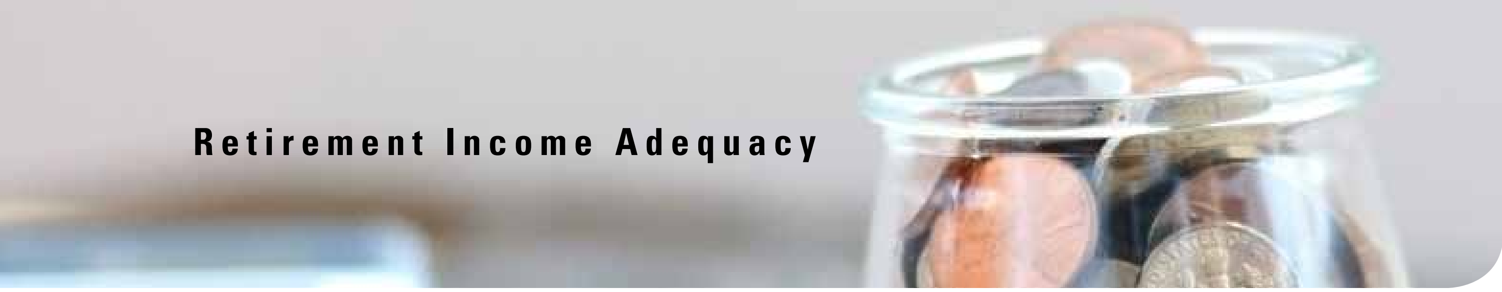

Age and Wisdom: Retirement Readiness in the U.S., U.K. and Australia

by **Steven I. Jackson, Ph.D.** | *American Academy of Actuaries* and **Kenneth F. Hohman** | *Findley*

In 2015, the American Academy of Actuaries, the Australian Actuaries Institute and the Institute and Faculty of Actuaries in the United Kingdom identified *longevity risk*—the risk of outliving one's retirement income—as a major issue in all three countries and published a white paper, *The Challenge of Longevity Risk*,[1] to alert the public and policy makers to their concerns. In 2016–2017, the actuarial groups undertook a followup to their original paper by sponsoring a survey of working-age individuals in each country to assess their preparation for various retirement risks, including longevity risk. The results of this survey were published in a 2017 report, *Retirement Readiness: A Comparative Analysis of Australia, the United Kingdom & the United States.*[2]

Recognizing important differences across these three countries in history, culture, policies and practices, the survey sought to identify significant differences in the perceptions of and planning for a secure retirement. The survey also compared responses across various demographic categories, including gender, age, income and education. This article seeks to explore more deeply the differences in response by age in that original survey, focusing on the U.S. respondents in the 2016 survey but with a comparative look at the responses from Australia and the U.K.

Data and Methods

In November 2016, the three associations hired the firm YouGov to survey representative samples of working-age (18–64) men and women in Australia, the U.K. and the U.S. The samples consisted of 685, 1,380 and 888 respondents, respectively. The survey consisted of 16 questions;[3] the questions and available responses are available in the appendix to the 2017 report. All questions were asked in all three countries, with slight modifications made to a few questions in order to make them country-appropriate. In each country, some questions were asked only of those who indicated that they planned to retire.

To simplify the analysis by age (in both the original report and in this article), the respondents are grouped into three categories or cohorts, corresponding to the generations identified with each:

- Millennials: Ages 18–34
- Generation X: Ages 35–54
- Baby Boomers: Ages 55–64.

Lacking access to the individual responses, the analysis has been built from detailed tables of responses provided by YouGov. In comparing results across ages, times and countries, it is assumed that a minimum difference in response rates of 4% would approximate statistical significance at a 90% confidence level and some minimum of substantive significance.

U.S. Results

Examination of the answers provided by U.S. residents reveals five patterns. In some respects:

1. Retirement readiness increases with age.

2. Retirement readiness is constant across age groups.
3. Millennial respondents are less prepared than Gen Xers and Baby Boomers.
4. Baby Boomer respondents are more prepared than Millennials and Gen Xers.
5. Anomalies exist that do not fit the prior four patterns.

