

Technical appendix
Construction of ESI Premium and Cross-Price Variables

for

“Why Do Hispanics Have So Little Employer-Sponsored Health Insurance?”

by

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We constructed an instrumental variable for *ESI premiums* using employer establishment data from the 1997 RWJF-EHIS to regress establishment-level employees' out-of-pocket premiums (separately for single and family coverage) on industry, establishment size, interactions between industry and establishment size, whether the firm is a large multi-site employer, and the CTS site. We then used the estimated parameters from this model to impute values to 1998-99 and 2000-01 CTS Household Survey respondents who worked (whether or not covered by ESI), using equivalent variables from the Household Survey on employer and location characteristics. If two family workers were eligible for ESI coverage, we assigned the smaller of the two imputed premiums to both workers. Regional premium trend data from the Kaiser Family Foundation-Health Research Education Trust (KFF-HRET) employer surveys were used to inflate premiums to 2001 values.

We also constructed an instrumental variable for *private nongroup premiums* by applying the selection-adjusted regression model for nongroup premiums estimated by Hadley and Reschovsky (2003) to each adult. That model was also estimated using the CTS household survey, which collects premiums for people covered by nongroup insurance. Since medical underwriting and preexisting condition exclusions are common in this market, predictions from a

single equation model would be biased because of the selection of relatively healthy people into the nongroup market. Therefore, we used a Heckman sample selection model to estimate the nongroup premium equation. Explanatory variables included detailed health and demographic data describing the family and information on state regulation of nongroup insurance.

Identification was achieved using variables that describe the cost of alternative sources of insurance coverage and availability of free health care, preferences for risk, race and ethnicity, and whether a spouse is covered by Medicare. The model distinguishes between characteristics of the policyholder and covered family members, potentially producing different predictions depending on which family member was assumed to be the policyholder. Therefore, in two-adult families we assigned the smaller of the two predicted nongroup premiums to the family.

The implicit price of public insurance was captured by a state level measure of Medicaid eligibility generosity. Using algorithms developed by Davidoff et al. (2004), we applied each state's categorical and income-eligibility rules as of 1999 to a standardized population of adults and calculated the proportion who are eligible. Using a standardized population assures that differences across states were due to program differences, not differences in their populations. Because Medicaid eligibility is not likely to be relevant to decisions by higher income families, the variable was assigned a value of zero for those with family incomes above 200% of poverty in the family offer and take-up equations. Since Medicaid eligibility generosity can affect labor supply, and therefore income, we did not use this interaction in the labor supply equation.

The implicit cost of being uninsured was captured by a measure of community health clinic (CHC) capacity to provide care to uninsured people. Using CHC financial information from the Uniform Data System maintained by the Health Resources and Services Administration, Bureau of Primary Health Care (2004), this variable was constructed by summing total grant revenues of

all federally qualified CHCs located within five miles (calculated from the latitudes and longitudes of the population centroids of CHCs' and survey respondents' 5-digit zip code areas) of each survey respondent (Cunningham and Hadley 2004). This total amount was then divided by the number of poor people within the same set of zip codes (from the 2000 Census) to adjust the capacity measure for the potential demand on CHC services. Like the Medicaid eligibility variable, this variable was assigned a value of zero for those in families with incomes above 200% of poverty. While measuring grant revenue for CHCs within 5 miles of the center of the respondent's zip code does not necessarily reflect grant revenue for CHCs within 5 miles of the respondent's home, the resulting error is likely to be minor and will be random in nature.

References:

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