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What explains household stock holdings?

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Abstract

This is an empirical study of the determinants of stock holdings using data from the US Survey of Consumer Finances from 1992 to 2001. There is a great heterogeneity in the way households form their portfolios. Stock ownership is positively correlated with various measures of wealth, age, retirement savings, and having sought financial advice. It is negatively correlated with holdings of alternative risky investments, such as investments in private businesses, and with the willingness to undertake non-financial investments in the future. While we can predict reasonably well who holds stocks, we have less predictive power about the share of stocks owned by those who hold positive amounts.

JEL classification: G11

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1. Introduction

How do investors divide their wealth among different assets? What are the factors that influence the composition of an investor's optimal portfolio? During the last decade, asset allocation has re-emerged at the forefront of financial research. In part, this trend is due to the availability of new micro data, and in part it is due to the rise of practical interest in this branch of finance. This practical interest has grown with the importance

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of financial assets as a share of total assets. This share has climbed from 31.6% in 1992 to 42% in 2001 (see Aizcorbe et al., 2003). Furthermore, the interest of portfolio theory has also grown with the concerns over the management of retirement wealth. With the rise in popularity of directed retirement accounts, individuals are finding it necessary to educate themselves in this area.[1] This necessity will become ever more pressing if President Bush's proposed private Social Security program becomes a reality. In this paper, we contribute to the theory of portfolio choice by examining the empirical determinants of stock holdings. In our study, we use the broad US Survey of Consumer Finances (SCF) from 1992 to 2001, and explore some information little explored in earlier contributions.

The SCF provides a rich source of information on the financial characteristics of US households. Detailed information is collected on household assets and liabilities, as well as accompanying household characteristics such as demographics, labour force activities, income, etc. The survey is conducted every three years. In our analysis, we employ the four most recent editions of the survey that are currently available: 1992, 1995, 1998, and 2001. Our analysis of this rich set of data complements the existing literature in the following ways. First, the recently released survey of 2001 provides an interesting look at stock holdings after the bull market years of the late 1990s. Second, we have information on the overall portfolios held by households that are representative of the US population, as opposed to relatively narrow subsets as in several recent studies. (Agnew et al., 2003, focus on 401(k) accounts of one company, Odean, 1999 and Barber and Odean, 2001, focus on discount brokerage accounts of one financial institution.) Third, our data set allows us to include a more comprehensive set of explanatory variables than in previous studies. For example, Ameriks and Zeldes (2001) focus primarily on the distinction among the age, time and cohort effects. Barber and Odean (2001) focus on gender and marital status. Agnew et al. (2003) focus on age, gender, marital status, salary and job tenure. Because the SCF contains information on many household characteristics, we add variables such as non-financial investments (e.g., real estate, private business), motives for saving, and the use of professional investment advice.

The main insights we learn from our analysis are as follows:

Households have continued to increase their stock holdings in 2001 relative to earlier surveys. Despite the end of the bullish stock market of the 1990s, households in 2001 were not only more likely to hold stocks than in earlier surveys, but also those who held stocks increased on average the equity share in their financial portfolios. Both the increase in the participation rate and the increase in the average equity share are robust to the control for other household characteristics.

The distribution of households by the fraction of stocks held in their *overall* portfolios is much less bimodal than the distributions reported by Ameriks and Zeldes (2001) and Agnew et al. (2003) in 401(k) accounts. Therefore, the two extreme modes at zero and at 100% stocks documented in these earlier studies do not reflect extreme overall portfolio formation. Instead, they may reflect an attempt to minimize transaction costs and tax liabilities, or reflect the set of investment choices available in 401(k) plans, which can have a strong equity bias.

[1] Self-directed tax-deferred accounts, for example, represent a substantial portion of retirement wealth in the US. See Bergstresser and Poterba (2002).