

DISSERTATION:
THREE ESSAYS ON HEALTH AND LABOR OUTCOMES

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ABSTRACT

I first review the endogenous nature of health when incorporated into models for labor market outcomes. Second, I discuss three hypotheses for the direct effect of health on the decision to transition to self-employment. My model is estimated using the discrete factor method to control for bias due to unobserved heterogeneity and initial conditions. The probability of transitioning to self-employment increases as an individual's health status decreases, holding all else constant. The magnitude of this effect varies between two sub-groups in the sample. Third, I examine the effect of spouses' ill-health on the labor supply of older workers.

Category: Economics: Demand and Supply of Labor: Health

Keywords: Health; Self-employment; Labor force transitions; Discrete factor method; Labor supply; Older workers

EXECUTIVE SUMMARY

This dissertation is composed of three essays which examine the role of individuals' health in their labor market decisions. The first chapter reviews the literature regarding health and labor market outcomes. It emphasizes the recursive relationship which exists between investments in health and one's earnings or, more generally, between one's health status and the supply and demand of his or her labor. It goes on to highlight various empirical methods used by econometricians to accommodate the various empirical difficulties that are experienced when incorporating health into models for labor market outcomes. The second chapter explores the impact of individuals' health status on their decisions to enter into self-employment. It goes beyond the well-documented "job-lock" phenomenon, which regards health as a factor in the demand for employer sponsored health insurance (ESI) which may be a potential barrier to transitioning from a person's current job. The final chapter examines the extent to which a spouse's ill health influences the labor supply decisions of older men and women. Moreover, it asks whether the relationships exhibited between husbands' and wives' health statuses and their partners' labor supply tend to be symmetrical, especially considering the compositional changes in the labor market that have occurred throughout the 1980's and 1990's. Given the Kauffman Foundation's interests, the remainder of the summary will focus on the analysis and findings found in the second chapter, which is titled "The Impact of Health on the Self-Employment Decision."

While the prospect of more lucrative employment alternatives will certainly drive decisions to transition between jobs, and various factors such as human capital characteristics or access to capital will partially determine a person's available alternatives, it can also be the case

that individuals base their labor supply decisions partially on job-satisfaction or non-pecuniary advantages offered by certain employment alternatives. Recent evidence supports the notion that self-employment offers substantial non-pecuniary advantages. Economists are interested in whether these benefits are sufficient to offset some of the inherent costs that ventures into self-employment often entail, such as forgone earnings in the wage and salary sector or costs tied to the uncertainty of success.

The results of this study suggest that certain non-pecuniary advantages which may be linked to individuals' health status may play a distinguishable role in decisions to transition from wage employment to self-employment. The estimates are reflective of the effect of health on these decisions even after controlling for factors which may be related to one's health status and may have a more pecuniary effect, such as the possession of health insurance or household wealth. They provide evidence that individuals in relatively poorer health have a greater propensity to leave wage-employment for self-employment, all else equal. As a policy matter, this suggests that any legislation that promotes access to quality medical care for self-employed individuals and limits the financial burden of the health insurance plans available to the self-employed would not only positively impact the general welfare of the average person who enters self-employment, but it may also be even more effective in promoting entrepreneurial activity than already suggested by findings in the "job-lock" literature. For instance, since a decrease in health increases the value of one's current ESI, the transition-stifling effect of holding ESI may be exacerbated when we consider that the average person transitioning to self-employment is more likely to be in poorer health.

I begin the study by identifying three hypotheses for the role of health in the decision to transition into self-employment. The "Pull" hypothesis focuses on the non-pecuniary benefits of

self-employment that may be linked to health. The greater flexibility in hours of work or the work-environment allows for those in poor health to make the accommodations necessary to mitigate the labor market impact of any limitations to work they may face. Self-employment may also be a viable employment alternative for individuals who face systematic discrimination in regards to their ill-health or disability. The “Healthy Entrepreneurs” hypothesis suggests that we may observe relatively healthy individuals select into self-employment since it usually implies longer hours and greater responsibility hence it is typically more physically and mentally demanding. Furthermore, industries with higher concentrations of self-employment, such as construction or agriculture, can be inherently less-suited to those with physical limitations. The “Entrepreneurial Propensity” hypothesis relies on claims that individuals possess particular psychological traits that predispose them to entrepreneurship (i.e. “entrepreneurial spirits”). These traits may be positively correlated with a healthy lifestyle. In this case, we may not observe any significant relationship between health and self-employment once these unobservable characteristics are sufficiently controlled for.

My analysis uses panels five through eleven (2000-2007) of the Medical Expenditure Panel Survey (MEPS) to investigate the effects of health on the propensity to transition into self-employment from either full-time wage-employment or non-employment. MEPS proves to be convenient for cross-sectional studies on health, health insurance, and a variety of labor outcomes. The use of several years of data provides a number of observations for transitions into self-employment that is sufficient to draw inferences about the nature of those transitions. The general working age population (18-60) was investigated in order to generate a more comprehensive profile of the characteristics of individuals who transition to self-employment.

