

# HOW DO RESPONSES TO THE DOWNTURN VARY BY HOUSEHOLD CHARACTERISTICS?

BY NORMA B. COE AND KELLY HAVERSTICK\*

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## Introduction

The stock market crash eliminated more than \$2 trillion in wealth held in defined contribution retirement accounts, about one-third of the pre-crash total. Unless offset by a later retirement age and/or increased retirement saving, this wealth shock will significantly reduce the retirement incomes of workers now approaching retirement – cohorts who will depend primarily on 401(k) balances once they stop working.

To measure the response of older workers to this downturn, the Center for Retirement Research at Boston College (CRR) fielded the *2009 Retirement Survey* in July-August 2009. This *brief* is the second of four based on this nationally-representative survey of workers aged 45-59 who had substantial retirement assets prior to the downturn.<sup>1</sup> The first *brief* described the *Survey* and highlighted the inclusion of numerous financial, employment, and behavioral factors that are omitted from other surveys.<sup>2</sup> This *brief* explores the relationship between these factors and worker responses to the downturn.

The first section provides a brief overview of the responses – work longer, save more, or both – and the remaining sections describe the empirical analysis conducted for each response.

## Response to the Financial Downturn

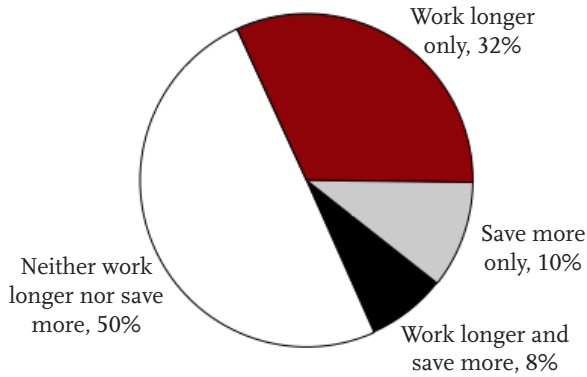
According to economic theory, to counteract losses in retirement assets, rational workers may plan to: work longer, save more, consume less in retirement, or adopt some combination of these responses. However, behavioral finance has repeatedly shown that workers are far from rational, suggesting that many individuals may fail to plan ahead and then scramble to adjust when they find themselves short at retirement. Figure 1 on the next page shows the initial response to the downturn, in which 50 percent plan to do nothing, 32 percent plan to work longer only, 10 percent have increased or intend to increase their savings only, and 8 percent choose both actions.<sup>3</sup>

This *brief* explores which factors influence worker responses. We examine the decision to work longer (compared to not) and the decision to save more (compared to not).<sup>4</sup> We then assess the decision to do both to see if additional factors influence the adoption of a two-pronged approach to the fallout from the downturn.

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FIGURE 1. INITIAL RESPONSES TO THE FINANCIAL DOWNTURN



Source: Authors' calculations from Center for Retirement Research at Boston College (CRR) 2009 Retirement Survey.

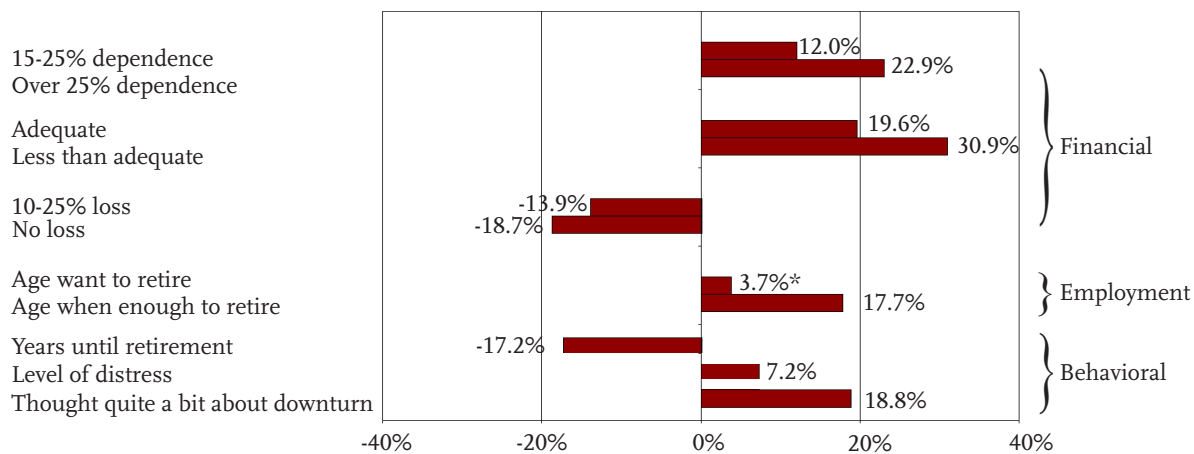
## Work Longer

Forty percent of individuals state that they intend to work longer, either alone or in combination with saving more.<sup>5</sup> We use regression analysis to measure the independent relationships between a decision to work longer and a variety of financial, employment, and behavioral factors.<sup>6</sup> Selected results are shown in Figure 2.<sup>7</sup>

