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Obesity and Health-Related Decisions: an Empirical Model of Weight Status for Young Adults in the US

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Obesity is widely accepted as one of the main causes of premature death, and the causal relationship between obesity and several of the most deadly chronic diseases is a consensus in the medical and public health literature. Obesity in the United States has recently been recognized as a public health concern and a social problem because the rise in the obesity prevalence rate has been stunning over the past three decades. Using AddHealth, a longitudinal study of teenagers and young adults in the United States, I estimate a comprehensive dynamic model of obesity determination that assumes as endogenous several factors mentioned in the literature as obesity determinants: physical activity, smoking, a proxy for food consumption, and childbearing. Two additional endogenous decisions included in the model are career-related decisions and residential location decisions. The rst is included because it determines the intensity, in terms of energy expenditure, of individuals?daily main activities. The second is included because it determines the built environments in which individuals live. I specify reduced form equations for all these endogenous demand decisions, together with an obesity structural equation. The whole system of equations is jointly estimated by full information log-likelihood methods. The errors in all equations are assumed to be correlated with each other in the estimation. I use the discrete factor random e¤ects estimation method to model this unobserved heterogeneity. Using the empirical model to study the mechanisms behind the determination of obesity, I am able to quantify the e¤ect on the probability of obesity of several individual decisions after controlling for the endogenous nature of those decisions. This research provides evidence of important e¤ects of physical activity on the reduction of the probability of obesity for young men and women. In addition, I found evidence of a small but signi cant negative e¤ect of the availability of a set of neighborhood amenities on the probability of male and female obesity. This is an important contribution of this research to the literature, because these results are obtained from a framework in which the residential location of individuals is explicitly modeled as an endogenous decision. Up to this author knowledge, there have been no attempts to model residential location decisions in studies on obesity.

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