Why Not? Ian Ayres & Barry Nalebuff

Mortgage Your Retirement

CONVENTIONAL WISDOM OFFERED TO RETIREMENT savers is to start out at age 25 mostly in stocks, then wind down to a bond-heavy portfolio at age 65. The conventional advice is spelled out on page 104 in a description of age-based retirement funds offered by the big fund families.

This strategy, we think, is too tame. You should be more than 100% in equities when you are young. An exposure of 200% to start would be a better idea. That's right—if you are young, you should be buying on margin. Pay down the debt as you age and then ease off to a 50-50 stock-and-bond mix at the beginning of your retirement.

Margin buying? For retirement? It sounds terribly risky, but it in fact reduces the risk that you will end up poor. And it leaves you with much better diversification across time.

It is obvious that you're not well diversified if you invest $100 in one stock, $200 in another, and $300 in a third. You'd have less risk investing $200 in each of the three stocks. Indeed, spreading risk over stock is what leads people to buy broad-based index funds.

The same idea of equal investments applies equally to investments across time. If you have $100 invested in year one, $200 invested in year two, and $300 invested in year three, you have too much exposure to year three and not enough to year one. This is what you get if you put $100 a year into savings and stay fully invested. You could get the same exposure to the market with less risk by owning $200 worth of stock in each of the three years. You could do this by buying on 50% margin in the first year, paying off the debt with your year two savings, then going to 33% cash or bonds in the third year.

Most investors have a lot less at risk in their retirement accounts in their early working years than in later years. In essence, they're missing an opportunity to diversify across time—they're putting too large a bet on the return on stocks in later years.

At first, it seems that this is just a fact of life. You can't have an equal amount invested in all years, because in the early years you can't invest what you don't have.

But this ignores the possibility of leverage. People invest what they don't have all the time when it comes to real estate. A 5-to-1, 10-to-1, even 20-to-1 leverage is becoming the norm. A person who buys a $600,000 house has a relatively flat exposure to the real estate market. The exposure grows only with house price appreciation and not with increased savings. The key is that your exposure to the real estate market is based on the full value of the house, not just your down payment or your current equity position.

Retirement accounts should take a lesson from home ownership. Retirement programs should allow people to take out retirement mortgages to buy more stock when they are young. Just as home mortgages become less leveraged over time, so would the retirement investment mortgages. You can't do this now, at least without resorting to options and the like. But even allowing retirement savings to start off with the allowable 2-to-1 leverage leads to much better and less risky retirement outcomes, but to date we know of no 401(k) or self-direct IRA plan we know of permits margin buying.

Retirement savers are missing an opportunity to diversify across time—they're putting too large a bet on the return on stocks in later years.

To test how our theory would work in practice, we took historical stock-and-bond-return data collected by Robert Shiller and added margin rate information. Following Shiller's approach, we ran simulations on the returns for 91 cohorts of workers, those retiring in 1913 through 2004. We calculated the real investment return (the return above inflation) from an investment strategy that began with a 2-to-1 leveraged investment in stock at age 25 reducing to an unleveraged 50% investment in stock at age 65. We found that none of the cohorts ended up with less than a 2.5% real return on their investment (and only 2 of the 91 cohorts fell below 3%). In contrast, what would seem to be a much more conservative strategy of starting with an 85/15 stock/bond split at 25 falling to a 15/85 stock/bond split at retirement produced 29 cohorts with real returns that fell short of 3%. Because of the longer investment in equities, the average real return for the leveraged strategy across the 91 cohorts was more than double the conservative strategy.

In real estate the most important rule is location. For investments, it's diversification. Investors understand the value of diversifying across domestic stocks and many appreciate the advantage of including international stocks in their portfolio. The big missed opportunity is to do a better job diversifying over time, getting an early (and leveraged) start in stocks. We do this with houses, so why not stocks? F

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