

BY BRANDON FULLER

# Why Don't More Young People Buy Stocks?

**Kartik Athreya, Felicia Ionescu, and Urvi Neelakantan.** “**Stock Market Participation: The Role of Human Capital.**” *Review of Economic Dynamics* (forthcoming).

Standard life-cycle models of portfolio choice suggest that individuals should participate in the stock market throughout their lives. Yet the data show that this is not typically the case early in life. Rather, there is a pattern of high human capital investment (that is, acquiring skills that the labor market values) and low stock market participation in youth, a pattern that reverses as individuals age.

New research by two Richmond Fed economists, Kartik Athreya and Urvi Neelakantan, and Fed Board of Governors economist Felicia Ionescu has sought to illuminate this connection between human capital investments and stock market participation. In doing so, they developed a life-cycle portfolio choice model in which individuals jointly decide how much human capital to accumulate and how much to invest, if at all, in the stock market. That is, they modeled an individual's choice of how much to work, invest in human capital, borrow, and save in risk-free or risky assets (stocks) to maximize the present value of expected lifetime utility (or satisfaction) from consumption.

In their model, earnings are determined by labor and human capital investment decisions, which in turn depend on the individual's type. The individual's type is characterized by his or her learning ability (the effectiveness with which he or she can convert time into human capital), initial levels of human capital, and wealth. To illustrate the connection between individual type, human capital investment, and stock market participation, the researchers offered

the example of young investors with no accumulated savings and high expected returns to human capital investment (such as someone with low initial human capital but high ability). Because these young investors expect that their human capital investments will translate into substantially higher future earn-

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ings, they will spend a lot of their time early in life learning rather than working. They will borrow against their expected future earnings to smooth their consumption and — because they do not save — will not invest in the stock market.

As the young investors age and accumulate savings (and experience diminishing returns to their human capital investments), they will begin to spend less time learning, more time working (earning) — and will begin to participate in the stock market. While this is the pattern of stock market participation suggested by the model for investors who start with high expected returns to human capital investment, this pattern could vary considerably across household types. (For example, different results would be expected if the young investors had low expected returns to human capital investment.)

Key to the model is that it captures

these differences across individuals by giving them varying levels of initial human capital, wealth, and learning ability. Quantitatively, the authors estimate the distribution of these individual characteristics so that earnings over the life cycle produced by the model closely match the pattern of life-cycle earnings observed in data from the Census Bureau's Current Population Survey.

The authors found that their model, once disciplined to match earnings dynamics over the life cycle, can successfully account for the stock market participation over the life cycle seen in the Fed's Survey of Consumer Finances: relatively low participation rates early in life that increase throughout the lifespan.

The authors also found that the model produces stock market participation rates largely consistent with real-world data when looking at households broken into wealth and earnings subgroups. Specifically, the model captures the high observed stock market participation rates throughout the life cycle for those in the top wealth quartile and the relatively low participation rates observed for those in the bottom wealth quartile. The model also captures the positive relationship between earnings and stock market participation.

The authors concluded by noting that, despite the model's success in producing plausible stock market participation rates over the life cycle, the model still is not able to fully account for the data. A puzzle still exists, they pointed out: Why do so many households with positive net worth have zero stock holdings when economic theory suggests that they should be participating in the stock market? They left this “durable” puzzle, they said, for future work. **EF**