When empirically examining the impact of health status on a person's propensity to transition into self-employment the inferences can be confounded by decisions made earlier on in ones career. Much of the concern is attributed to the possibility of sorting by individuals over initially observed employment statuses based on past health. Furthermore, an individual's observed contemporary health status is expected to be highly correlated with his or her past health status and, for various reasons, one's past employment status may directly impact their health over time. In general, estimates for the impact of health on the probability of transitioning to self-employment may be biased if the model does not control for the employment and health conditions observed in the initial period of the transition (i.e. the "initial conditions" problem).

Inferences may also be confounded if an individual's health status is correlated with other determinants of self-employment and the model does not control for these factors (i.e. "unobserved heterogeneity"). For instance, as the "Entrepreneurial Propensity" hypothesis suggests, there are a number of seemingly unobservable personality traits that may be positively correlated with both the propensity to become self-employed and a more active, healthier lifestyle. Some of these traits identified in the literature include the "need for achievement", an "internal locus of control", or a "Type-A" personality. For another example, household wealth can be positively correlated with individuals' health status and also lead to greater access to the capital needed to start a business. However, it is often the case that household wealth cannot be identified from the available data.

The mainstay of this study is how these two empirical issues are dealt with. I begin by using a multinomial logit framework to model transitions from (1) an initial full-time wage employment status to either the same job, a new wage job, or to self-employment, or (2) an initial non-employed status to either a wage job or to self-employment. I account for the

“unobserved heterogeneity” by incorporating a random effect into the model and estimating it using the “discrete factor method” (DFM), a semi-parametric technique. To account for the “initial conditions” problem I adapt the DFM to a system of equations which includes equations for not only the transition decisions, but also the probability that an individual is initially wage employed and the probabilities for observing the individual’s initial health statuses. This econometric model has the added benefit of distinguishing between different sub-groups within the sample, based on the “unobserved heterogeneity”, so that differences between these sub-groups regarding the marginal impacts of health may be revealed. Further still, if I were to find evidence that no “unobserved heterogeneity” is present in the sample then this implies that the “Entrepreneurial Propensity” hypothesis may be rejected.

Two groups of individuals from the general population were identified (Group 1 and Group 2). Group 2 can be characterized as (1) more likely to report “good health” and less likely to have any physical limitation, (2) more likely to be wage employed than non-employed, and (3) more likely to transition from wage employment to alternative wage employment and, more importantly, to self-employment. The calculated probabilities indicate that this sub-group is at least twice as likely as their counterparts to transition from wage employment to self-employment – the average individual in Group 1 had a 0.61% probability of transitioning to self-employment over not transitioning or transitioning to new wage-employment while the average individual in Group 2 had a probability of 1.66%. However, unobserved heterogeneity did not seem to be a significant factor in explaining transitions to self-employment if initially non-employed (given a transition into the workforce). A statistical comparison between my econometric model and a model that did not use the DFM suggests that, for transitions from

wage employment, the predicted bias was present in the non-heterogeneity model; therefore, we cannot reject the “Entrepreneurial Propensity” hypothesis.

Although it need not be the case that the “Healthy Entrepreneurs” hypothesis and the “Pull” hypothesis are mutually exclusive, estimates of the marginal effects of self-reported overall health and the presence of any physical limitation both provide evidence of the Pull hypothesis. Tests for statistical significance show that the latter measure for health has a more distinct impact on the self-employment decision. Calculations show that as the average individual in Group 1 moves from a “good” health status to a less than “good” health status, their probability of transitioning from wage employment to self-employment increases by between 0.18% and 0.34%, depending on the presence of any physical limitation. The worker is 0.51% to 0.67% more likely to make the same transition if they report the presence of any physical limitation. A similar individual moving from a state of “good” health with no physical limitation to relatively poorer health and any limitation is 0.85% more likely to enter self-employment.

For an otherwise average individual in Group 2, the marginal effect of less than “good” health on the wage to self-employment transition is between 0.40% and 0.57%. For any physical limitation, the marginal impact is between 1.19% and 1.36%. As the individual moves from a “good” health status with no limitation to a state of less than “good” health with the presence of any limitation, the probability of transitioning increases by 1.75%.

No statistically valid inferences can be made regarding the marginal impact of health status and limitations on transitions to self-employment from non-employment. However, unlike the sub-sample of initially wage-employed individuals, estimates for non-employed individuals are conditional upon a transition to either wage employment or self-employment. Therefore I interpret the statistical insignificance of most of the covariates to mean that other factors not

explained by the model and which tend to be uncorrelated with the health measures used may be more important to determining whether a non-employed individual who enters the workforce chooses self-employment over wage-employment. This does not conflict with, nor support, previous literature regarding these types of transitions.

The conclusion of this chapter discusses how the analysis above might lend itself to several extensions which may prove valuable in understanding the breadth of the relationship between health status and self-employment.