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## POPULATION: ITS SIZE, AGE, AND FAMILY STRUCTURE

A factor more likely to influence long-term than short-term patterns of change is the size of the population for whom shoes must be bought. The need for shoes is obviously a function of the number of feet, and this number usually changes in a country in a fairly steady fashion from year to year.

But the need for shoes is by no means a simple function of the number of feet to be shod. Elderly ladies and gentlemen have more moderate needs than working or family-rearing adults, whereas most of the latter have more moderate needs than ten- to twenty-year-olds.

Further, the ability to satisfy needs through purchase is a function of the size of spending (and earning) units in which people live. Members of a six-person family can on a *per capita* basis make far more economical use of all sorts of goods of the overhead variety — housing, furniture, utilities, household equipment, and even food — than can members of a one- or two-person spending unit. Consequently, with a given *per capita* income they have more money to spend on shoes; they buy, that is, at a higher living level.

If, on the other hand, we compare two spending units, one including six and the other two persons, each with the same *income per spending unit*, the reverse is true — members of the larger unit live at a lower living level. They would spend more of their income for shoes than the other partly because there is in any event a tendency for percentage expenditure on shoes to increase as the level of living decreases and partly because, no doubt, at a given living level a large family spends a larger proportion of income on shoes than a smaller one, since the need for shoes increases with family size more strongly than most other needs.<sup>1</sup>

On the basis of these brief reflections it seems clear that it is not easy to say just how much the effective demand for shoes will be influenced by a given change in population, the size of family units, and age composition. The general direction of the influence, on the other hand, seems reasonably clear. Over the years the increase in the population of the country doubtless has retarded the downward trend which appears in aggregate shoe sales, though the fact that the proportion of older people has increased opposed the retardation. Second,

<sup>1</sup> The pattern is best studied with age of children held constant in tabulations in *Family Spending and Saving as Related to Age of Wife and Age and Number of Children*, Department of Agriculture Miscellaneous Publication 489 (1942), Tables 11 and 14. The figures apply to clothing expenditure for north central cities. Families having one child between the ages of 12 and 29 spend, for each of the five income groups, a smaller per cent of income on clothing than those with two children between the same ages; for the five income groups the average percentage of income spent on clothing is 8.9 per cent of total outlay for the one-child families and 9.8 per cent for the two-child families. Expressed as a percentage of total outlay the figures are 9.7 and 10.5 respectively. If this is true of total expenditure on clothing, it is doubtless even more strongly the case for expenditure on footwear, though on this point we have no direct evidence.

a bulge in the birth rate such as the one that has recently taken place in this country must increase the demand for shoes, other things the same, both by increasing the population, decreasing the proportion of old people in the total, and, especially, by increasing the size of family units. The increase in effective demand is, however, in no sense proportional to the increase in population.

In other words, the proper way to neutralize the population factor is neither to ignore it nor to convert to a per capita (or adjusted per capita) basis, but to introduce population adjusted for age or family size as a *separate variable*. For practical purposes in analyzing shoe sales during 1929-1941 and even 1926-1941, the influence of population changes is reasonably well covered by a straight-line time factor.<sup>2</sup> But this would certainly not be true were the prewar dynamics of shoe buying projected on a postwar market. In recent years the population bulge, with its characteristic age and family constitution, needs to be taken directly into account. Further, its impact on different commodities would differ in extent and in sign.

<sup>2</sup>A straight line fits the statistics for civilian population two years of age and over fairly well for 1930 through 1940 inclusive. Between 1925 and 1930 the trend was slightly steeper.