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The Dynamic Effects of Health on the Employment of Older Workers

Richard Blundell, Jack Britton, Monica Costa Dias, and Eric French *

Using data from the Health and Retirement Study (HRS) and the English Longitudinal Study of Ageing (ELSA), this paper investigates the dynamic effects of health on the employment of older workers. Specifically, we estimate how transitory and persistent health shocks affect employment over time. Most research on the effect of health on employment does not distinguish between the short and the long run effects, and yet these are likely to be very different, and both are important. A transitory health shock, such as a broken bone, may lead some to drop out of work for a short period of time, but many of these workers will be back into employment as their condition improves. However, poor health may have effects on employment that outlive the health condition for a myriad of reasons. For instance, by keeping individuals out of work, poor health may erode the individual competencies that are valued in the labor market, hence reducing productivity. Furthermore, individuals driven off employment because of a bad health shock may have a difficult time returning to the labor force even if their health improves. The longer poor health conditions persist, the larger the productivity and long-term employment effects are expected to be.

Understanding the dynamic relationship between health and employment is key to informing the effective design and evaluation of public policy. For instance, disability policy aims to protect individuals against risks that are not insurable through the market. In the health context, uninsurable risks are likely related to shocks that persistently impair employment and earnings capacity. In turn, the institutional setting is likely to have a strong influence on the impact of health shocks on employment. Conceivably, more generous health insurance, sickness/incapacity benefits, and off-work payments may promote both time off paid work and health investments in response to poor health. These benefits may affect employment in two opposite directions: positively, by leading to a fast recovery and a swift return to work, and negatively, by promoting time out of the labor market in the short run along with the consequent skill depreciation.

The dynamic interactions between health and labor supply likely change with age, particularly around

* ***Richard Blundell*** *holds the David Ricardo Chair of Political Economy at University College London.* ***Jack Britton*** *is a research economist at the Institute for Fiscal Studies.* ***Monica Costa Dias*** *is a senior research economist at the Institute for Fiscal Studies.* ***Eric French*** *is a professor at University College London and a fellow at the Institute for Fiscal Studies and Centre for Economic Policy Research. This research brief is based on MRRC Working Paper 2016-348.*

retirement age as health problems become increasingly more frequent and serious, and out-of-work benefits change rapidly (Disney et al., 2006, Casanova, 2012). Because French (2005) finds that the health impacts on labor supply are largest at these ages, we focus on individuals in the years leading to retirement, aged 50-66, and estimate the overall impact of health on their employment by explicitly taking into account that these effects may build over time. We do this both for England and the United States, two countries that share much in terms of culture and values while differing markedly in the institutional context in which older workers frame their decisions, including health policy, working, and retirement incentives.

We develop a dynamic model of health and labor supply that allows for rich interactions between the two variables in order to capture the different paths leading to the long-term effects of health. To do so, our model extends those existing in the literature in several directions. First, we distinguish between transitory and persistent shocks and allow their effects to differ. We believe that separating persistent shocks is crucial for two main reasons: They are a better indicator of the serious health conditions that are likely to limit current working capacity and productivity, and their persistency may lead to magnified consequences inflicted by permanent losses in productivity and labor market attachment. Second, we consider that past health may affect current labor supply, even after conditioning on current health. This may happen because health reduces opportunities for human capital investment, for example. As for current shocks, we allow for the effects of past shocks to differ by the nature of the shock, whether persistent or transitory. Third, we allow for the health effects to be reinforced through additional persistency of the employment process. And fourth, we control for person-specific heterogeneity in health, allowing for the possibility that health and labor supply are correlated partly because more motivated people tend to be healthier. Put differently, we relax the assumption that the correlation between health and labor supply is exclusively driven by the effects that health may have on labor supply.

We find that health is well represented by the sum of a transitory white noise process and also a persistent AR(1) process. Next, we use the method of simulated moments to estimate the employment response to these shocks. We find that persistent shocks have much bigger effects on employment than transitory shocks, and that these persistent shocks are long lived. For this reason employment is strongly correlated with lagged health, a fact that the usual cross-sectional estimates do not account for. We also show that accounting for the dynamics of health and employment leads to larger estimates of the effect of health on employment than what simple OLS estimates of health on employment would imply. We argue that the dynamic effect of health on employment could be generated by a model with human capital accumulation, where negative health shocks slowly reduce the human capital stock, and thus slowly causes people to exit the labor market.

University of Michigan Retirement Research Center
Institute for Social Research 426 Thompson Street Room 3026
Ann Arbor, MI 48104-2321 Phone: (734) 615-0422 Fax: (734) 615-2180
mrrcumich@umich.edu www.mrrc.isr.umich.edu

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