



## USING A STRUCTURAL RETIREMENT MODEL TO SIMULATE THE EFFECT OF CHANGES TO THE OASDI AND MEDICARE PROGRAMS

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**HEALTH AND ECONOMIC RESOURCES PLAY AN IMPORTANT ROLE IN DETERMINING LABOR SUPPLY DECISIONS OF OLDER WORKERS. THOSE IN GOOD HEALTH ARE UNLIKELY TO RETIRE WITHOUT FINANCIAL RESOURCES AVAILABLE TO THEM. HOWEVER, THOSE IN POOR HEALTH ARE QUITE LIKELY TO LEAVE THE WORKFORCE EVEN WHEN NOT YET ELIGIBLE FOR ANY KIND OF PENSION BENEFITS. THEREFORE, AS THE SOCIAL SECURITY NORMAL RETIREMENT AGE RISES OVER THE NEXT DECADE—DESPITE THAT THIS WILL INCREASE THE FINANCIAL REWARDS ASSOCIATED WITH RECEIVING DI RATHER THAN EARLY RETIREMENT BENEFITS—THE NUMBER OF INDIVIDUALS OVER THE AGE OF 62 APPLYING FOR DI WILL NOT RISE BY MUCH.**

With an aging population on the one hand and difficulties in financing public and private pensions on the other, understanding the determinants of individuals' retirement behavior is of considerable research and policy importance. Much of the research on the labor force behavior of older, working aged adults has focused on the effects of financial incentives such as Social Security and private pensions, generally showing that these incentives have powerful behavioral effects. At the same time, econometric studies of retirement behavior have provided strong evidence for the importance of health factors.

Unfortunately, efforts to understand the effects of financial incentives on retirement behavior and understand the effects of health on retirement behavior have remained largely

separate avenues of research. There exist strong empirical correlations among health, socioeconomic status, and the rewards from continuing to work. Behaviorally, health status and economic factors interact in their effects on labor force behavior. For example, people in poor health will presumably continue to work unless they have the resources to permit them to stop, while those who are not able to stop working may adapt to their poor health in other ways, for instance by changing jobs. As a result, economic factors confound the effects of health on retirement, and vice versa.

This study estimates a model of labor force behavior that builds on the strengths and addresses some of the weaknesses of the two largely separate literatures. The benefits of drawing on valuable lessons learned in each are readily apparent. On one hand,

research examining the relationship between financial resources and retirement decisions has established the importance of viewing retirement as a dynamic process which can best be viewed longitudinally. Acknowledging this basic idea is necessary to fully understand the relationship between health and retirement. Although variation in mental health, cognitive functioning, and physical health exists at all ages and affects early educational and occupational attainment, it is the decline in physical and mental health starting in late middle age – often in combination with a changing occupational environment – that is likely to create a mismatch between an individual's capabilities and the requirements of his job. Whether and how workers respond to declines in health depends on various factors, including the nature of the declines, their expected persistence, the age

at which they occur, and workers' human capital, economic situation, and preferences for leisure and consumption. Research on the effect of health on retirement has virtually ignored these dynamic issues.

Research examining the relationship between health and retirement has also stressed the importance of carefully dealing with issues related to the measurement of health with a specific focus on the potential problems associated with using global survey measures such as self-rated work limitations and global self-rated health. There are a number of potential problems with such survey measures.

It is important to note that each of these problems will lead to different kinds of biases. Biased estimates of the impact of health on various outcomes will also lead to biased coefficients on any variable correlated with health. Unfortunately, these issues have largely been ignored in most past longitudinal retirement research which has suffered from the availability of only very limited measures of health. The importance of dynamic considerations motivates our use of a dynamic, discrete choice model.

## Method

The estimation of the specified model requires a rich data source. We take advantage of the Health and Retirement Study (HRS) which, in an effort to allow researchers to address the types of research questions posed here, biennially surveys a sample of Americans who were aged 50 to 61 when the initial survey wave was collected in 1992.

We restrict our attention to single men. We do so to avoid complications associated with joint decision making and since single women's Social Security benefits often depend on the earnings of their ex-husbands, and this information is unavailable

to us.

## Findings

- Both health and economic resources play an important role in determining labor supply decisions of older workers.
- Individuals in good health are unlikely to retire unless they have generous financial resources available to them.
- An individual in poor health is 10 times more likely than a similar person in average health to retire before becoming eligible for pension benefits.
- Changes in the Social Security Retirement Program are likely to have minimal effects on applications for the Disability Insurance Program.
- Despite the fact that a rising early retirement age will substantially increase the financial rewards associated with receiving DI, our estimates suggest that the number of individuals over the age of 62 applying for DI will not rise by much.

## Conclusion

In this paper, we report estimates of a dynamic programming model that addresses the interplay among health, financial resources, and the labor market behavior of men nearing retirement age.

Strikingly our estimates imply that changes in the Social Security Retirement Program are likely to have minimal effects on applications for the Disability Insurance Program. We suspect that the reason for this has to do with the fact that those potentially eligible for DI are a quite distinct population. Our findings have strong predictions about the patterns of the application for DI benefits we should observe as the age

for normal retirement under Social Security rises over the next decade. Despite the fact that this change will substantially increase the financial rewards associated with receiving DI rather than early retirement benefits, our estimates suggest that the number of individuals over the age of 62 who apply for DI will not rise by much.

## About the Researchers

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## About the MRRC

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