Financial factors seem to dominate the decision to work longer. Respondents who expect more than one-quarter of their retirement income to come from retirement assets have 23 percentage points higher probability of working longer than those who expect retirement assets to fund less than 15 percent of their retirement income. Respondents who have less than adequate retirement assets before the downturn have 31 percentage points higher probability of working longer than those who have more than adequate pre-downturn assets.<sup>8</sup> Households who experienced very little or no financial loss have, respectively, 14 and 19 percentage points lower probability of working longer than households who lost more than one-quarter of their retirement assets.

We expected that many employment factors, such as changes in job security and other impediments to continued work, would be important in the working longer decision. However, only one factor is significant – reason for choice of original retirement age. Respondents who chose their expected retirement age based on when they thought they would have enough money to retire have 18 percentage points higher probability of working longer than those who chose their age because it is a “standard retirement age.” Another interesting finding is that workers who are further away from retirement – and, thus, have more time to respond – are less likely to plan on working longer, controlling for age. For example, an indi-

FIGURE 2. EFFECT OF SELECTED FACTORS ON THE PROBABILITY OF WORKING LONGER



\* Effect is not statistically significant at a 10-percent level.

Note: The effects shown are for a one-standard-deviation change from the mean for continuous variables and the effect of a change from 0 to 1 for other variables.

Source: Authors' calculations from CRR 2009 Retirement Survey.

vidual who is about 13 years from retirement has 17 percentage points lower probability of working longer than one who is about seven years from retirement.

Finally, two behavioral factors impact the probability of working longer, even after accounting for the financial factors. First, respondents are asked to rank their level of distress in response to the downturn on a scale from 0 to 10, where 0 indicated no distress and 8 indicated distress comparable to the events of 9/11. Higher distress is associated with a greater likelihood of working longer. Respondents with stress levels comparable to 9/11 have 7 percentage points higher probability of working longer than those who have a more moderate distress level.<sup>9</sup> The second behavioral factor is how much the respondent has thought about how the downturn has affected his long-term financial goals. Those who thought “quite a bit” have about 19 percentage points higher probability of working longer than respondents who had thought about it less.<sup>10</sup>

## Save More

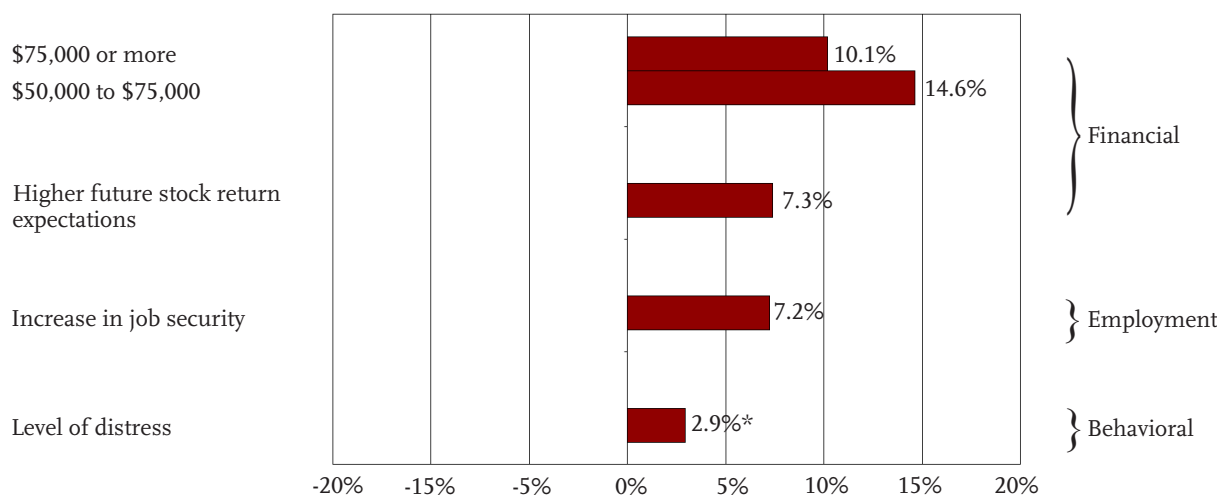
Only 18 percent of the sample indicated they will save more because of the financial crash, either alone or in combination with working longer. The factors in-

fluencing the work longer decision could also potentially affect a decision to save more. In addition, we expect that income may be an important explanatory variable.

