THE IMPACT OF DEMOGRAPHIC, SOCIAL AND ECONOMIC CHANGE ON THE DISTRIBUTION OF INCOME

The following tables describe an analysis of changes in the distribution of income in the United States between 1969 and 1989. The source is a Current Population Report from the US Census Bureau, "The Impact of Demographic, Social and Economic Change on the Distribution of Income," by Paul Ryscavage, Gordon Green and Edward Weiniak, P-60/183. The authors ask the hypothetical question: "What would happen to 1989's income, poverty, and income inequality measures if households had the same set of demographic, social and economic characteristics that existed in 1969 and in 1979?"

I illustrate the methodology using a simple example where the population is divided into two groups -- those over 40 and those under 40. Let p_t be the proportion of the population over 40 in year t, $YBARO_t$ be the mean income of those over 40 in year t, and $YBARY_t$ be the mean income of those under 40 in year t. The mean income of the population in 1989 is defined as weighted average of the mean incomes of the two groups:

$$YBAR1989 = p1989 * YBARO1989 + (1 - p1989)YBARY1989$$

We calculate standardized mean income by asking what if the population in 1989 had the same

demographics as the population in 1969.

$$YBAR1989 \text{ standardized} = p1969*YBARO1989 + (1-p1969)*YBARY1989$$

Or, alternatively,

$$YBAR1989 \text{ standardized} = YBAR1969 + p1969*(YBARO1989-YBARO1969) + (1-p1969)*(YBARY1989-YBARY1969).$$

Tables from Ryscavage et al.

Tables 1-3   Table 1.jpg

Tables 4-6   Table 4.jpg

Tables 7-9   Table 9.jpg