While none of these patterns is surprising in itself, there are insights available within each of them. And one of them provides a lens on possible areas requiring public policy attention if retirement readiness is to be improved.

Retirement Readiness Increases With Age

No one should be surprised that those nearing retirement report they are more prepared than those just entering the workforce.[4]

The first two questions in Table I indicate that relatively easy behaviors in preparing for retirement (gathering information and saving or planning to save) are common among all age groups, and the likelihood of performing those activities increases as individuals age. The third question, dealing with a more demanding task—figuring out how much one will have saved at retirement—reveals much less preparation among all age groups but is especially low among both Millennials and Gen Xers. Only those in the years approaching retirement are more likely than not to know how much they will have saved. This may be caused by a combination of the task becoming easier as the time of retirement approaches and approaching retirement causing one to focus attention on these more difficult tasks.[5]

The last two questions in the table deal with sources of retirement income. Lower affirmative responses from Millennials and Gen Xers to a question about Social Security income might reflect lack of understanding about benefits that are relatively distant. Lower responses might also reflect doubts about the future viability of Social Security, with more doubt the further into the future respondents look.[6] Could this be a generational difference or just a normal change in attitude as one ages? On the other hand, lower response rates from Millennials and Gen Xers for home equity as a source of income might indicate that respondents do not consider this as a possible source of income until they already own a home or, consistent with the discussion below on Question 8, it might indicate plans to avoid using home equity as a source of income even if it were available. But might it also reflect changing generational attitudes toward the desirability of home ownership?[7]

Retirement Readiness Is Constant Across Age Groups

Three questions elicit very similar responses across age groups; this should not surprise us. It is, once again, in the details that insight and questions arise.

It's not particularly surprising that the number of people indicating plans to retire does not change with age (Table II). However, it is surprising that 40% of respondents at all

TABLE I

Retirement Readiness Increases With Age
Percentage of Affirmative Responses
U.S. Respondents

Question	Millennials	Gen Xers	Baby Boomers
1. Have you gathered some information about retirement?	65%	71%	81%
2. Have you saved or plan to save for retirement?	52%	66%	80%
3. Do you know how much you will have saved when you retire?	18%	29%	57%
4. Will you receive income from Social Security in retirement?	49%	70%	91%
5. Will you receive income from home equity in retirement?	23%	33%	41%

Source: Survey by YouGov, November 2016. Data analyzed by authors.

TABLE II

Retirement Readiness Is Constant Across Age Groups

Percentage of Affirmative Responses
U.S. Respondents

Question	Millennials	Gen Xers	Baby Boomers
6. Do you plan to retire?	62%	61%	58%
7. Do you have a plan for withdrawing funds from your savings?	67%	69%	73%
8. Will you receive income from your savings in retirement?	57%	53%	56%

Source: Survey by YouGov, November 2016. Data analyzed by authors.

ages indicate they do not plan to retire. It is unclear whether people who indicate an intention not to retire do so because they do not want to retire (because they enjoy working) or because they believe that financially they will be unable to afford to retire. It is somewhat surprising that the same proportion of people at all ages indicate that they have a plan for drawing down their retirement savings and that the plan does not simply consist of withdrawing funds as needed.

It's particularly surprising that the Millennial cohort matches the Baby Boomer cohort in the likelihood of selecting the following response: "I will budget based on a set period of years that I expect to live and adjust my lifestyle to the savings available." One-quarter of the Baby Boomer and Millennial cohorts selected this response (while one-third of Gen X respondents did). Are these respondents particularly thoughtful about their finances or, perhaps, are they providing the answer they believe surveyors want to hear?[8] It could be a concern that one-quarter of those approaching retirement do not have a plan for drawing down their savings. Without such a plan, the likelihood of running out of money in retirement might increase.

