

# WILL THE REBOUND IN EQUITIES AND HOUSING SAVE RETIREMENTS?

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## Introduction

The National Retirement Risk Index (NRRI) measures the share of working-age American households “at risk” of being unable to maintain their pre-retirement standard of living in retirement. The Index is calculated by comparing households’ projected replacement rates – retirement income as a percent of pre-retirement income – with target replacement rates that would allow them to maintain their standard of living. These calculations are based on the Federal Reserve’s *Survey of Consumer Finances*, a triennial survey of a nationally representative sample of U.S. households. The most recent survey is 2010. (2013 is currently in the field.)

As of 2010, the NRRI showed that, even if households worked to age 65 and annuitized all their financial assets (including the receipts from reverse mortgages on their homes), 53 percent of American households were at risk. Since 2010, in inflation-adjusted terms, the stock market has increased by 45 percent and house prices have risen by 6 percent. The question examined here is how the 2010 picture would have looked if equities and housing were at 2013 levels.

The discussion proceeds as follows. The first section briefly describes the nuts and bolts of the NRRI and the nature of the current experiment. The second section presents the results. The key finding is that improving asset markets have only slightly lowered

retirement risk because the increases in house prices have been modest, and the more robust growth in stocks mainly benefits the top third of households. The third section explains why, even with the market rebounds, the picture still looks worse than 2007. The final section concludes even substantial increases in asset values have only a modest effect on the NRRI. Half of American households remain at risk, and the only real solutions are to save more and/or work longer.

## The Nuts and Bolts of Re-estimating the NRRI

The exercise is straightforward. It involves replacing home prices and equity holdings reported in the 2010 NRRI with inflation-adjusted 2013 values and re-calculating the NRRI.

### *Calculating the NRRI*

Calculating the NRRI involves three steps: 1) projecting a replacement rate – retirement income as a share of pre-retirement income – for each household; 2) constructing a target replacement rate that would

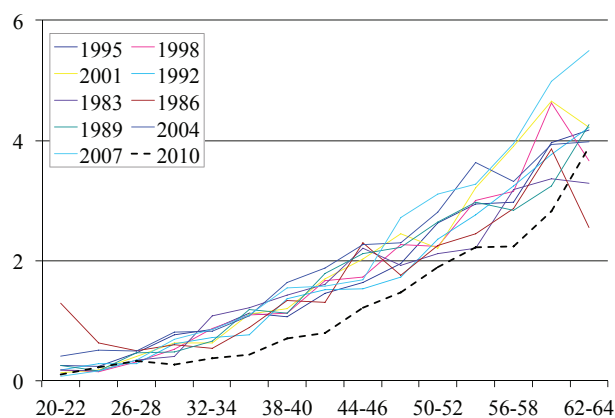
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allow each household to maintain its pre-retirement standard of living in retirement; and 3) comparing the projected and target replacement rates to find the percentage of households “at risk.”

Retirement income at age 65, which is defined broadly to include all of the usual suspects plus housing, is derived by projecting assets that households will hold at retirement, based on the stable relationship between wealth-to-income ratios and age evident in the 1983-2010 *Survey of Consumer Finances* (SCFs). As shown in Figure 1, wealth-to-income lines from each survey rest virtually on top of one another, bracketed by 2007 values on the high side and 2010 values on the low side.

FIGURE 1. RATIO OF WEALTH TO INCOME FROM THE SURVEYS OF CONSUMER FINANCES, 1983-2010



Sources: Authors' calculations based on U.S. Board of Governors of the Federal Reserve System, *Survey of Consumer Finances* (SCF), 1983-2010.

Sources of retirement income that are not derived from SCF reported wealth are estimated directly. For defined benefit pension income, the projections are based on the amounts reported by survey respondents. For Social Security, benefits are calculated directly based on estimated earnings histories for each member of the household.

