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INTERNATIONAL INVESTMENT FOR RETIREMENT SAVERS: HISTORICAL EVIDENCE ON RISK AND RETURNS

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An important 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 uses historical return data covering 1927 to 2005 to determine whether cross-border investing would have been advantageous in the past for retirement savers in eight large countries. The analysis focuses on retirement savers in industrialized countries which have reliable historical time series data on annual 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 market value of companies whose shares are traded in the stock markets of these countries accounts for about 85% of the total market value of all publicly traded companies in the world.

The goal of the study is to determine whether workers in each of these countries 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. Under the assumptions of the study, workers contribute a fixed percentage of their pay to a defined-contribution pension account. Investors in each country can buy mutual fund shares in index funds for stocks and bonds in their home country and in any of the seven foreign countries. I assume that investors do not hedge the currency risk of holding assets issued in foreign countries and denominated in a foreign currency.

Under many circumstances the inclusion of international as well as domestic assets in an investment portfolio will increase an investor's expected returns holding constant their investment risks. This theoretical prediction has been verified by previous researchers who have analyzed historical data on cross-country asset returns. One puzzle is the low weight that most households place on foreign holdings in their investment portfolios, in spite of the sizeable advantages of holding an internationally diversified portfolio. The present study extends previous research by analyzing the distribution of pensions that retirement savers would obtain if they placed some or all of their pension contributions in foreign stocks and bonds. It analyzes pension outcomes when workers follow both naïve and optimal portfolio allocation strategies.

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. Advocates of pension reform, both in the United States and in other developed countries, often urge policymakers to scale back traditional unfunded defined-benefit pensions and partially replace them with voluntary or mandatory defined-contribution retirement accounts. If this reform were adopted, a greater share of national pension saving would be held in worker-directed investment accounts. When workers are responsible for investing their contributions, they need more and better guidance about how to allocate their retirement savings across different kinds of investments, including foreign stocks and bonds.

The results of this study show that workers can substantially increase their expected pensions if they include foreign equities in their pension portfolios. Remarkably, retirement savers in nearly all of the countries would have obtained higher average pensions with a 100% foreign allocation than with a 100% domestic allocation, even if they followed extremely naïve strategies in allocating equity investments across different foreign markets. One investment strategy considered is an equal allocation of the worker's savings in each of seven foreign stock index funds. Based on historical data on investment returns and exchange rate movements between 1927 and 2005, this naïve investment strategy would have provided higher average pensions than the strategy of investing solely in domestic stock or domestic bond index funds. Even more remarkable, in five of the countries, though not the United States, this naïve investment strategy would also have reduced the risk of catastrophically poor investment performance compared with the risk when all savings are invested in domestic stocks or bonds. If workers invest large proportions of their retirement portfolios in the stocks of several countries rather than only one, they are less likely to suffer ruin because of a financial market slump.

Using the historical data on international stock and bond returns, investors can construct more advantageous portfolios than the ones that are suggested by a simple rule of thumb. The classical literature on asset allocation can be traced to pioneering analysis by Nobel-prize-winning economists Harry Markowitz (1952) and William Sharpe (1964). These economists and their successors developed methods that allow an investor to construct combinations of asset holdings that maximize the investor's expected return, holding the standard deviation of returns constant, or equivalently that minimize the standard deviation of returns, holding the expected return constant. Investors who are unwilling to tolerate more than a specified level of risk should find the portfolio that offers the highest expected return and that has associated risk no higher than the specified level. This portfolio is often referred to as an optimal or "efficient" portfolio.

Using 1927-2005 information on the annual real returns of the eight countries' stock and bond fund indexes, I use standard optimization techniques to find efficient portfolios that offer a variety of levels of risk and expected return. In each of the eight countries, retirement savers who selected a global portfolio allocation along the efficient frontier could obtain better average pensions with lower risk of very small pensions than savers who restricted their investments to domestic stock and bond funds. Note, however, that when estimating the investment allocations in optimal or efficient portfolios, the analyst 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.

Even though workers on average can obtain good pensions under a defined-contribution system, this kind of pension generates wide variability in outcomes. Workers who follow an identical investment strategy can receive very unequal pensions depending on the exact years when they begin and end their careers. Although workers can increase their expected pensions by allocating part of their savings to foreign equities, it is not clear whether workers who invest overseas will perceive that their future pensions are less risky or more secure. Assuming U.S. workers deposit 7% of their annual pay into a retirement account that is invested in an "optimal" and moderate-risk portfolio of foreign and domestic equities and bonds, recent experience suggests their initial pensions could range from a high of 116% of their peak career earnings down to just 53% of peak earnings. These are the actual replacement rates 62-year-old American workers would have obtained in 2000 and 2003 if their careers and contribution patterns matched the assumptions of the paper and their investment allocation matched the optimal, moderate-risk global portfolio developed in the paper. The startling difference between the replacement rates of workers retiring just three years apart may seem disturbingly wide to most workers. However, the gap is smaller than the difference that would have occurred if workers had invested all their savings in a U.S. equity fund. The inclusion of foreign assets in the savings portfolio achieves the desired effect. It allows workers to earn the same expected rate of return on their savings while reducing the variability of returns. An important question in thinking about the role of defined-contribution pensions is whether the remaining variability in pension outcomes will be acceptable to most workers.

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