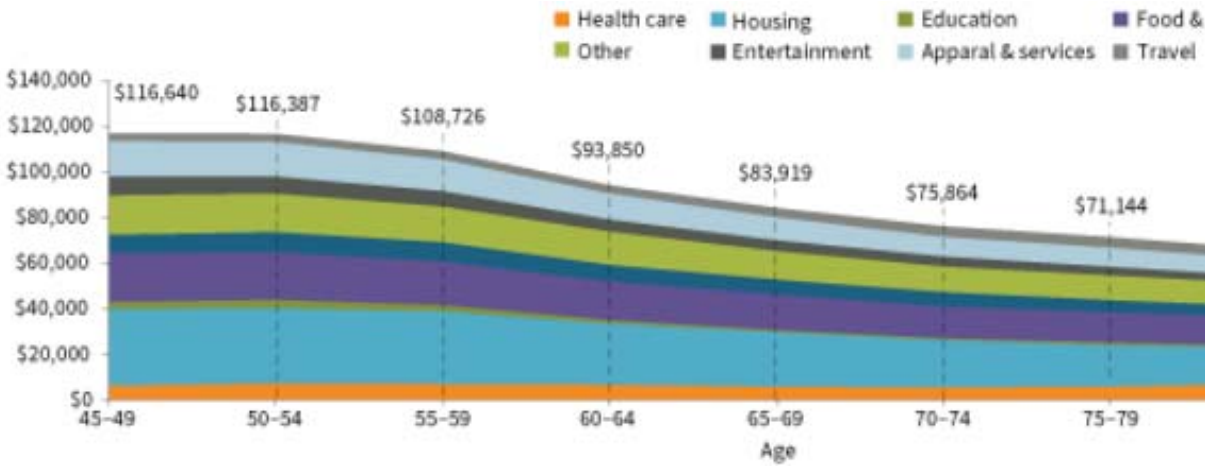
Figure 3: Relative composition of consumer household spending over time



Sources: © Michael Kitces, www.kitces.com & Figure 2, Changing expenditures over time. "Estimating the true cost of retirement", by D. Blanchett, 2013, Morningstar.

A similar study by JP Morgan, which analysed spending patterns based on JP Morgan's own proprietary data of how its clients spend (using consumer credit and debit card data), and focusing on more affluent households (those with US$1 million to US$2 million of investible assets), similarly found a version of the retirement spending smile, albeit more lopsided. Real spending clearly decreased in the early retirement years, but appeared to merely level off in the later years (as health care spending in particular ramped up for those in their 80s). Still, retirement spending was down by about 1% per year through the first 20 years of retirement (Figure 4).

Figure 4: Composition of spending amongst affluent retiree households, by age



Sources: © Michael Kitces, www.kitces.com & Exhibit 2, Average spending patterns of various age groups, Chase households $1MM-$2MM in assets. "Spending in retirement", by K.Roy, and S. Carson, J.P. Morgan Retirement Insights.

One notable aspect of these results is that while health care expenses do ramp up in the later years, health care expenditures overall are still only a relatively moderate percentage of the retiree's total spending, falling roughly in the 15% to 20% range, and not even fully replacing the decreases in spending in the other categories (such that total spending in a retiree's 80s is still more than 20% below where it was at the beginning of retirement). In other words, health care expenses really do rise in the later years of retirement, but not enough to raise total spending in the later years of retirement.