Figure 3 shows the influential factors for “saving more” are different from those affecting the decision to work longer. In terms of financial factors, respondents who have higher household incomes are more likely to save more; households making between \$50,000 and \$75,000 per year have about 15 percentage points higher probability of saving more than those in households who have incomes below \$50,000. Another influential financial factor is a respondent’s expectations of future stock returns from now until retirement. Those who expect a higher than average return have about 7 percentage points higher probability of saving more than those expecting average returns.<sup>11</sup>

With respect to employment factors, job security matters; respondents who feel their jobs have become more secure over the past year have 7 percentage points higher probability of saving more than those who have no change in job security. Finally, none of the behavioral factors had statistically significant effects on saving more.<sup>12</sup>

FIGURE 3. EFFECT OF SELECTED FACTORS ON THE PROBABILITY OF SAVING MORE

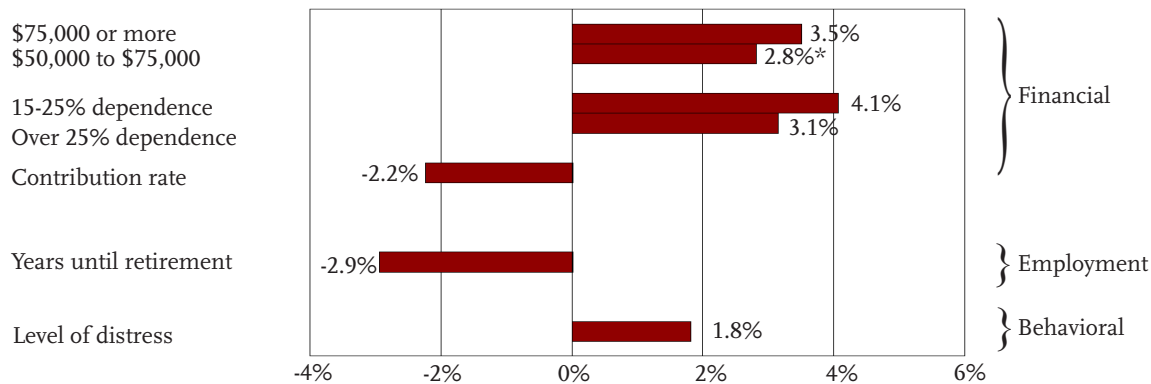


\* Effect is not statistically significant at a 10-percent level.

Note: The effects shown are for a one-standard-deviation change from the mean for continuous variables and the effect of a change from 0 to 1 for other variables.

Source: Authors’ calculations from CRR 2009 Retirement Survey.

FIGURE 4. EFFECT OF SELECTED FACTORS ON THE PROBABILITY OF BOTH WORKING LONGER AND SAVING MORE



\*Effect is not statistically significant at a 10 percent level.

Note: The effects shown are for a one-standard-deviation change from the mean for continuous variables and the effect of a change from 0 to 1 for other variables.

Source: Authors' calculations from CRR 2009 Retirement Survey.

## Work Longer and Save More

Respondents may counteract retirement losses by working longer, saving more, or by taking both actions. The previous two sections highlight the different factors impacting the decisions to take one action; this section considers what factors impact the decision to take both. Figure 4 contains selected regression results for the 8 percent of the sample who plan to both work longer and save more, compared to those not selecting both actions.

Perhaps not surprisingly, some of the same factors affecting the decision to plan to either work longer or save more also influence the decision to take both actions. Financial reasons appear to be the most prominent. First, household income again has an impact. However, the magnitude of this effect is small; respondents with household incomes of \$75,000 or more have about 4 percentage points higher probability than those with less than \$50,000 of doing both. Second, respondents who have greater dependence on financial assets for retirement are more likely to take both actions. Third, one financial factor that did not impact the individual actions – pre-downturn contribution rates – does affect the likelihood of taking both actions. Respondents who contributed about 8 percent of their earnings to their retirement savings before the downturn have about 2 percentage points

lower probability of taking both actions than those who contributed about 4 percent. Perhaps respondents who were saving at higher rates before the downturn may be less willing to contribute more or may feel that they can handle the loss without drastic changes.