It is not surprising that the same proportion of respondents expect to receive income from savings in retirement. It *is* surprising that at least a quarter of the respondents approaching retirement indicate that they are saving for retirement but do not expect to receive income from that savings in retirement (i.e., 80% are saving or plan to save (Table I); 56% expect to receive income from savings (Table II)). Do they expect to live on Social Security payments plus any defined benefit pension plan payments and bequeath their savings to their children, or do they think they will have exhausted their savings before retirement?[9]

TABLE III

Millennials Are Less Prepared Than Gen Xers and Baby Boomers

Percentage of Affirmative Responses
U.S. Respondents

Question	Millennials	Gen Xers	Baby Boomers
9. Do you have a plan for mitigating longevity risk?	50%	67%	69%
10. Do you have a plan if your savings portfolio drops in value?	79%	86%	88%
11. Do you have a plan to pay for chronic ill health if necessary?	55%	63%	60%

Source: Survey by YouGov, November 2016. Data analyzed by authors.

TABLE IV

Planning for a Drop in Portfolio Value
Percentage of Affirmative Responses
U.S. Respondents

Question	Millennials	Gen Xers	Baby Boomers
10. What would you do if your portfolio value dropped in retirement?			
a. I would go back to work (either part-time or full-time).	45%	46%	53%
b. I would spend less/budget more in my retirement.	46%	47%	55%
c. I would make sure I had a contingency plan.	41%	30%	27%
d. I would rely on family or friends to help me financially.	11%	10%	6%
e. Other	1%	1%	1%
f. Don't know	16%	10%	9%
g. N/A—I wouldn't do anything to improve my financial situation.	5%	3%	3%

Source: Survey by YouGov, November 2016. Data analyzed by authors.

Millennials Are Less Prepared Than Gen Xers and Baby Boomers

Three questions generate responses from Millennial respondents indicating less preparedness than the similar responses of Gen X and Baby Boomer respondents. In each case, encouraging proportions of Millennials indicate they are preparing. In two of the three cases, approximately one-third of the Baby Boomer respondents are not prepared (Table III).

In response to a question about plans in the event of a drop in the value of their investment portfolio in retirement, between 79% and 88% of those in each cohort replied that they had a plan. The fact that overwhelming majorities within each cohort have a plan may seem encouraging until one notices that Table IV indicates approximately half of respondents in each age category selected "I would go back to work" as part of their plan, with a somewhat increased percentage of those nearing retirement selecting this option. For a group that has indicated an intention to retire in their 60s and 70s (Table V), returning to work in retirement may be a limited option depending both on retirees' physical condition and on the supply of positions available.[10] The relatively high proportion of the Millennial cohort that expects to have a contingency plan also is noteworthy. Perhaps some realism reins in this expectation for the Generation X and Baby Boomer cohorts.

Baby Boomers Are More Prepared Than Millennials and Gen Xers

Four questions in Table V indicate that Millennial and Gen X respondents are similarly less prepared for retirement than are Baby Boomer respondents. For three of the four questions, no group, even the Baby Boomers, seems very well prepared.

Three-quarters of the Millennial and Gen X groups and two-thirds of the Baby Boomer group do not have a financial plan if they are forced—by ill health or other involuntary termination of employment—to stop working prior to the age when they plan to retire. This suggests the likelihood of additional stress on retirement assets for all cohorts, since money designed to last through retirement might well have to last even longer. While most respondents feel they have a plan to handle longevity risk (see Table III), this is difficult to reconcile with the fact that half of the Baby Boomer respondents and two-thirds of the Millennials and Gen Xers do not know how long their retirement savings will last. This raises

TABLE V

Baby Boomers Are More Prepared Than Millennials and Gen Xers
Percentage of Affirmative Responses
U.S. Respondents

Question	Millennials	Gen Xers	Baby Boomers
12. Do you have a plan if you have to stop working early?	24%	24%	35%
13. Do you know how long your retirement savings will last?	36%	37%	48%
14. Do you expect income from your employer in retirement?	46%	44%	61%
15. Do you plan to retire in your 60s or 70s?	78%	82%	95%

Source: Survey by YouGov, November 2016. Data analyzed by authors.

