

# Research Note

## Update on participant behavior through first quarter 2009

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This note extends our analysis of participant behavior during volatile markets through the first quarter of 2009, and should be read in conjunction with our prior report.<sup>2</sup> Despite high levels of volatility in the first quarter of 2009, most plan participants made no changes to their retirement savings and investment program, continuing the trend observed during 2008.

### Market environment

During the first quarter of 2009, U.S. stocks fell 11% and international stocks fell 14%, following on the heels of substantial double-digit losses in 2008.<sup>3</sup> Markets were exceptionally volatile, with prices sliding sharply through early March, and then rallying toward the end of the quarter. Historically, the stock market has posted a daily price change of 3% or greater on one out of every 80 trading days. During the first quarter of 2009, this level of volatility occurred on about one out of every four days.<sup>4</sup>

### Participant trading activity

Six percent of participants made one or more portfolio trades during the first quarter of 2009 (Figure 1).<sup>5</sup> Most—94%—did not trade. The monthly level of trading during the first quarter of 2009 was slightly below the level of trading during 2008 and on par with the level of trading during 2006 and 2007, although March 2009 was the third largest trading month in recent years (Figure 2, page 2).

Another measure of trading is the volume of dollars traded—here measured as a fraction of total recordkeeping assets—which is, in effect, a measure of portfolio turnover. In the first quarter of 2009, traders exchanged the dollar equivalent of about 4% of average defined contribution recordkeeping assets at Vanguard, compared to about 17% for the calendar year 2008. On a net basis, 1% of assets were shifted from equities to fixed income during the first quarter of 2009.

Figure 1. Participant trading summary

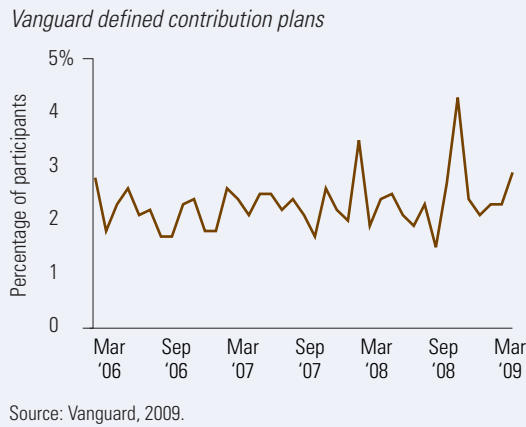
Vanguard defined contribution plans

	2006	2007	2008	Year-to-date March 31, 2009
Percentage of participants trading	14%	15%	16%	6%
Percentage of average recordkeeping assets				
Percentage traded	12.7%	14.7%	16.6%	4.4%
Percentage moved to equities (fixed income)	-0.6	-1.5	-3.9	-0.7
Dollar flows (in billions)				
Dollars traded	\$27.0	\$36.2	\$39.7	\$8.1
Dollars moved to equities (fixed income)	(1.3)	(3.7)	(9.3)	(1.2)

Source: Vanguard, 2009.

- 1 The authors would like to thank Jeffrey W. Clark and John A. Lamancusa for their support of the data analysis.
- 2 See Vanguard, 2009, Inertia and Retirement Savings: Participant Behavior in 2008, Vanguard Center for Retirement Research, [vanguard.com/retirementresearch](http://vanguard.com/retirementresearch).
- 3 Source: U.S. stocks, MSCI US Broad Market Index; international stocks, MSCI EAFE Index.
- 4 Over the period January 1, 1970, through December 21, 2007, the S&P 500 price index changed by more than 3% on 1% of trading days. In the first quarter of 2009, this rate rose to 28%. Source: Standard & Poors and Vanguard.
- 5 Many participants who make a trade execute more than one trade in a year. As a result, it would be incorrect to annualize the first quarter trading rate of 6% to a full-year rate of 24%, and mistakenly conclude that more participants are trading in this period than in the past.