In terms of employment factors, years until retirement is influential as those further away from retirement are less likely to take both actions. Finally, in terms of behavioral factors, those who have higher levels of distress are more likely to both work longer and save more.<sup>13</sup>

## Conclusion

Many workers nearing retirement experienced a dramatic decrease in their retirement assets due to the stock market downturn. In order to maintain their expected standard of living in retirement, workers will need to work longer, save more, or do both. This *brief* finds that many of the financial, employment, and behavioral factors included in the CRR 2009 Retirement Survey have the expected effects on these decisions.

Respondents who have larger losses, greater dependence on financial assets in retirement, or less time to recover before retiring are more likely to work longer. Those who have higher income or higher

stock return expectations are more likely to save more. Not surprisingly, respondents planning to take both actions together were influenced by several of the same factors that affected each separate decision. The exception is the pre-downturn household contribution rate, which is associated with the likelihood of taking both actions, but not each action individually.

The *CRR 2009 Retirement Survey* also asked a subsample to re-evaluate their decisions after the trade-off between working longer, saving more, and living on less in retirement is made explicit. In response, a considerable proportion of respondents change their stated action plan. The next *brief* will delve deeper into the stability of the decisions by comparing characteristics of respondents who change their response with those who did not change.

## Endnotes

1 See Munnell et al. (2010) for more information.

2 Sass, Monk, and Haverstick (2010).

3 Throughout this *brief*, the term “save more” means a respondent either already increased his or her contributions or intends to increase contributions within the next year.

4 In our regression analysis, working longer and saving more are not mutually exclusive categories.

5 This finding about the decision to work longer is consistent with other research, such as Vanguard Center for Retirement Research (2009); Reid and Holden (2008); Helman et al. (2009); University of Michigan Retirement Research Center (2009); and Pew Research Center (2009).

6 In addition to the financial, employment, and behavioral factors emphasized in this *brief*, our analysis also included standard demographic variables such as age, education, and marital status.

7 Full regression results are in the Appendix.

8 These categorical variables are based on q13: “Before the downturn, did you expect your retirement income, including income from Social Security, employer pensions, financial assets in 401(k)s, IRAs, and other savings and investments, would be.” The excluded category is “More than adequate to maintain your current standard of living.” The “Less than adequate” category includes “Somewhat less than adequate” and “Much less than adequate” responses.

9 The moderate distress level was about 6 on the 10-point scale.

10 The other options were “not at all,” “not much,” and “some.” Different categorizations of this variable reveal that only the highest category matters.

11 Respondents are told that the long-term average is about 6 percent above inflation per year.

12 In addition, marital status is influential in the saving decision. Married respondents have almost 11 percentage points lower probability of saving more than non-married respondents. The rationale here is that married respondents may be able to rely on their spouse to help mitigate the financial impacts of the downturn.

13 As with the decision to save more, marital status was also influential for respondents selecting to both work longer and save more. Married respondents have more than 7 percentage points lower probability than non-married respondents of selecting both actions.

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# APPENDIX

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TABLE A1. SUMMARY STATISTICS OF VARIABLES INCLUDED IN THE REGRESSIONS

Variable	Mean	Standard Deviation	Minimum	Maximum
Age	51.49	4.15	45	59
Education				
High school	0.25	0.44	0	1
Some college	0.28	0.45	0	1
Bachelor's degree or higher	0.43	0.50	0	1
Married	0.69	0.46	0	1
Household income				
\$50,000 to <\$75,000	0.24	0.43	0	1
\$75,000 or more	0.56	0.50	0	1
Race and ethnicity				
Black, non-Hispanic	0.07	0.25	0	1
Other, non-Hispanic	0.05	0.22	0	1
Hispanic	0.07	0.25	0	1
Male	0.54	0.50	0	1
Region				
Midwest	0.25	0.43	0	1
South	0.35	0.48	0	1
West	0.21	0.41	0	1
Number of children in the household	0.46	0.86	0	5
Dependence on assets in retirement				
15-25% dependence	0.28	0.45	0	1
Over 25% dependence	0.48	0.50	0	1
Pre-downturn retirement asset adequacy				
Adequate	0.51	0.50	0	1
Less than adequate	0.37	0.48	0	1
Change in retirement savings since last year				
No loss (includes an increase)	0.32	0.47	0	1
About 10-25 percent less	0.36	0.48	0	1
Little or no financial capability	0.12	0.32	0	1
Expectations of future stock returns	0.00	0.77	-1	1
Pre-downturn retirement savings contribution rate	7.65	4.06	0	13
Change in job security over past year	-0.32	0.54	-1	1
How difficult to keep or find a job				
A little to somewhat of a problem	0.48	0.50	0	1
A considerable to major problem	0.15	0.36	0	1
Reason for choice of retirement age				
When want to retire or stop working	0.44	0.50	0	1
When would have enough money to retire	0.24	0.43	0	1
Number of years until specified retirement age	12.73	5.99	1	29
Level of distress in response to the downturn	5.54	2.68	0	10
Thought quite a bit about the effect of the downturn on long-term financial situation	0.45	0.50	0	1

Source: Authors' calculations from CRR 2009 Retirement Survey.