the question of whether they understand how long their savings *must* last.[11]

Almost two-thirds of the Baby Boomer cohort expect income from their employer in retirement, which may be a realistic assessment. According to the Congressional Research Service (CRS), in 2016, 69% of all civilian workers had access to either an employer-sponsored defined benefit or defined contribution retirement plan, while 54% of civilian workers participated in employer-sponsored plans.[12] If most respondents work for civilian employers, then the 61% of the Baby Boomers who expect income from their employers in retirement would indicate that those who will receive income from their employers are aware of it. For Millennial and Gen X employees, where about 45% expect income from their employers, the expectation seems more likely to underestimate those who will actually receive such benefits. Of course, if they tend to work (more than the Baby Boomer cohort) either part-time, in low-wage positions or for small employers, then the proportions expecting employer benefits would more nearly match the proportions of employers offering retirement benefits, according to CRS. This might well be true if they also tend to work in the "gig economy" more than their elders.

It seems concerning that in the Baby Boomer cohort 95% of those planning to retire indicate they will retire in their 60s and 70s, while that percentage is 80% in the other two cohorts. Are 15% of the Millennial and Gen X cohorts being unrealistic in planning to retire either earlier or later than their 60s or 70s? Or is a generational shift underway in which the Millennial cohort plans to define a new normal, with a later retirement age than was the norm for the prior generation?

TABLE VI

Anomalies
Percentage of Affirmative Responses
U.S. Respondents

Question	Millennials	Gen Xers	Baby Boomers
16. If you intend to retire, do you intend to retire fully?	35%	30%	31%
17. Do you expect a "comfortable" or "flourishing" lifestyle in retirement?	49%	49%	43%

Source: Survey by YouGov, November 2016. Data analyzed by authors

TABLE VII

U.S. Respondents Are Better Prepared at All Ages

Percentage of Affirmative Responses
U.S., U.K. and Australian Respondents

	Millennials			Gen Xers			Baby Boomers		
Question	U.S.	U.K.	Aus.	U.S.	U.K.	Aus.	U.S.	U.K.	Aus.
1. Have you gathered some information about retirement?	65%	44%	44%	71%	53%	54%	81%	63%	75%
2. Have you saved or plan to save for retirement?	52%	35%	42%	66%	48%	59%	80%	68%	67%
10. Do you have a plan if your savings portfolio drops in value?	79%	66%	74%	86%	72%	81%	88%	77%	83%

Source: Survey by YouGov, November 2016. Data analyzed by authors.

Anomalies

Two questions reflect either a realistic perception of retirement that increases with age or generational changes in expectations (Table VI).

In asking those who indicated that they plan to retire whether they intend to retire fully, the survey found only about a third of each age cohort expecting to retire fully. These responses seem to deepen further the rejection of traditional notions of retirement.[13] The percentages go down somewhat for the Gen X and Baby Boomer respondents, which might suggest realism setting in, as people grasp that either they do not wish to retire or will not be able to afford to retire fully.

Responses to a question about one's expected lifestyle in retirement were discouraging at best. Less than half of the respondents in each category expected a comfortable or flourishing lifestyle. The other half expected a "modest" ("I would be able to meet my daily living costs, pay off any outstanding debts—e.g., mortgage," etc.) or "poor" ("I would not be able to meet my daily living costs," etc.) lifestyle. The percentage for the Baby Boomer cohort declines, which somewhat suggests that expectations decline even further as retirement approaches.[14]

Results in the U.S. Compared With the U.K. and Australia

The survey results generally seemed to indicate that respondents in the U.S. were equally as prepared as Australians and more prepared than the British. This section explores whether certain U.S. age cohorts were more prepared than either their Australian or British counterparts or whether they were less prepared than either of the others. In examining this question, the survey addresses both cultural and policy differences across the three countries, which must be accounted for in the interpretation of these cross-national numbers.

