

A DYNAMIC STRUCTURAL MODEL OF HEALTH INSURANCE AND RETIREMENT

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Abstract

A large majority of adults in the United States who have health insurance are covered by plans provided by employers until they become eligible for Medicare at age 65. Some employers extend health insurance coverage to retirees, while others terminate coverage when an individual leaves the firm. A risk-averse individual who believes there is some chance that he will incur large medical expenses is likely to place a high value on health insurance. If such an individual faces loss of his employer-provided health insurance by retiring, then he has an incentive to remain with his employer longer than he would if health insurance was not linked to his employment status. The Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA) requires firms that provide health insurance to offer coverage to employees who leave the firm for up to 18 months after they leave, at a premium to the ex-employee of no more than 102 percent of the cost of the coverage. In principle, this provides a bridge to Medicare for individuals who leave employment at around age 63. However, Gruber and Madrian (1995, 1996) find that while the COBRA and earlier state continuation-of-coverage mandates seem to have induced an increase in the labor force exit rate among older men, the effect is no larger at ages 63 and 64 than at younger ages, and in one of their data sets the effects are much stronger at younger ages. Individuals who would lose their health insurance upon retiring could purchase an individual health insurance policy. Such policies, however, are not a good substitute for employer-provided health insurance because they have much higher premiums for a given level of coverage than employer-provided policies and often exclude pre-existing conditions (Congressional Research Service, 1988).

Recent proposals for reform of the U.S. health insurance system would fully or partly break the close link between health insurance coverage and employment for older individuals. For example, the Clinton Administration recently proposed a reform that would allow individuals to purchase Medicare beginning at age 62. The Health Insurance Portability and Accountability Act of 1996 forbids insurance companies from denying coverage to individuals aged 55-64 who apply for health insurance after losing employer-provided coverage. If the availability of health insurance coverage influences the employment decisions of older individuals, then such reforms could encourage early exit from the labor force. Recent and proposed new Social Security and Medicare reforms have been designed to encourage later retirement, but if health insurance reform has the opposite effect there could be serious consequences for the already uncertain financial prospects of both Social Security and Medicare.

The possibility that health insurance influences retirement behavior has

attracted considerable attention from researchers in the last few years. Evidence from recent studies suggests that the availability of retiree health insurance has a strong impact on the employment behavior of older men. Much of the evidence is derived from reduced form models or models that represent approximations to the employment decision rules implied by economic theory. For example, in earlier work we found that the annual labor force exit rate of men aged 61 whose employer-provided health insurance includes retiree coverage is nine percentage points higher than the rate for men whose employer-provided insurance does not include retiree coverage (Blau and Gilleskie, forthcoming). See Gruber and Madrian (1995, 1996), Karoly and Rogowski (1994), and Madrian (1994) for related evidence. Evidence of this type is useful in establishing the existence of an effect but cannot necessarily be used to evaluate the impact of proposed policy reforms. The provisions of employer-provided health insurance, such as the premium, deductible, coinsurance rate, and so forth, vary widely across plans. The impact of retiree coverage estimated in reduced form and approximation studies is an average of the impact of plans with different provisions. In our earlier paper we show that the effect of retiree coverage is much larger if the employer pays the entire premium than if the worker and employer share the cost of the premium. The effect of a reform that mandated extension of employer-provided retiree coverage to all workers might be well-approximated by estimates from reduced form and approximation models. However, the Lucas critique applies: firms might alter the terms of coverage in response to such a reform. And the effect of reforms such as extending Medicare coverage to individuals aged 62-64 and requiring insurers to provide coverage to older individuals who lose employer-provided coverage could not be reliably estimated from reduced form or approximation models because Medicare and private health insurance characteristics differ significantly from the provisions of typical existing employer plans.

Structural models of labor force exit decisions that incorporate health insurance provide a basis for policy evaluation if the models incorporate health insurance in a realistic way. Gustman and Steinmeier (1994) and Lumsdaine, Stock, and Wise (1994) specify models in which the average cost of health insurance is included in the budget constraint. They find that parameter estimates and implied retirement behavior are virtually identical with or without health insurance included. Rust and Phelan (1997) note that the expected value of medical expenses is relatively low at ages 55-64, so valuing health insurance coverage at its average cost changes the budget constraint by only a small amount. But a major component of the value of health insurance to risk-averse individuals is the coverage it provides against catastrophic medical bills caused by low-probability major adverse health shocks. The estimates of these two studies cannot account for this source of demand for insurance. Rust and Phelan allow for risk aversion and model the entire distribution of medical expenditures rather than the mean only. Their estimates indicate that individuals in their Retirement History Survey (RHS) sample are quite risk averse and that the availability of retiree coverage has a substantial impact on the timing of labor force exit.

In this paper we specify a dynamic structural model of employment and health care decisions and estimate its parameters using data on men aged 51-63 from the Health and Retirement Survey (HRS). The analysis has three unique features that distinguish it from the approaches followed by previous studies. First, it allows individuals to choose the amount of medical care to consume. Previous models have treated medical expenditures as an exogenous stochastic process. This would be a good approach if medical care is determined entirely by health status and the decisions of medical professionals. But if individuals are willing and able to substitute between medical care and other consumption in response to health shocks, then assuming that medical expenditures are exogenous could yield misleading inferences. We test the hypothesis that medical expenditures are exogenous. Second, the model allows individuals to make choices about health insurance coverage. Some individuals purchase a health insurance policy in the private market, and any individual could apply for such coverage. Some men are married to a woman whose employer provides health insurance that could cover him. Some men are eligible for Medicare as a result of a disability. It is important to model both the availability of alternative sources of health insurance coverage and the choice among the available alternatives in order to avoid confounding behavior and constraints. Previous studies of health insurance and retirement have treated employer-provided health insurance coverage as exogenous. In addition to allowing employment decisions to affect eligibility for employer-provided health insurance, we model the availability of alternative sources of health insurance coverage and allow individuals to choose health insurance from among the available alternatives. Third, and most important, we supplement the HRS survey responses with information from employers and Social Security records that allows us to measure the budget constraints facing the individuals in our sample more accurately than in previous studies. Measuring the budget constraint accurately is crucial for producing believable estimates from a structural model, and is difficult as a result of both the complexity of the within-period constraint, and the fact that an individual's decisions in one period affect his budget set in subsequent periods. Data from Social Security earnings records along with information provided by employers on their health insurance and pension provisions allow us to model these dynamics with much greater accuracy than is possible with individual survey responses alone. Previous studies of this issue have not had access to data of this type and have been forced to rely on crude approximations to the budget set.

The model is currently being estimated and results will be available by the time of the SDM conference.