IMPLEMENTING AN AGE-BANDING APPROACH FOR RETIREMENT SPENDING

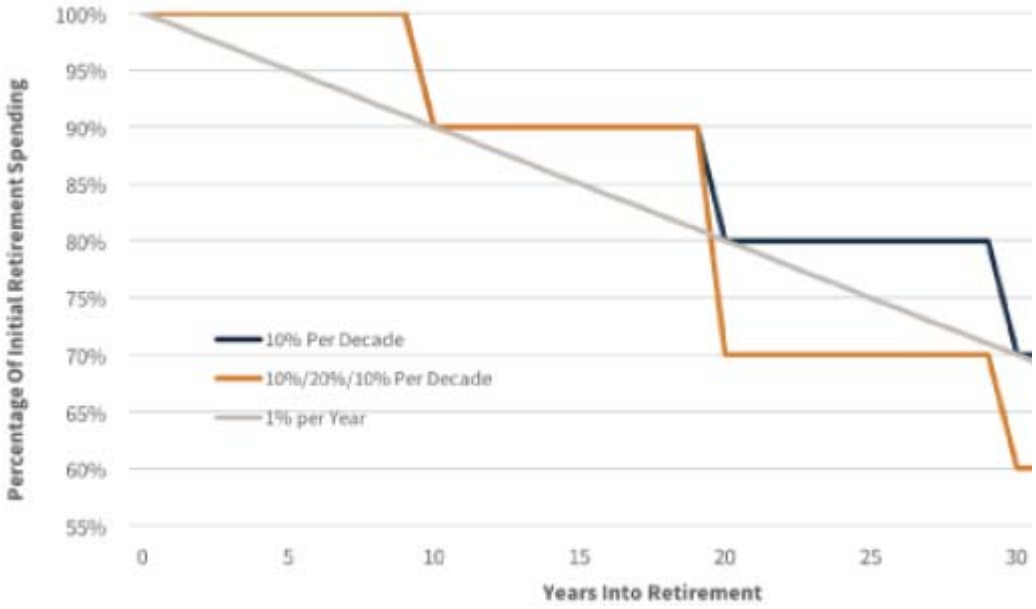
So how might the research on age-banding retirement spending be incorporated into projections for clients?

The first option would simply be to reflect the tendency for retirees to spend less as they age and move through the GoGo, SlowGo, and NoGo years. For instance, spending could be projected to decrease by 10% each decade in retirement as shown in Figure 5 below (that is, cutting spending by 10% at age 70, another 10% at age 80, and yet another 10% at age 90). The middle decade could be cut by even more – such as 15% or even 20% – to reflect Blanchett's retirement spending smile (that spending decreases even faster in the middle SlowGo decade).

Notably, though, while the research suggests these spending decreases as people move across age bands, for any particular individual, the shift is more likely to be driven by a health-related event (e.g. the retiree falls and breaks her hip, and from that point forward doesn't want to travel or eat out as much) rather than reaching an arbitrary age threshold.

Thus, in real life a spending cut might happen to occur "promptly" as someone moves across an age band, but it may well be off by several years as well. Thus, an alternative approach might also just be to project retirement spending to increase by 1% less than the expected rate of inflation (for example, 1% less than the inflation rate being used to inflate other fixed income streams), such that real spending decreases by 1% per year (also shown in Figure 5). This will still reflect the cumulatively likelihood of anticipated spending changes, without making the plan unusually dependent on a big change in a particular future year that might not actually occur at that exact time.

Figure 5: Potential reduced real spending assumptions in retirement



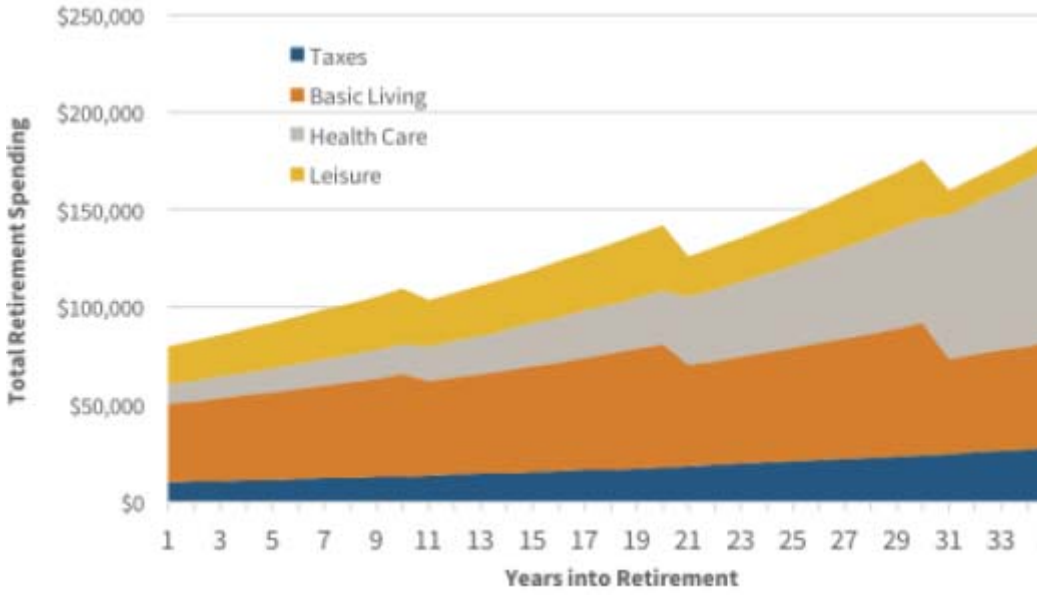
Sources: © Michael Kitces, www.kitces.com.

