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### *Part III*

## SUMMARY AND INTERPRETATION OF RESULTS

THE character and significance of the statistical results presented in detail in the previous pages may be summarized broadly as follows. First, total current real income was found to be an important element in the explanation of demand for instalment sales credit: the estimated coefficients of this variable in all formulations suggest that annual changes in real current income were associated with more than proportionate changes in demand for instalment sales credit. In other words, a 1 percent change in real current income caused more than a 1 percent change in the demand for instalment sales credit. The existence of such a relationship is not surprising since one would expect the demand for instalment sales credit to be related not to total income but to that part of income which is available for the purchase of durable consumer goods, and which varies more widely than total income.

Second, the real income of the preceding year was found also to be a significant factor in the explanation of demand for instalment sales credit. However, the sensitivity of instalment sales credit demand to changes in this variable is relatively low.<sup>59</sup> This result could be expected since instalment debt is repaid chiefly out of current income and, in all probability, only the down payment is related to past income. The significance of this finding is that it suggests only a relatively short lag between income and instalment sales credit demand. The actual magnitude of this lag could presumably be estimated much more closely if monthly rather than annual data were available.

Third, the analysis suggests that the size of the monthly instalment payment plays a considerable role in the determination of instalment sales credit demand, which confirms prevailing opinion. When the relative prices of durable consumer goods and the length of instalment sales credit contracts are considered as separate variables, instead of being combined as an indicator of the size of the monthly instalment payment, they both have significant influences on instalment sales credit demand. Which of these formulations is preferable cannot be established, however, until more and better information is available.

<sup>59</sup> Only in equation (4.8) was it found that the elasticity of income of the preceding year was slightly greater than that of the current year. However, if the standard errors of the corresponding coefficients are taken into account, the difference between the coefficients of the two incomes in this case does not seem to be significant.

Finally, it appears that some forces that have been operating steadily over time (at least in the period 1928-41) have exerted a depressing effect on instalment sales credit demand, especially in the case of automobile instalment sales credit. Probably, the most important of these has been the accumulation of liquid assets by consumers, the increasing use of durable consumer goods for trade-in purposes, and the increasing tendency of consumers to purchase durables through direct cash borrowings.

The fact that the results obtained in this analysis are based on data pertaining to prewar conditions raises a question concerning their applicability in the postwar period. An attempt has been made to test their usefulness in this respect by estimating the instalment sales credit demand for 1948 on the basis of certain of the derived equations and by comparing these estimates with the known actual use of credit in that year.

Aside from the problems which are involved in estimating credit demand for 1948 by extrapolation of experience during 1929-41, an additional problem is presented by the lack of a reliable index of prices of durable consumer goods. Since there is no retail price index of durable consumer goods for 1948, it has been necessary to improvise one by constructing a weighted average of an index of automobile prices and an index of prices of house furnishings, with weights proportional to the average expenditures during 1935-39 on these two types of goods. Not only does this index of prices of durable consumer goods differ from the price data used in the prewar analysis but, what is more serious, the automobile price index of the Department of Labor for 1948—180 on a 1935-39 base—seems substantially to understate the actual prices paid by consumers.<sup>60</sup> Therefore, two estimates of automobile prices have been used in this test: The Bureau of Labor Statistics index cited above and one regarded as approaching more closely to actual experience—250 on the 1935-39 base.<sup>61</sup>

Several estimates of the amount of instalment sales credit granted in

<sup>60</sup> *The Consumers' Price Index*, Report by the Joint Committee on the Economic Report on the Consumers' Price Index of the United States, Bureau of Labor Statistics (1949) p. 15.

<sup>61</sup> This estimate was obtained in the following way. The 1949 Survey of Consumer Finances (*Federal Reserve Bulletin*, June 1949, p. 648) gives the median and average for consumers' expenditure on new automobiles in 1948 as \$2,090 and \$2,130, respectively. The graph on p. 14 of the 1950 (thirtieth) edition of *Automobile Facts and Figures* indicates that in 1948 the average price of used passenger cars of the 1948 model year was about \$2,400. Finally, the average advertised free market price of used cars in 1948, as reported by *Automotive News*, was \$2,150 for the most popular 1948 models of Chevrolet, Ford and Plymouth. Dividing these figures by the average 1935-39 retail price—\$720—of the five most popular models of automobiles as reported in *Automobile Facts and Figures* (1940), p. 72, gives a 1948 index of automobile prices actually paid by consumers of not less than 290. Since this index may be regarded as having an upward bias resulting from the fact that it gives insufficient weight to automobile purchases at manufacturer's listed prices, a more conservative estimate—an index of 250—was used in calculations. It should be remarked, however, that the index of 290 yields demand estimates that are closer to the actual data than does the 250 index.