**Figure 2. Monthly participant trading**



**Direction of money movement**

In any given month, in both tranquil and volatile markets, there are some participants exchanging into equities while others are moving out of the asset class (Figure 3). Participant behavior is not herd-like, but, as in the market generally, those making trades have competing views about the attractiveness of various asset classes.

**Asset and contribution allocations**

As a result of the market decline and participant trading activity, the percentage of plan assets invested in equities declined from 73% in 2007 to 59% in the first quarter of 2009, a shift of 14 percentage points (Figure 4). We estimate that approximately 5 percentage points was from traders shifting assets to fixed income holdings on a net basis; the remaining shift came from declining stock prices.

Contributions to equities fell by a much smaller amount, but still declined over the period. In 2008, 73% of participant contributions were directed to equities, similar to the 74% rate in 2007. By the first quarter of 2009, the equity contribution allocation had fallen to 69%.

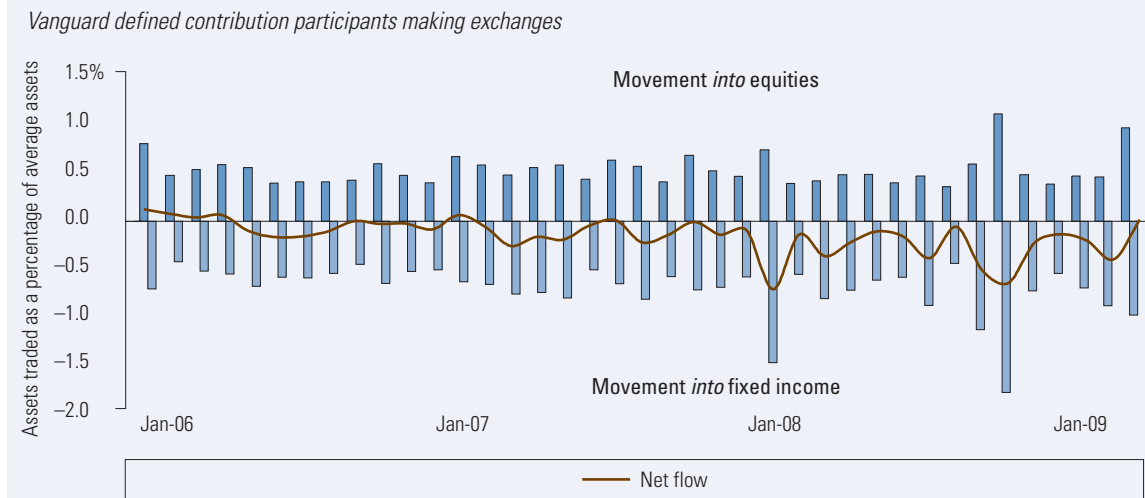
During the prior bear market (2000–2002), we observed a similar trend in contributions. To explore this effect in the current environment, we analyzed how participants are currently allocating their contributions based on the year they entered their plan. Participants who enrolled during the first quarter of 2009 were allocating only 62% of contributions to equities, compared to higher rates for those enrolling during earlier periods (Figure 5). These findings demonstrate the impact of recent market performance on investment decisions, and the fact that new enrollees are more likely to be the active decision-makers.

This decline is much less pronounced than in the prior bear market. At the low point during the previous market decline, participants who had enrolled in the first six months of 2003 had allocated just 48% to equities.<sup>6</sup> It remains to be seen whether equity contribution allocations will fall to this level during the current cycle. However, the growing use of target-date funds, as well as the rising use of automatic enrollment, may mean that equity contribution allocations may not fall as dramatically as in the prior market decline.