Of course, as noted earlier, the reality is that the decreases in retirement spending over time are less a function of absolute reductions in spending across the board, and more a result of significant spending decreases in some categories (mostly related to leisure and discretionary spending), with less-than-full substitutes in other categories (such as health care and medical expenses).

Thus, a better implementation of Basu's age-banding approach might break expenses into more concrete categories, such as his suggested Basic Living (essentials), Leisure(discretionary), Health Care, and Taxes. This makes it feasible to not only adjust different categories of spending at different rates as the retiree ages, but also to reflect the different inflation rates that apply to each (especially given how health care expenses inflate higher than other expenses). For instance, spending on essentials might be projected to decline at 10% per decade (in real dollars), but leisure could fall by 20% per decade, and

healthcare might be projected to rise by 10% per decade. In addition, healthcare could be projected with a higher inflation rate than the other categories.

Figure 6: Projecting age-banded nominal retirement spending by category



Sources: © Michael Kitces, www.kitces.com & Adapted from "What is age banding and what does it mean for retirees?", W.Pfau, 2016, August, Forbes.

In turn, both the starting levels of the retiree's budget, and the projected adjustment factors, could then be specified to the individual situation. For instance, the JP Morgan study found that almost 40% of retirees are "foodies" who spend disproportionately on food and beverages, while about 30% are "homebodies" who tend to spend more on housing-related goods, and about 5% are "globetrotters" who engage in a high volume of travel. Accordingly, globetrotters might have their own travel category, that starts out much higher (as a percentage of spending), but falls off the most in their 80s (when they presumably wouldn't travel much anymore), while the homebodies might have a larger allocation to basic living expenses that inflate more slowly but decline very little. However, retirees may not be very good at projecting their own lifestyle changes in the later years of retirement – a version of the so-called "End Of History Illusion" – and thus may need guidance about what kinds of spending cuts (or not) to project in various categories in the later years.

In practice, doing this kind of projected retirement spending may also be more difficult in today's software, simply because most of the tools aren't built to handle multiple different spending categories, each with their own inflation rates and age-banded spending cuts. In theory, though, entering each spending category as its own goal may be feasible in most goals-based software platforms to at least get close (but it still may not be possible to project varying inflation rates over time?), and cash-flow-based software tends to be

granular enough to allow the individual cash flows to be projected (though it may be time-intensive to program them).

Nonetheless, the fundamental point is that while it varies by research study as to what the exact magnitudes of spending declines are in various categories and the age-banded thresholds when they apply, the data from both the BLS' Consumer Expenditure Survey and the RAND Health and Retirement Study (HRS) both support the idea that retiree spending does not remain stable throughout retirement. It clearly declines, at least to some extent, which can impact everything from how much is "safe" to spend at the beginning of retirement (before these subsequent adjustments apply), to how much the prospective retiree needs to retire, and how much s/he must save as an accumulator to get there. And that means projecting some decrease in retirement spending in later years – any "reasonable" decrease – is arguably a better baseline for retirement planning than the current default of assuming no decreases at all.

So what do you think? Do you assume that retiree spending will decrease in the later retirement years? By how much? Please share your thoughts in the Q&A area below.

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