Examination of the answers from U.S. residents compared with their Australian and U.K. counterparts reveals three distinct patterns of response among distinct sets of questions:

- U.S. respondents report being better prepared than Australian and U.K. respondents at all ages.
- U.S. respondents report being less likely to plan to retire than Australian and U.K. respondents at all ages.
- Baby Boomer U.S. respondents report being more prepared than their counterparts in both Australia and the U.K.

TABLE VIII

U.S. Respondents of All Ages Are Less Likely to Plan to Retire

Percentage of Affirmative Responses
U.S., U.K. and Australian Respondents

	Millennials			Gen Xers			Baby Boomers		
Question	U.S.	U.K.	Aus.	U.S.	U.K.	Aus.	U.S.	U.K.	Aus.
6. Do you plan to retire?	62%	83%	79%	61%	75%	69%	58%	66%	68%

Source: Survey by YouGov, November 2016. Data analyzed by authors.

U.S. Respondents Are Better Prepared Than Australian and U.K. Respondents at All Ages

Three questions elicited responses indicating more preparation for retirement by U.S. respondents of all ages (Table VII).

In all three countries, the percentage that reported having gathered information about retirement increases with age. However, with the exception of the U.S.-Australia comparison for those over age 55, where the difference is only six percentage points, the percentage of U.S. respondents indicating they had done so was approximately 20 percentage points higher than that of U.K. and Australian respondents in each age cohort.

Perhaps U.S. respondents are more concerned and more concerned at an earlier age about their retirement than their U.K. and Australian counterparts. Or perhaps U.S. respondents are encouraged by employers, government agencies and stakeholder organizations to prepare more than in the other countries. Possibly the information is more readily available.

On the question of saving for retirement, U.S. respondents in each age cohort exceed by seven to 12 percentage points the nearest international cohort in their reports of having saved already or planning to save for retirement. This might well be related to the increased level of information gathering. Finally, by a steady five points, U.S. respondents exceed their Australian counterparts in indicating they have a plan if the value of their savings portfolio drops.

U.S. Respondents Are Less Likely to Plan to Retire Than Australian and U.K. Respondents at All Ages

On one question—asking whether respondents plan to retire—U.S. respondents answer affirmatively at a significantly lower proportion than U.K. and Australian respondents in each age cohort. This might reflect different expectations associated with the different cultures. However, while many respondents might wish to not retire, whether retirement is voluntary or forced by illness or employer decisions, most people will stop working at some point. In the U.S., 19% of those over age 65 are working; 81% are retired.[15] In the U.K. and Australia, comparable numbers are 11% and 13% working over age 65, meaning that 89% and 87% are retired.[16] Failing to plan—even if that plan is to retire in their 80s and to do so gradually—might be expected to lead, in many cases, to a failure to appropriately prepare.

In the Baby Boomer cohort, in all three countries, less than 68% plan to retire; however, currently at least 81% are retired. The gap between planning and reality ranges from 23 percentage points in the U.S. and the U.K. to 19 points in Australia. Whether this is a cross-national expectation or a preference for being forced to retire, it does not bode well for retirement planning. For the Gen X cohort, the U.S. and Australian respondents are similar to the Baby Boomers in each country, while U.K. Gen Xers are more likely to indicate a plan to retire. Surprisingly, when we look at the Millennial cohort in both the U.K. and Australia, the proportions of those planning to retire approach currently realistic levels, while the Millennial U.S. respondents remain at a relatively low level of planning to retire, similar to the Baby Boomer U.S. cohort. Might this stark difference among the Millennial cohort indicate a generational shift beginning in the U.S. but not yet reaching the

TABLE IX

Older U.S. Respondents Are Better Prepared
Percentage of Affirmative Responses
U.S., U.K. and Australian Respondents

	Millennials			Gen Xers			Baby Boomers		
Question	U.S.	U.K.	Aus.	U.S.	U.K.	Aus.	U.S.	U.K.	Aus.
3. Do you know how much you will have saved when you retire?	18%	14%	20%	29%	16%	28%	57%	38%	49%
7. Do you have a plan for withdrawing funds from your savings?	67%	51%	67%	69%	52%	73%	73%	52%	59%
4. Will you receive income from the government in retirement?	49%	60%	47%	70%	71%	46%	91%	85%	63%
14. Do you expect income from your employer in retirement?	46%	44%	53%	44%	49%	56%	61%	49%	45%
5. Will you receive income from home equity in retirement?	23%	21%	32%	33%	32%	39%	41%	32%	34%

Source: Survey by YouGov, November 2016. Data analyzed by authors.

