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Executive Summary

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401(K) PARTICIPANT BEHAVIOR IN A VOLATILE ECONOMY

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The booms and busts of the late 1990s and 2000s have taken 401(k) plan participants on a rollercoaster ride of ups and downs. Yet it isn't clear how participants respond to periods of economic expansions and contractions. Do they stop contributing or reduce their 401(k) contributions during economic downturns? Do participants react similarly to all recessions or do certain economic downturns – because of their severity, for example – induce different or more dramatic behavioral responses? What are 401(k) participants' responses to booms compared with busts? Are retirement account portfolios more heavily invested in stocks when the economy is booming and less invested in stocks when the economy is failing?

This paper documents changes in defined contribution (DC) plan participation, contributions, investment allocation, and risk tolerance between the late 1990s and late 2000s and examines how they correspond to changes in the economy. It uses data from the 1996, 2001, 2004, and 2008 panels of the *Survey of Income and Program Participation* pooled together and linked to administrative data on earnings and contributions for 1990 through 2010 from the Social Security Administration's *Detailed Earnings Record*. A major advantage of these data is that they are not subject to the same measurement error as workers' self-reported information, because they come from actual tax records. They also provide 21-year longitudinal measures of participation and contributions independent of workers' employers.

We find strong evidence that 401(k) participant behavior is influenced by the economy, and that retirement account holders responded to the Great Recession more drastically than to previous recessions. Some key findings include:

Participation Rates

- Participation rates among wage and salary workers increased dramatically, from 22.5 to 40.2 percent between 1990 and 2001, after which they declined steadily to 39.1 percent in 2003. Between 2003 and 2008, they increased again, but much more gradually, to peak at 42.7 percent in 2008. After 2008, participation rates fell in 2009 and 2010 to 41.4 percent. Participation rates dipped during both the 2001 and 2008 recessions, especially for younger workers.

Contribution Amounts

- Changes in the median DC contribution amounts mirrored changes in the gross domestic product between 1990 and 2010 – particularly starting in 2002. For example, amid booming economies, real median DC contributions increased 19.1 percent between 1992 and 1999 (about 2.5 percent per year) and 3.7 percent between 2002 and 2004 (about 1.8 percent per year). They declined 4.6 percent between 2004 and 2007 as the booming housing market began to reverse and another 4.9 percent between 2007 and 2009 (a decline of 2.5 percent per year) with the Great Recession. They remained unchanged between 2009 and 2010.

- Workers ages 50 to 64 were the hardest hit. Between 2007 and 2009, median contributions declined 9.3 percent for those ages 50 to 59 and 8.7 percent for those ages 60 to 64. Contributions of workers ages 65 to 69 declined the least over this time period – only 3.6 percent.

- In 2010, contributions rebounded for workers ages 50 to 64, but continued to fall for workers ages 20 to 29, those ages 40 to 49, and those ages 65 to 69. Still, contribution levels in 2010 were lower than they were in 2007for all age groups.

Contribution Rates

- Median contribution rates (contribution amount divided by total earnings) among participants declined 2.2 percent between 2007 and 2009. They declined for all age groups and for most earnings groups. The largest decline was for workers ages 60 to 64 whose median contribution rates fell 7.8 percent from 6.7 to 6.2 percent. The second largest decline was for workers ages 65 to 69 whose median contribution rates fell 7.1 percent from 7.0 to 6.5 percent.

- Contribution rates declined further in 2010 for workers ages 20 to 29 and those ages 65 to 69. By 2010, their median contribution rates were 4.3 and 8.4 percent lower, respectively, than in 2007. In contrast, contribution rates increased slightly for workers ages 50 to 59 and those ages 60 to 64. Still, their median contribution rates in 2010 were 2.8 and 5.1 percent lower, respectively, than in 2007.

Investments

- Workers do vary their retirement account investment allocations with changes in economic conditions. The percentage of workers investing their 401(k) contributions in bonds increased with both the 2001 and 2008 recessions and decreased with market recoveries. The share with current contributions invested in bonds increased dramatically with the Great Recession from 38.0 percent in 2006 to 54.8 percent in 2009. Similarly, those investing in mixed stocks and bonds increased from 36.8 to 52.8 percent.

- Among all adults with retirement accounts, the share with stocks declined between 2006 and 2009 from 83.1 to 75.4 percent, and the share with certificates of deposit, money market accounts, or government securities increased from 31.3 to 40.6 percent.

Multivariate Analyses

- Multivariate analyses of workers, controlling for age, earnings, and employment history, find significant declines in both the probability of contributing to DC plans and contribution amounts for both the 2001 and 2008 recessions.

The Great Recession, more than each of the previous two recessions, had a large negative impact on 401(k) participants' behavior. Participation dropped off slightly, while contribution amounts and contribution rates declined dramatically – even after controlling for other factors. Furthermore, those with retirement accounts were much more likely to invest in bonds after the recession than they were before the recession.

Although the typical worker reduced his contributions only $130 as a result of the Great Recession, this represented a decline of 4.9 percent. This is especially troubling when one considers that the median contribution amount before the recent recession began was only about $2,600 – far less than the 2007 legislated contribution limits of $15,500 for workers under age 50 and $20,500 for those ages 50 and older. Workers are already contributing to their retirement savings far less than they are legally permitted, and now they are contributing even less.

If the typical worker had done nothing in 2007 and kept his contributions in 2008 and 2009 at the 2007 level, instead of reducing them, his account balances would have been at least $210 higher at the end of 2009. The long-run impacts are even greater, especially when compounded over many years.
The typical 30-year-old worker reduced his contributions by $138 or 6 percent between 2007 and 2010. His retirement account balance at age 62 is projected to be just under $134,000 (assuming contributions begin increasing 1 percent per year after 2010 and that accumulated balances earn a 3 percent annual rate of return). If instead of reducing his contributions starting in 2007, he increased them just 1 percent each year, his account balance at age 62 would be $145,572 – a difference of $11,907 or 8.9 percent.

The further individuals were from retirement when the recession occurred and the higher their contributions before the recession, the larger the potential negative impact on their retirement savings. Of course, workers can recoup some or all of their investment losses by increasing their future contributions. For example, our hypothetical worker could recoup all of his losses from the recession by increasing his baseline contribution $232 plus making a one-time catch-up contribution of $520 all in 2011, and then continuing future contributions at the higher level under the alternative scenario. Our regression results show that participation is lower immediately following a spell of unemployment, suggesting it is difficult to get back on track after losing a job. But for workers who do contribute after an unemployment spell, they tend to contribute higher amounts on average in an attempt to catch up. For those who don't catch up, the recession will amount to a real loss in retirement savings.

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