**Account balances**

As a result of declining markets, median and average account balances for Vanguard participants fell by about 5% during the first quarter of 2009—

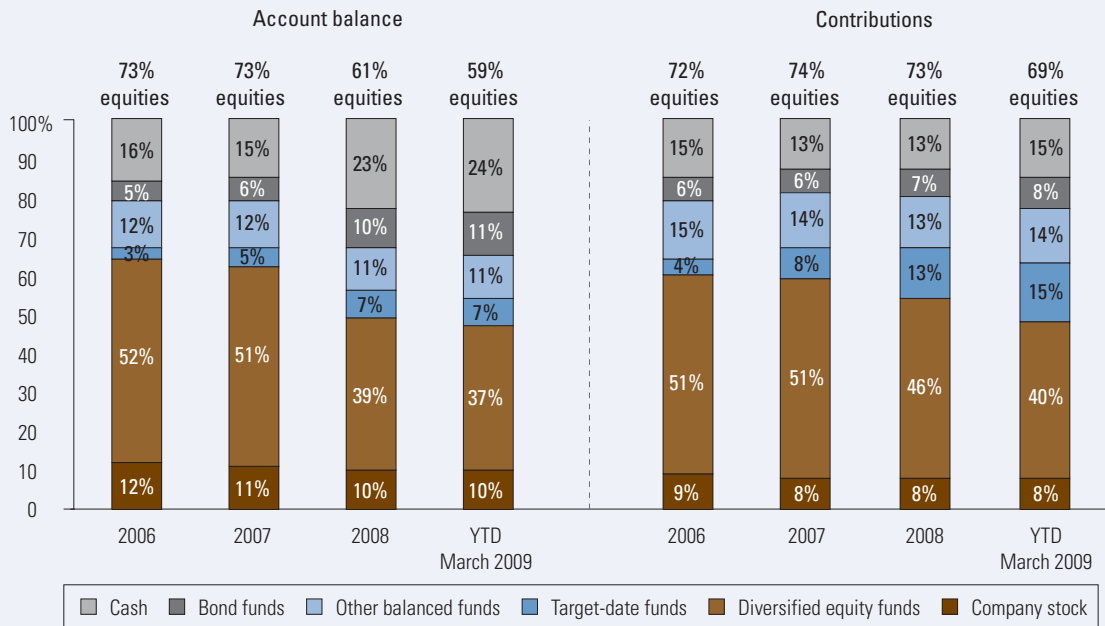
**Figure 3. Direction of money movement January 1, 2006, to March 31, 2009**



<sup>6</sup> Source: Vanguard, 2004, *Participant Report Card for December 2003: Rising Stock Prices Contribute to Higher Returns and Account Balances*, Vanguard Center for Retirement Research, [vanguard.com/retirementresearch](http://vanguard.com/retirementresearch).

**Figure 4. Asset and contribution allocations**

*Vanguard defined contribution participants*

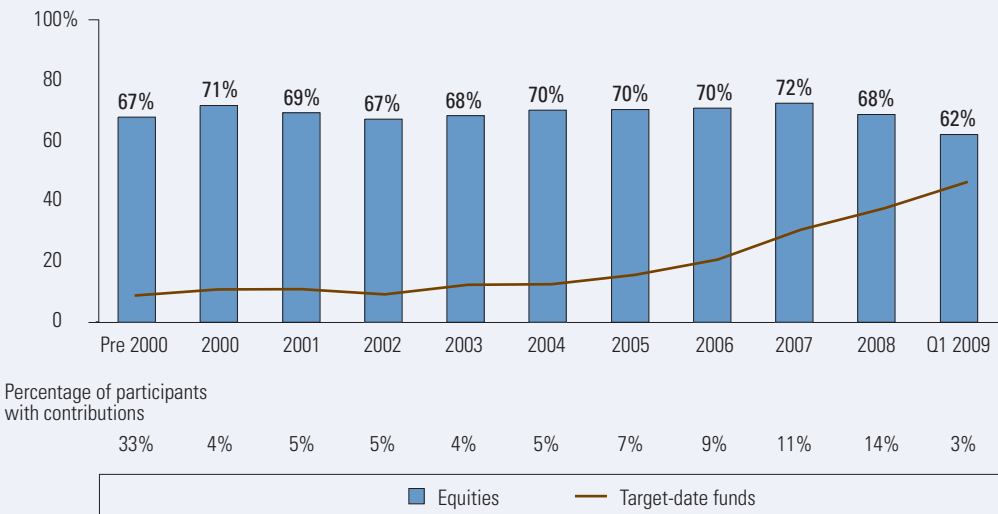


Source: Vanguard, 2009.