U.K. and Australia?[17] Is this indicative of unrealistic expectations or anticipation of a future in which improved health technologies combine with increased gig economy opportunities for employment of older workers?

Baby Boomer U.S. Respondents Are More Prepared Than Their Australian and U.K. Counterparts

On five questions, larger portions of the Baby Boomer cohort in the U.S. indicate they have more knowledge about their retirement situation than do their counterparts in the U.K. and Australia—sometimes a little, sometimes a lot (Table IX).

Baby Boomer respondents in the U.S. are eight percentage points more likely than their Australian counterparts (and 19 points more likely compared with their British counterparts) to know how much money they will have saved when they retire. But the percentage is still only 57% for this U.S. Baby Boomer group, which might indicate an important lack of knowledge in all three countries, just a little less so in the U.S. The percentage of U.S. Baby Boomer respondents who have a plan for drawing down their savings in retirement is 14 percentage points higher than those in Australia and 21 points higher than U.K. Baby Boomer respondents. This might signal significantly less longevity risk in the U.S., assuming U.S. respondents actually do have a plan for withdrawal of funds. This difference would be mitigated if either the U.K. or Australia had significantly higher proportions of retirees with annuities or other forms of lifetime income, but we see no evidence of that.

On recognition of government income during retirement, there is a gap of 28 percentage points between Baby Boomer respondents in the U.S. and those in Australia (with a much smaller six-point gap with those in the U.K.). In the U.S., approximately 97% of those over 60 receive Social Security income;[18] in Australia, 70-80% of those over 60 receive an Age Pension.[19] With a 17- to 27-point difference in the reach of government income in the two countries, the differences in the responses might reflect the differing realities in the two countries, or it might leave as much as an 11-point difference suggesting a gap in awareness of benefits, favoring U.S. respondents.

The 16-point difference between Baby Boomer U.S. respondents and their Australian counterparts in expecting income from employers might suggest a similar or even greater difference in awareness. As indicated in the U.S. results section, the 61% of U.S. respondents is not far from the estimated 69% of civilian workers with access to employer-sponsored retirement plans. In Australia, by contrast, virtually all employers have been required since 1992 to contribute to superannuation funds, providing some assets to virtually all employees.[20] Yet a significant percentage of Australians report that they either are unaware of their superannuation accounts, which is unlikely, or do not associate the income which those accounts can generate with the employers who provided at least some of the funding.

Discussion and Conclusion

Several important insights and additional questions arise as we consider the information presented in the analysis of U.S. results in 2016. The insights are extended and the questions are compounded when we consider putting these U.S. results into a comparative framework with Australia and the U.K.

Clearly these results illustrate retirement insecurity in all three countries for the vast majority of respondents. While at one time most workers might have expected to retire fully when they reached age 65, enjoying a life of leisure with sufficient income to lead a comfortable life, that is clearly not how our respondents view their futures today. Many do not intend to retire at all, and a majority of those who do intend to retire gradually, continuing to work part-time. Large minorities plan to retire in their 70s and expect a modest lifestyle in retirement at best.

Distinguishing between tasks that are relatively easy for respondents to undertake from those that are more difficult reveals evidence for the intuitive result—namely, that people of all ages are more likely to do easy tasks as opposed to hard tasks. Gathering information about retirement is relatively easy; coming up with a plan for mitigating longevity risk is hard. Moreover, the Baby Boomer cohort approaching retirement has the incentive to do the more difficult tasks.

