

This is because with each payment the amount borrowed was reduced, making the average balance borrowed about half the original unpaid balance. If it is assumed that equal payments are made at equal times (usually monthly) throughout the total period of the contract, the true or effective annual rate can be calculated by a relatively simple formula called the constant ratio method.¹ This formula was applied and checked with actuarial rate tables to obtain the equivalent effective annual rates shown in Table III-4 and subsequent figure and tables.² For installment contracts entered into by the retailers surveyed, in 1966 the average effective annual rate of finance charges was 21 percent on those assigned to finance companies and banks and 20 percent on those held by the retailers themselves.

Table III-5 shows the distribution of all installment contracts by effective annual rates of finance charges for those retailers reporting charges on installment credit sales. The bulk of installment credit sales by low-income market retailers were at effective annual financing rates of 22 percent or more. Nearly half (47.9 percent) was at rates ranging from 26 to 33 percent.

Contracts arising from sales by general market retailers rarely entailed such high charges. Three-fourths were at finance rates of 20 percent or less. This figure is heavily weighted by department store installment credit sales. Less than one percent of general market retailer contracts had finance charges exceeding 24 percent.

Among general market retailers, only appliance stores had rates consistently exceeding 20 percent. These retailers assigned most of their contracts at effective annual rates of 23 to 24 percent. Thus, virtually all of the contracts involving rates exceeding 24 percent were written by low-income market retailers.

Figure III-1 summarizes the distribution of effective annual rates of finance charges on installment contracts of low-income market and general market retailers for all installment contracts, as well as for assigned and unassigned contracts.

¹ The constant ratio method assumes that the allocation of the charge is proportional to the number of periodic payments. The formula is as follows:

$$i = \frac{2mD}{P(n-1)}$$

In this formula "i" is the effective rate of finance charge per annum; "m" is the number of payments per year; "P" is the amount borrowed on principal; "D" is the financing charge in dollars; and "n" is the number of payments to discharge the debt. Neifeld, M. R., *Neifeld's Guide to Installment Computations*, Mack Publishing Company, Easton, Penn., 1951, Chapter XI, pp. 193-195; and Board of Governors of the Federal Reserve System, *Consumer Installment Credit*, Volume I, Part I (1957), p. 54.

² The United States Rule prescribes the actuarial method of computation for finance charges. The use of the actuarial method is proposed in the pending "Truth in Lending" bill and the pending installment sales bill for the District of Columbia. The principle of the United States Rule is that "interest is to be computed on the amount due to the time of the first payment, then the payment applied, if it exceeds the interest up to that time, and a computation made of the interest on the balance to the time of the second payment, and so on." Neifeld, *op. cit.*, p. 317. The effective annual rates shown in Table III-4 and subsequent figure and tables were calculated from "add-on" rates by the constant ratio method and then checked against actuarial tables. Installment contracts for appliances and furniture seldom exceed 24 months. For this time period (under 36 months), the constant ratio method formula provides substantially the same results in effective annual rates as the actuarial method (United States Rule). Effective annual rates in Table III-4 and subsequent figure and tables have been rounded to the nearest whole number.