TABLE A2. REGRESSION RESULTS ON THE PROBABILITY OF WORKING LONGER, SAVING MORE, AND BOTH

Variable	Work longer	Save more	Both
	Marginal effect	Marginal effect	Marginal effect
Age	-0.014 ** (0.01)	-0.003 (0.01)	-0.002 (0.00)
High school	0.049 (0.13)	-0.091 (0.07)	0.005 (0.04)
Some college	0.075 (0.13)	0.014 (0.09)	0.051 (0.05)
Bachelor's degree or higher	-0.043 (0.12)	-0.039 (0.08)	0.036 (0.04)
Married	0.016 (0.06)	-0.108 *** (0.04)	-0.072 *** (0.02)
\$50,000 to <\$75,000 household income	0.020 (0.06)	0.146 *** (0.06)	0.028 (0.03)
\$75,000 or more household income	-0.050 (0.06)	0.101 ** (0.04)	0.035 * (0.02)
Black, non-Hispanic	0.039 (0.09)	0.003 (0.06)	-0.000 (0.03)
Other, non-Hispanic	0.204 (0.12)	-0.044 (0.05)	0.006 (0.03)
Hispanic	0.084 (0.08)	-0.032 (0.05)	-0.034 * (0.01)
Male	0.016 (0.05)	-0.045 (0.03)	-0.012 (0.01)
Midwest	-0.024 (0.06)	0.087 * (0.06)	-0.014 (0.02)
South	-0.040 (0.06)	0.130 *** (0.05)	-0.006 (0.02)
West	-0.060 (0.07)	0.003 (0.05)	-0.023 (0.01)
Number of children in the household	-0.051 * (0.03)	-0.002 (0.02)	-0.006 (0.01)
15-25% dependence on assets in retirement	0.120 * (0.06)	-0.025 (0.04)	0.041 * (0.02)
Over 25% dependence on assets in retirement	0.229 *** (0.05)	-0.063 (0.04)	0.031 * (0.02)
Adequate pre-downturn assets	0.196 *** (0.06)	-0.065 (0.04)	-0.017 (0.02)
Less than adequate pre-downturn assets	0.309 *** (0.07)	-0.029 (0.05)	0.021 (0.02)
No loss (includes an increase) in retirement assets	-0.187 *** (0.05)	0.003 (0.04)	-0.014 (0.01)

TABLE A2. CONTINUED

Variable	Work longer	Save more	Both
	Marginal effect	Marginal effect	Marginal effect
About 10-25 percent less in retirement assets	-0.139 *** (0.05)	0.033 (0.04)	0.002 (0.02)
Little or no financial capability	-0.014 (0.06)	-0.034 (0.04)	-0.021 (0.01)
Expectations of future stock returns	-0.018 (0.03)	0.065 *** (0.02)	0.006 (0.01)
Pre-downturn retirement savings contribution rate	-0.002 (0.01)	-0.002 (0.00)	-0.005 ** (0.00)
Change in job security over past year	-0.043 (0.04)	0.060 * (0.03)	0.008 (0.01)
A little to somewhat of a problem keeping a job	0.108 ** (0.05)	0.036 (0.03)	0.022 (0.01)
A considerable to major problem keeping a job	0.121 * (0.07)	0.029 (0.05)	0.020 (0.02)
When want to retire or stop working	0.037 (0.05)	-0.025 (0.04)	-0.013 (0.02)
When would have enough money to retire	0.177 *** (0.06)	-0.037 (0.04)	0.016 (0.02)
Number of years until specified retirement age	-0.028 *** (0.01)	-0.005 (0.00)	-0.007 *** (0.00)
Level of distress in response to the downturn	0.026 *** (0.01)	0.010 (0.01)	0.006 ** (0.00)
Thought quite a bit about the effect of the downturn on long-term financial situation	0.188 *** (0.05)	-0.003 (0.03)	0.017 (0.01)
Pseudo R-squared	0.214	0.105	0.200
Number of observations	1,158	1,158	1,158

Notes: Robust standard errors are in parentheses. Marginal effects are evaluated at the mean for continuous variables and are the change from 0 to 1 for dummy variables. Marginal effects are significant at the 1 percent level (\*\*\*), 5 percent level (\*\*), or 10 percent level (\*).

Source: Authors' calculations from CRR 2009 Retirement Survey.

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