As retirement age approaches, some tasks that were more difficult (e.g., knowing how much money you will have when you retire) become less difficult due to the proximity of retirement. Some tasks that remain difficult (planning for longevity risk or chronic health issues) become more salient as the reality of retirement approaches. It may be that as retirement moves from a perceived hypothetical to imminent, realism resets expectations and provides focus for harder work.

While the Baby Boomer cohort is doing more of the difficult tasks in preparing for retirement, the lack of such preparation by Millennials is cause for concern—from the perspective that the habits of preparing for retirement are best started when one first enters the workforce. The Millennial respondents still have time to prepare effectively, especially given the number who indicate they are saving or plan to save.

The same cannot be said about the Generation X cohort. As the 2017 report states, "The relatively low percentages of middle-aged . . . respondents in all three countries who are prepared to retire or for the risks of retirement is particularly noteworthy." The reason for special focus on the Gen X group is that while Gen Xers are halfway or more through their working career, they still have the time to alter their financial plans and practices to create a relatively secure retirement.

Returning to Table V on page 27 we find that on four questions, the responses from Gen X respondents are very similar to those of the Millennial cohort. In that Gen Xers are significantly less prepared or knowledgeable than the Baby Boomer cohort, these responses provide insight into specific areas where education to target Gen X workers might encourage them to engage more seriously with their retirement prospects—to behave more like the Baby Boomer cohort rather than the Millennial cohort.

For most questions, the respondents in the Millennial cohort indicate less knowledge or preparation than that of older respondents. As this cohort ages, will their responses tend to match the older cohorts we have observed, or will they be different because their generation, the Millennials, has been shaped by a very different environment than that which shaped Gen Xers or Baby Boomers? While we know that Millennials are distinctive—for instance, they are digital natives who have grown up in a more connected world—we await more evidence before ascribing differences we see among age cohorts to generational changes.

Looking at the U.S. in an international context reveals that for a couple of easy tasks, U.S. respondents of all ages indicate more preparation than their counterparts in the U.K. and Australia. And on one difficult task—planning for a drop in the value of their investment portfolios—U.S. respondents of all ages also exceeded the Australian and U.K. cohorts. But many of them plan to return to work in that circumstance, which may prove impossible for many. On a set of both planning and informational questions, the Baby Boomer cohort in the U.S. responds at a higher level than those in Australia and the U.K.

Yet the patterns across all three countries are remarkably similar with respect to both age and other variables. There are real differences among age groups in how they view retirement and how they are preparing for it. While the U.S. might be better in some respects than other countries in preparing for retirement, none of the three seems to have figured out a fully effective approach.

Whatever is driving differences among the age cohorts within the U.S. is likely driving differences in the other countries as well. Procrastination is—as the behavioral psychologists have shown—a characteristic of people in almost all modern settings.[21] It is certainly plausible that the drivers of the results in the U.S. are not the product of particular U.S. economic conditions, policy challenges nor cultural developments but rather of universal characteristics of human decision making. Nonetheless, while recognizing that, policy and educational responses to improve retirement readiness can certainly take into account distinctively American needs.

Understanding how those distinctive needs intersect and interact with broader human decision-making elements in encouraging and discouraging preparation for retirement requires much more research. Throughout this discussion, we have articulated possible conclusions and questions about the causes for observed patterns—whether of similarities or differences. These postulations and queries can provide starting points for further research. BQ

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Endnotes

1. American Academy of Actuaries, Institute and Faculty of Actuaries (UK) and Actuaries Institute (Australia), *The Challenge of Longevity Risk: Making Retirement Income Last a Lifetime*, October 2015.

2. American Academy of Actuaries, Institute and Faculty of Actuaries (UK) and Actuaries Institute (Australia), *Retirement Readiness: A Comparative Analysis of Australia, the United Kingdom & the United States*, October 2017.

3. Some of these 16 questions allowed multiple responses. Those responses create, in effect, multiple questions. For example, the survey asked respondents about their expected sources of income in retirement. One response was government and another was home equity. For this analysis, we have treated those responses, where respondents were free to select as many responses as they wished, as two separate questions.

