

## Why Should Older People Invest Less in Stocks than Younger People?

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Financial advisors recommend that younger people allocate more assets to stocks than bonds and that older people allocate more to bonds. The authors show that two of the reasons commonly cited by advisors for this advice are invalid but that the third reason is valid.

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Financial advisors often recommend that younger people with long time horizons invest a large portion of their portfolios in stocks and switch to risk-free assets as they get older and their investment horizon becomes shorter. Three reasons are commonly cited for this advice. First, a large part of the risk from holding stocks can be eliminated by holding them long term. This argument is the time diversification theory—over long horizons, above-average returns on stocks tend to offset below-average returns. Second, a person with a specific wealth target may invest in risky assets initially but should shift to less risky assets once enough resources have been accumulated to meet the target. Third, younger people can use wage income to offset losses that might occur from investing in stocks. The authors find that only the third justification is valid.

Well-documented historical data on stocks and T-bills show that between 1926 and 1990, stocks received a risk premium of about 8.8 percent annually. The standard deviation of stock returns was about 4.5 times as great as that on T-bills. T-bills outperformed stocks in about a third of the years, but stocks were more likely to outperform over long horizons, doing so in blocks of 20 consecutive

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years.

Time diversification is not a valid justification for advising younger people with long investment horizons to have a larger portion of their portfolios in stocks than older people have. Even though the probability of loss decreases with a long horizon, the potential magnitude of loss, or downside risk, offsets the potential gain. The authors present a model of individual behavior that refutes time diversification by showing that risk-averse rational investors allocate their portfolios between stocks and bonds in the same proportions regardless of the investment horizon. Long horizons are not effectively different from short horizons if investors can rebalance their portfolios at regular intervals. Even if rebalancing is infrequent, the large potential loss offsets the potential gain from holding stocks.

For individuals with a wealth target, such as providing for a child's future university tuition, investment decisions depend on how behavior is specified, the size of the target relative to initial wealth, and whether the target can be reached by investing solely in the risk-free asset. If the target can be reached by investing in the risk-free asset, a standard model predicts that the person will first invest enough in T-bills to achieve the target and then invest a constant proportion of any additional wealth in stocks. The result is that the percentage of assets in stocks actually increases over time. If the target is large relative to initial wealth, no clear allocation decision exists. Only in a model that applies in limited circumstances does the individual allocate less to stocks over time.

The authors find the justification that a younger person's labor income may be used to offset potential losses from stocks a valid one. Their model shows that provided the individual's income is not highly correlated with investment returns, a younger person with a long stream of future income should invest more in stocks and shift to T-bills as retirement nears. In their example, a household that has 85 percent of its wealth in stocks at age 36 gradually shifts its portfolio so that only about 40 percent remains in stocks at age 64.