**Figure 5. Current contribution allocation by plan entry date**

*Vanguard defined contribution participants*

*Contributions from January 1, 2009, through March 31, 2009*



Source: Vanguard, 2009.

this is in addition to a decline of about 30% in 2008 (Figure 6, top, page 4).

However, the change in overall median or average balances is a misleading indicator of the change in account balance experienced by the typical (median) participant. When we examine continuous participants—those with an account balance at both the beginning of 2008 through the end

of the first quarter of 2009—the median account balance fell by just 17% (Figure 6, bottom, page 4).

Results for individuals varied around this median. More than one-third of these participants saw their balances rise or stay flat because of conservative asset allocations, the effect of ongoing contributions, or both. Another one-fifth of participants saw their account balances fall by between 1%

and 20%—substantially less than the decline in the stock market. Sixteen percent saw balances reduced by between 11% and 20%, and about three in ten participants experienced losses of more than 30%.

### Observations

Our findings from the first quarter of 2009 again demonstrate that inertia is a dominant decision-making heuristic (short-cut) in retirement savings. In response to exceptional market

circumstances, most participants chose the path of least resistance and did not take any action.

It remains to be seen whether larger changes in participant behavior will emerge if market volatility persists for the full year. In the meantime, most participants continue to maintain their retirement savings and investment program, and remain well-positioned to benefit from an upturn in stock prices when the current market decline ends.

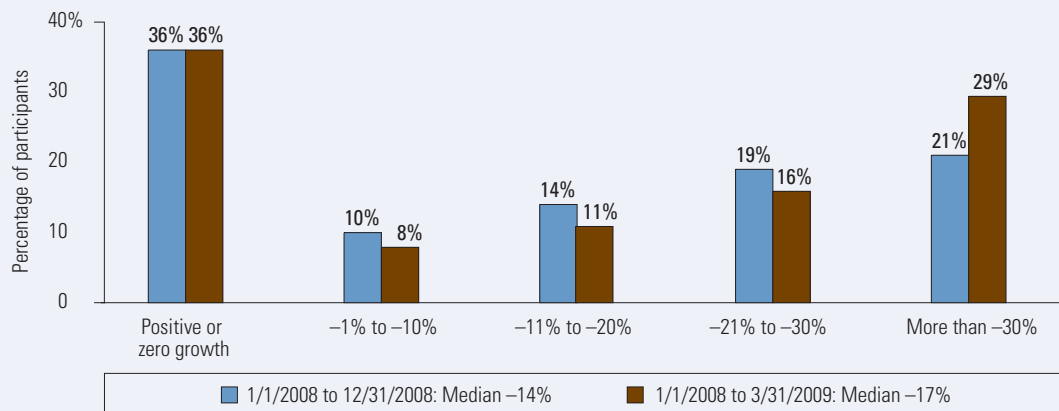
**Figure 6. Change in account balances**

*Vanguard defined contribution participants*

#### A. Median and average account balances

	2006	2007	2008	March 2009
Median	\$25,953	\$25,196	\$17,399	\$16,758
Percentage change		-3%	-31%	-4%
Average	\$75,791	\$78,411	\$56,030	\$53,116
Percentage change		3%	-29%	-5%

#### B. Change in account balances for continuous participants



The median reflects the 50th percentile or mid-point of accounts; the average is skewed by large accounts and is more reflective of the experience of the top quartile of accountholders. Account balance statistics are weighted by participant dollars, and so larger accounts, which are less influenced by ongoing contributions and more by market performance, shifted means and medians sharply lower in 2008. Individual participant statistics are weighted by individuals, and so smaller accounts are on a more equal footing with larger accounts. Also, the balance statistics include varying cross-sections at the end of each period, while the participant statistics assume continuous participants throughout the period.

Source: Vanguard, 2009.

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