

# HOW FAMILY STATUS AND SOCIAL SECURITY CLAIMING OPTIONS SHAPE OPTIMAL LIFE CYCLE PORTFOLIOS

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## Introduction

Decisions about hours of work as well as retirement ages shape labor earnings, which in turn influence how people spend, save, invest, and build up retirement benefits through the Social Security system. Not only are wages uncertain, but so too is family status due to marriage/divorce, the arrival/departure of children, and spousal death. Each of these poses fundamentally important risks to the household's financial position. For instance, the arrival of children shape household spending and saving patterns due to child support in the case of marital splits and college costs. Not only do children influence finances directly, they also change the amount of time that household members, especially mothers, can earn income essential to build up financial assets. Also key to life cycle decisions is the role of the Social Security system, a national mandatory deferred life annuity scheme with complex claiming options and cash-flow patterns that depend on age, work history, and family status.

As our new paper illustrates, Social Security is especially crucial because it represents such a large component of household assets. The risk and return profile of this important asset should therefore have profound consequences for how households manage their financial wealth, both during the work life and in retirement. And it is increasingly becoming clear that when to exercise the option to claim Social Security benefits is one of the most crucial and complex financial decisions facing workers. For example, claiming benefits at age 70 instead of age 62 boosts lifelong payments by 76 percent (Myers, 1985). Additionally, the financial decision of when to claim Social Security benefits is different from, but also related to, the decision about when to leave the labor force. Thus workers can retire early at age 62, delay claiming until age 70 to boost benefits, and draw down financial assets to maintain consumption. Or they can claim at the earliest possible age, 62, by accepting lower benefits, continue to work, and concurrently receive income from work and Social Security benefits. The Social Security system also offers a complex set of family benefits which also shapes optimal financial wealth and claiming patterns. Thus couples build up an entitlement to their own old age retirement benefits over their working lives, as well as spousal and widow(er) benefits that depend on the partners' work histories. Moreover, the Social Security rules permit individuals to first claim old age benefits on their own work records, and later switch to spousal/widow benefits. In other words, the decision about when to claim benefits depends intimately on family status; in turn, the claiming age has a large effect on payouts to spouses and survivors. Thus these family benefits can have a pronounced effect on saving and investment decisions, including the demand for risky stocks and life insurance products.

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## Methodology

Our research builds on and extends prior household life cycle literature in several ways. Recent researchers have sought to make these models more realistic by introducing new risk sources, important non-financial assets, and endogeneity of labor supply or retirement ages. While most life cycle asset allocation studies take the perspective of an individual representative agent rather than examining the possibly differing perspectives of households of varying sizes and compositions, Love's (2010) work is an important exception. His was the first study to incorporate the effect of family and marital status risk on portfolio and saving choice, drawing on PSID data and the Urban Institute's Model of Income in the Near Term (MINT) to fit family transition probabilities, income, and housing cost processes that depend on age, sex, marital status, and children. His main results are that, first, children lead on average to less accumulation of financial assets while present in the household, but second, they also enlarge the household's share of risky assets. In addition, he showed that households with children have substantially higher demand for term life insurance than singles. Yet this important prior study is silent on the likely impact of endogenous labor supply and retirement age on optimal household patterns, taking account of Social Security rules. By contrast, our realistic formulation of Social Security benefit options departs rather dramatically from prior studies which assume that retirement benefits are simply a fixed fraction of labor earnings as of a pre-specified date. And our more general approach permits us to evaluate possible policy reforms such as changes in Social Security rules.

Other work related to ours explored the payouts from various benefit claiming options under US Social Security system rules. Yet studies from the public finance literature focus only on the retirement phase of the life cycle, and hence they do not integrate the portfolio choice problem within a full household optimization framework.

For this reason, theoretical analysis of the claiming dynamics and the influence of Social Security benefits on financial wealth management requires examining a full household optimization framework over the complete life cycle which jointly models the work, saving, investment, and claiming decisions. Until now, such a model has not been available in the literature. Our paper incorporates these key elements of the household life cycle – Social Security benefits and family dynamics – into a realistically-calibrated portfolio and consumption model in discrete time with forward-looking rational multi-person households. We allow for risky asset returns as well as uncertainty in family status, mortality, labor income, and retirement income. Using data from the Panel Study of Income (PSID), we calibrate wage rate dynamics by age, sex, education, and family status. In addition, we calibrate the impact of child care time using the American Time Use Survey (ATUS). In this environment, an individual makes decisions about saving, investment (stocks/bonds/life insurance products), work hours, and the benefit claiming age.

## Findings

We show that family status has enormous impact on investment and claiming decisions. Couples with children invest less in risky assets and purchase much more life insurance than childless couples or singles. Also married women claim their own Social Security benefits much earlier than single women, while married men claim much later. Interestingly, children have little impact on claiming decisions. These predictions from our theoretical model are consistent with empirical evidence in the Health and Retirement Study (HRS). We also show that Social Security benefits have a powerful impact on how households manage financial wealth and work patterns. Reducing survivor benefits would lead to higher life insurance demand on men, later claiming and more work hours for women, with little impact on allocations to risky stocks.

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