1948, which are based on equations considered most satisfactory according to the previous analysis, are presented in Table 12. One set of estimates uses the Bureau of Labor Statistics index of automobile prices and the other the higher estimate of these prices. The table reveals that equations explaining fluctuations in total instalment sales credit in the period covered by this study produce 1948 estimates that are substantially above the actual figure. This is probably due to the fact that in 1948 the demand for instalment sales credit was lower than would otherwise have been the case because of the very large accumulations of liquid assets in the hands of consumers and the shortage of durable consumer goods of various types.<sup>62</sup>

TABLE 12

ACTUAL AND ESTIMATED INSTALMENT SALES CREDIT, 1948 <sup>a</sup>  
(dollar figures in billions)

	Actual Instalment Sales Credit Granted	Equation Number	Estimated Instalment Sales Credit with Automobile Price Index (Base: 1935-39)	
			180	250
Automobile instalment sales credit granted	\$2.9	(4.8)	\$7.1	\$4.1
Other than automobile instalment sales credit granted	4.8	(3.16)	4.1	4.1
Total instalment sales credit granted	7.7	(3.3)	12.7	12.6
Sum of the independent esti- mates of automobile and other credit granted			11.2	8.2

<sup>a</sup> A description of the data used in this table in the estimation of instalment sales credit granted in 1948, along with a statement of the sources of these data, are given in Appendix B. Data on actual instalment sales credit granted in 1948 are from a release of the Board of Governors of the Federal Reserve System (May 1949).

The estimates for automobile instalment sales credit produced by equation (4.8), even when the higher price index is used, are higher than the actual figure. The factors which probably account for this are: (a) the continued shortage of automobiles in 1948; (b) the unusually high prices of cars which directly, or through the greatly increased size of the monthly instalment payment, eliminated from the market many potential buyers who ordinarily would purchase automobiles on credit;

<sup>62</sup> It may be observed that, while personal incomes of individuals increased from 1941 to 1948 by 2.1 times, personal liquid asset holdings of individuals increased from the end of 1940 to the end of 1947 by 3.3 times, thus giving a strong indirect support to the possibility of the existence of such influence.

(c) direct borrowing, and (d) the consumers' liquid assets already mentioned above. The effect of this last factor is reflected in the fact that in 1948 only 39 percent of all automobile buyers reported purchasing on credit as compared with a prewar percentage of 60.<sup>63</sup> Clearly, the time factor contained in the prewar equation is inadequate fully to represent such influences as the accumulation of liquid assets in the war and post-war periods.

More satisfactory estimates were obtained for demand for instalment sales credit used to purchase durable goods other than automobiles. Although these estimates are somewhat below the actual figure for 1948, they are close, considering the deficiencies of the data that must be used.

Finally, it may be inquired whether the correct relationship to be examined is that between total instalment sales credit demand and the relevant explanatory variables, or those that we have noted between the two principal components of instalment sales credit and their relevant explanatory variables. The former would be the case, for example, if it were true that consumers shifted their purchases from automobiles to other durables when shortages made it impossible for some of them to buy the former. It will be observed in Table 12 that our estimates suggest that the correct functional relationships may be those pertaining to the components of instalment sales credit, but it is hazardous to draw any final conclusions on this matter in view of the generally unsatisfactory data that have to be used and the abnormal conditions of the year that has been used for our test.

What are the implications of these findings for the problem of economic stability? This is a broad subject which deserves separate study, but we shall touch upon it briefly. Consumer instalment sales credit, like almost any other kind of credit, tends to accentuate economic fluctuations. The few attempts that have been made at a quantitative appraisal of its role, however, do not suggest that the contribution of instalment sales credit to cyclical fluctuations is very important.<sup>64</sup>

Our analysis suggests that cyclical fluctuations in instalment sales credit, and hence in consumer expenditures, could be reduced somewhat by manipulating credit terms. Drastic tightening of credit terms might force a contraction of credit volume in periods of prosperity, and relaxation of terms might induce an expansion of credit in recessions. However, these terms are of only limited importance in the determination of the demand for instalment sales credit. The main factor underlying such credit is income which, when it rises to high levels, brings a high level of instalment sales credit, and when it reaches low levels, reduces consumer desire to use credit. Since the size of the monthly instalment

<sup>63</sup> *Federal Reserve Bulletin*, June 1949, p. 637, and National Association of Sales Finance Companies release, *Composite Experience of Sales Finance Companies and Automobile Dealers—1938*.

<sup>64</sup> Gottfried Haberler, *op. cit.*, p. 149.

payment is also an important factor in the consumer's purchasing decisions, changes in the prices of durables too may modify the effect of changes in credit terms. If prices of durable consumer goods are relatively high as compared with the prices of other goods and of consumer income receipts, the size of the monthly instalment payment may be out of line with the consumer's budget and, accordingly, may serve as a deterrent to the purchase of durables. These facts indicate little promise that cyclical fluctuations in consumer expenditures can be greatly influenced solely by changes in credit terms. Of course, this does not mean that control of consumer credit might not figure as part of a comprehensive program for economic stability which included other economic measures beside credit control.