Calculating projected replacement rates also requires income *prior to* retirement. The items that comprise pre-retirement income include earnings, the return on 401(k) plans and other financial assets, and imputed rent from housing. In essence, with regard to wealth, income in retirement equals the annuitized value of all financial and housing assets; income

before retirement is simply the return on those same assets.<sup>1</sup> Average lifetime income then serves as the denominator for each household's replacement rate.

To determine the share of the population that will be at risk requires comparing projected replacement rates with the appropriate target rates. Target replacement rates are estimated for different types of households assuming that households spread their income so as to have the same level of consumption in retirement as they had before they retired. Households whose projected replacement rates fall more than 10 percent below the target are deemed to be at risk of having insufficient income to maintain their pre-retirement standard of living. The Index is simply the percentage of *all* households that fall more than 10 percent short of their target.

### Adjusting Equity Prices and Home Values

Since 2010, both equity and house prices have increased. The increase in the prices of equities, which are held primarily by the wealthy, has been dramatic. The increase in the price of housing, which is much more widely held, has been modest.

*Equities.* Since the third quarter of 2010 (which marks the current NRRI baseline), equity prices have increased by 45 percent after adjusting for inflation (see Figure 2). These gains have been concentrated among the top third of the income distribution, which holds 89 percent of all equities.

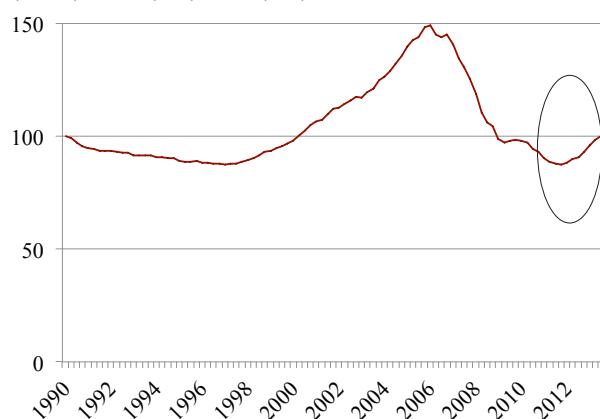
FIGURE 2. DOW JONES WILSHIRE 5000 (REAL), 1990(Q1)-2013(Q3)



Sources: Wilshire Associates (2013); and U.S. Bureau of Labor Statistics (2013).

*Housing Values.* In contrast, housing is important for all income groups. But, despite all the favorable press reports, Federal Reserve data show that – on a national basis – house prices have increased only about 6 percent in real terms since the third quarter of 2010 (see Figure 3). In the NRRI, house prices have a significant impact because households are assumed to access their home equity at retirement by taking out a reverse mortgage. The higher the home value, the more a household can extract in cash and turn into an income stream through annuitization.

FIGURE 3. INDEX OF AVERAGE U.S. HOUSE PRICES (REAL), 1990(Q1)-2013(Q3)



Source: Authors' calculations based on U.S. Board of Governors of the Federal Reserve System, *Flow of Funds Accounts*, 2009-2013; and U.S. Department of Commerce (2013). The value for the third quarter of 2013 is based on Zillow (2013).

With the change in equity and house prices in hand, the next step is to increase the 2010 value of each household's holdings of equities and the price of their house and then to re-calculate the NRRI.<sup>2</sup> The housing calculation only involves adjusting house prices; no change is made to outstanding mortgage debt, which is taken directly from the 2010 SCF.

## The Results

The impact of the rebound in the equity and housing markets on the NRRI by income group is shown in Table 1. To provide some context, results are shown for earlier years. The headline number is that if 2010

equity and house prices had been at 2013 levels, the NRRI would have been 50 percent instead of 53 percent (see Table 1).

