Table 2 shows also some relationships between changes in physician-population ratios and regional per capita incomes. Column (7) shows the average per capita disposable income elasticity of physician mobility and reveals a somewhat surprising negative coefficient for isolated rural areas. A 1 per cent increase in per capita disposable income in an isolated rural region would be associated with a decrease of .06 per cent in the number of physicians. With increasing degrees of urbanization, the income elasticity increases: for isolated semi-rural areas, an increase in per capita disposable income of 2 per cent will increase the number of physicians by .02 per cent; the ratio increases to .18 per cent, .50 per cent, and .54 per cent for adjacent, lesser metropolitan, and greater metropolitan county groups.

There is a clear tendency toward higher income areas having smaller declines in the number of physicians in relation to population. This would seem to contradict the earlier finding about a change in relative distribution in favor of lower income areas. However, there is no necessary inconsistency, for two quite different ways of measuring changes in distribution are involved. Nevertheless, the apparent inconsistency does highlight the difficulty of describing changes in distribution in an unequivocal manner. Some questions may be raised also with respect to the relevant time period for which income is measured. This is especially the case when there is a change in the income rank over time. For instance, in 1950 lesser metropolitan areas had the second highest average income of the five county groups, but in 1959 they were in third place, behind adjacent areas. If the causal effect of income operates with a lag, the initial income level is more likely to be relevant. If it operates through anticipation, the final income level might be more appropriate, or even the rate of increase in income over time. Multiple regression and multiple correlation analysis is necessary to determine the respective significance of these different factors. This is the task of the following section.

## Analysis of Physician Location Trends

The preceding discussion has shown that changes in physician location over time are an important aspect of the regional redistribution of physicians relative to population. A complete analysis of changes in distribution would have to account for the movements of the population as well as the movements of physicians. In this paper, however, we are concerned only with the movement of physicians. Population shifts will be taken as an independent variable that has a causal effect on the location of physicians. One would expect that an increase in population in a given area, especially if it is through migration, makes it easier for physicians to open new practices and induces them to locate there. Of course, once a doctor has established his practice in a given area and built up his clientele, he is not likely to move. The highly personal nature of the doctor-patient relationship is undoubtedly an important barrier to mobility. On the other hand, new doctors are constantly entering the profession while others are retiring and leaving vacancies. It is mainly through these entries and exits that physicians are relocated, which makes it important to add a substantial time dimension to the