

A RE-EXAMINATION OF THE IMPACT OF DEMOGRAPHICS ON THE STOCK AND PRICE OF HOUSING

Shari G. Hensrud-Ellingson

University of Nebraska, 1998

Adviser: Manfred O. Peterson

This dissertation re-examines the controversial housing study by Mankiw and Weil (1989). Mankiw and Weil (hereafter M&W) estimate the relationship between housing stock and demographic characteristics from cross section data for 1970. Assuming this relationship to be constant, they forecast a 47% fall in real housing prices by the year 2000. This study proposes to first replicate the M&W study and then determine whether their results are robust with respect to model specifications, sample size and time.

Other studies that examine M&W's analysis find that the demographic demand variable is positively and significantly related to the stock of housing but insignificantly related to the price of housing. This dissertation further examines these relationships and extends the analysis to a structural model proposed by Alperovich (1995). The empirical models specify housing stock and price as functions of: 1) demographic demand, 2) gross national product, 3) real cost of funds, 4) price of nonhousing goods, and 5) cost of construction. The regressions cover the period 1947-1996 and are analyzed for three sets of NIPA data, each indexed in a different year: 1970, 1982 and 1992.

The results of the regressions for the stock of housing find a significant relationship, for the 1970 data set only, with the demographic demand variable after adjusting for the fact that the supply of housing is perfectly inelastic in the short-run and does not instantaneously react to shifts in demand.

The results of the regressions for the price of housing are similar for 1970 and 1992 data sets. The coefficient on demographic demand is negative and significant in both cases. The forecast for future housing prices based on these results is between an 8% decline and an 8% increase by the year 2007. The results support the hypothesis that there is a relationship between demographics and the price of housing, but the direction of the relationship is negative rather than positive as indicated by Mankiw and Weil.