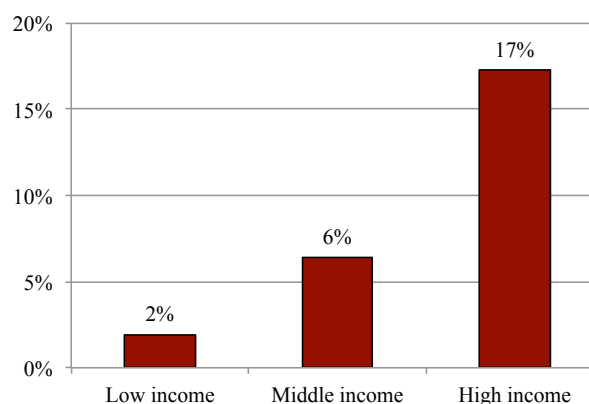
TABLE 1. PERCENT OF HOUSEHOLDS 'AT RISK' AT AGE 65 BY INCOME GROUP

Income group	2004	2007	2010	2010 w/2013 asset prices
All	45%	44%	53%	50%
Low income	52	54	61	60
Middle income	44	43	54	52
High income	39	35	44	40

Source: Authors' calculations.

The reason for the modest change is that most of the action has occurred in the stock market, not the housing market. And equities are only a minuscule amount of the wealth of low-income households and only 6 percent of the wealth of those in the middle-income group; only for the top third of the income distribution are equities a significant portion of total wealth (see Figure 4). Thus, it is not surprising that the percent at risk dropped the most – 4 percentage points – for the wealthiest third of households.

FIGURE 4. EQUITIES AS A PERCENT OF TOTAL WEALTH FOR HOUSEHOLDS 30-59, BY INCOME GROUP



Note: Values are the mean of the middle 10 percent of income for each group. Pro-rated Social Security wealth is included in total wealth.

Source: 2010 SCF.

## Why Is the Picture Still Worse than 2007?

Given the significant improvement in the equity market, why does the adjusted 2010 NRRI still look worse than 2007? The most obvious reason is that while stocks are slightly higher than their pre-crisis peaks, house prices are still substantially lower in real terms than in 2007. And the house is a much more significant asset than stock holdings for most households, making trends in house prices a major influence on the NRRI results. So if nothing else were going on, one would expect the adjusted 2010 NRRI to show more households at risk.

But two other factors, of roughly equal magnitude, are also depressing the Index between 2007 and 2010. The first is the increase in Social Security's Full Retirement Age (FRA). Under legislation enacted in 1983, the increase in the FRA began with those who turned 65 in 2003 and will be fully phased in for those who turn 65 in 2025. The increase in the FRA leads to growing actuarial reductions for those retiring at 65 – the assumed retirement age in the NRRI. This development affects all households, but has a particularly large impact on low-income households who depend almost entirely on Social Security for their retirement income.

The second factor explaining the decline in the NRRI from 2007 – even assuming 2013 levels for equity and home prices – is the decline in interest rates.<sup>3</sup> Lower interest rates mean that households get less from annuitizing their wealth, and the NRRI assumes that all wealth (financial wealth, 401(k) balances, and money received from a reverse mortgage on the household's primary residence) is annuitized at retirement. This effect is only partially offset by being able to borrow a larger percentage of your house on a reverse mortgage.

## Conclusion

Markets are volatile and will continue to move up and down. At the margin, these fluctuations will have some impact on the NRRI. But the impacts are unlikely to change the fundamental message that half of today's working-age households are unlikely to have enough resources to maintain their standard of living once they retire. And that conclusion is based on very conservative assumptions. People are assumed to retire at age 65 – above today's average retirement age of 64 for men and 62 for women – and they are assumed to derive the maximum possible income from the assets they hold at retirement. The only way out of this box is for people to save more and/or work longer.

## Endnotes

- 1 For the measures of retirement income and pre-retirement income, both mortgage debt and non-mortgage debt are subtracted from the appropriate income components.
- 2 For house prices, we use the national average increase because the geographic location of SCF households is not available.
- 3 While a previous analysis showed that changes in interest rates, by themselves, do not have a dramatic effect on the NRRI, they are a contributing factor. See Munnell, Webb, and Fraenkel (2013).

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