4. See, for example, David Ekerdt, Karl Kosloski and Stanley DeViney, "The Normative Anticipation of Retirement by Older Workers," *Research on Aging*, 22, No. 1 (January 2000): 3–22.

5. Evans, Linda, David Ekerdt and Raymond Bosse, "Proximity to Retirement and Anticipatory Involvement: Findings from the Normative Aging Study," Journal of Gerontology, 40, no. 3 (1985): 368–74.

6. Newport, Frank, "Many Americans Doubt They Will Get Social Security Benefits," Gallup, August 13, 2015. This Gallup survey finds 64% of those ages 18–29 do not believe they will receive Social Security benefits, while 66% of those ages 50–64 believe they will receive benefits.

7. Bracha, Anat, and Julian Jamison, "Shifting Confidence in Home Ownership: The Great Recession" (Federal Reserve Bank of Boston, October 2011).

8. Steenkamp, Jan-Benedict E.M., Martijn De Jogn and Hans Baumgartner, "Socially Desirable Response Tendencies in Survey Research," Journal of Marketing Research XLVII (April 2010): 199–214.

9. Poterba, James, Steven Venti and David Wise, "The Composition and Drawdown of Wealth in Retirement," *Journal of Economic Perspectives*, 25, No. 4 (Fall 2011): 95–118. See especially their discussion of "precautionary savings." If some of our respondents plan to draw income from savings but do not indicate that they have saved or plan to save, the proportion of respondents planning to save but not receiving income from saving would increase.

10. Maestas, Nicole, *Back to Work: Expectations and Realizations of Work after Retirement*, Working Paper WP 2004-085 (University of Michigan Retirement Research Center, July 2004). And Susan Quine et al., "When Choice in Retirement Decisions Is Missing: Qualitative and Quantitative Findings of Impact on Well-Being," *Australian Journal on Aging*, 26, No. 4 (December 2007): 173–79.

11. American Academy of Actuaries, *Retiree Lifetime Income: Choices and Considerations*. (October 2015).

12. Topoleski, John, "Worker Participation in Employer-Sponsored Pensions: A Fact Sheet" (Congressional Research Service, February 27, 2017).

13. Johnson, Richard, Barbara Butrica and Corina Mommaerts, *Work and Retirement Patterns for the G.I. Generation, Silent Generation, and Early Boomers: Thirty Years of Change*, CRR WP 2010-8 (Center for Retirement Research, Boston College, July 2010).

14. These results are generally consistent with those of the EBRI/Greenwald Retirement Confidence Survey. Note that in the survey, retirees are more confident of a comfortable lifestyle than are current workers. Employee Benefit Research Institute and Greenwald & Associates, *2018 Retirement Confidence Survey*. (Employee Benefit Research Institute, April 24, 2018).

15. Jordan, Mary, and Kevin Sullivan, "The New Reality of Old Age in America," *The Washington Post*, September 30, 2017, online edition.

16. For the U.K., see Office for National Statistics, "Summary of Labour Market Statistics" (Government of the United Kingdom, October 16, 2018). For Australia, see Australian Institute of Health and Welfare, "Older Australia at a Glance" (Australian Government, September 10, 2018).

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AUTHORS

Steven I. Jackson, Ph.D., is the assistant director for research (public policy) of the American Academy of Actuaries. Prior to his work there, Jackson spent several years on the faculty at Cornell University and at Washington University in St. Louis. He holds an A.B. degree from Stanford University, an M.Sc. degree from the London School of Economics and Political Science, and a Ph.D. degree in political science from Yale University.

Kenneth F. Hohman, EA, FCA, FSA, MAAA, recently retired as a managing consultant at Findley Inc. His primary area of expertise is in the design, funding, administration and regulatory compliance of qualified and nonqualified retirement plans. He is a past president of the American Academy of Actuaries. Hohman also has represented the American Academy of Actuaries in the International Actuarial Association for the last decade. He also is a member of the ESOP Association (past vice president for Kentucky) and a member of the National Center for Employee Ownership. Hohman received B.A. and M.A. degrees in mathematics from the University of Louisville.