

# WORKING PAPER

## *Executive Summary*

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## RISK AND REWARD OF INTERNATIONAL INVESTING FOR U.S. RETIREMENT SAVERS: HISTORICAL EVIDENCE

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A crucial decision facing retirement savers is how to allocate their savings across broad investment classes, including common stocks, bonds, real estate, and guaranteed income contracts. Savers must also decide how to divide investments between domestic and foreign holdings. This study investigates whether international investing would have been advantageous for U.S. retirement savers in the past. The analysis is based on empirical evidence on asset returns in eight industrialized countries that offer reliable historical time series data on stock market and government bond returns. In addition to the United States, the countries include Australia, Canada, France, Germany, Italy, Japan, and the United Kingdom. The goal is to determine whether U.S. workers would have obtained higher expected retirement incomes, with smaller risk of catastrophic investment shortfalls, if they invested part of their retirement savings in foreign stocks and bonds and did not hedge the currency risk of their overseas investments. In theory the availability of international investments should increase workers' expected returns holding constant their investment risks.

A rising share of U.S. retirement saving is held in self-directed retirement accounts rather than in traditional, professionally managed pension funds. Workers increasingly bear responsibility for allocating their retirement saving across broad asset classes and selecting mutual funds to manage their savings. About three-quarters of active participants in employer-sponsored defined-contribution (DC) pension plans are enrolled in a 401(k)-type plan, and over 80% of new contributions into DC plans flow to 401(k)-type plans. Moreover, the assets held in Individual Retirement Accounts (IRAs) exceed the total assets held in either DC plans or defined-benefit (DB) plans sponsored by employers. IRAs are by definition self-directed retirement accounts. If Congress were to adopt the President's plan to allow workers to divert up to one-third of their Social Security taxes into personal retirement accounts, an even greater share of the nation's pension saving would be held in worker-directed investment accounts. Under these circumstances, workers need more and better guidance about how to allocate their retirement savings across different kinds of investments.

The results show that workers can indeed increase their expected pensions if they include foreign equities in their pension portfolios, assuming their investment allocations are selected from among those available on the "efficient frontier" that minimizes risk while holding constant the portfolio's expected return. Note, however, that when estimating the investment allocations in optimal or "efficient" portfolios, the analysis in this paper has access to the full historical record of investment returns. Some or all of

the historical record would have been unknown to past retirement savers. Savers would have based their investment decisions on less knowledge than is available in this study.

In the absence of full information, many retirement savers would have based their investment allocations on simpler rules of thumb. For example, they may have allocated their overseas portfolio to stocks and bonds in the same proportion that they selected for their domestic portfolio. In deciding how much of their overseas portfolios to invest in the stocks of individual countries, they may have allocated their foreign holdings in proportion to the total stock market valuation or the gross domestic product of the countries whose assets were included in their portfolios. My results show that under many naïve investing strategies, increasing workers' allocation to overseas assets will not reduce the risk of catastrophically poor investment performance. In fact, my tabulations show that the risk of obtaining a very low pension replacement rate actually increases if workers allocate a sizeable part of their savings to overseas investments. One reason is that historical returns in most overseas markets have been lower than those in the United States. Another is that currency appreciation can erode the returns U.S. investors obtain on their overseas holdings. Finally, some foreign markets, including very large ones, have experienced lengthy periods in which returns are persistently low or even negative. If workers should retire when the dollar is sharply appreciating or when overseas markets are in a persistent slump, workers' returns on their overseas holdings will be low, possibly producing catastrophically small pensions.

Even though workers on average can obtain good pensions if they invest their defined-contribution contributions in prudent portfolios, defined-contribution pensions can produce wide variability in workers' pensions. This study shows large pension differences will occur depending on the investment allocation selected by the worker. But even when workers follow an identical investment strategy over their careers, there will be large differences in pension replacement rates depending on the exact year in which workers start and end their careers.

Including foreign assets in a worker's retirement portfolio can increase expected pensions without changing the standard deviation of returns. But this analysis suggests that workers are no less likely to experience ruinous investment returns if their pension portfolios include overseas assets. Assuming U.S. workers deposit 7% of their annual pay into a retirement account that is invested in an "optimal" portfolio of foreign and domestic equities and bonds, recent experience suggests their initial pensions could range from a low of 51% of their peak career earnings up to more than 115% of peak earnings. These are the actual replacement rates 62-year-old workers would have obtained in 2000 and 2003 if their careers and contribution patterns matched the assumptions of this paper and their investment strategy followed the "optimal" but somewhat risky international portfolio identified in the paper. An important question in thinking about the role of defined-contribution pensions is whether this kind of pension variability is acceptable to most workers.

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