Wine, Alcohol, and Cardiovascular Health: Revisiting the Health Benefits of Wine in the Framingham Heart Study.*

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Starting in the 1980s, researchers became aware of the “French Paradox” - the odd combination, observed most clearly in France, of a diet high in saturated fat and low incidence of coronary heart disease. The proposed explanation to the paradox was simple: moderate wine consumption may actually improve cardiovascular health. A voluminous literature on the association between the consumption of alcohol and cardiovascular disease has followed, with the basic finding that the consumption of alcohol - rather than just wine - exhibits a U-shaped relationship with cardiovascular health. In this paper we revisit the effect of alcohol generally, and wine specifically, on a variety of cardiovascular outcomes using data from the Framingham Heart Study. We pool data from the Original and Offspring cohorts of the Study to construct a 25-year longitudinal dataset of roughly 6000 individuals. Our data include rich measures of cardiovascular health, as well as data on alcohol broken down by type (beer, wine, or spirits) and other health behaviors such as cigarette consumption. We make several contributions to the literature, but as a baseline, we start with the premise that the consumption of alcohol is a choice that reflects underlying preferences. Therefore, our empirical work takes seriously the endogeneity of alcohol and wine consumption in the production function for health. Utilizing the rich panel nature of our data, our initial econometric framework allows for permanent, unobserved heterogeneity in the determination of cardiovascular outcomes. This individual fixed effects approach captures permanent tastes, preferences, and other heterogeneity regarding the consumption of wine and alcohol. Next, in our preferred econometric specification, we model cardiovascular health jointly with the consumption of wine in a dynamic framework that allows for both mechanisms of addiction - reinforcement, tolerance, and withdrawal -

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as well as permanent and time-varying unobserved heterogeneity in their joint determination through a flexible, semi-parametric discrete factor random effects specification. With our estimated model, we simulate different patterns of wine and/or alcohol consumption, and we examine the effects on cardiovascular health outcomes. We contrast our simulation results with the epidemiology literature - both the literature that examines Framingham Data and that examining other data - that treats wine/alcohol consumption as exogenous.

Author’s note: we have cleaned the Framingham data and are proceeding to estimate various econometric models.