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## Conclusions

1. BOTH TOTAL CONSUMER credit and its major component, instalment credit, have fluctuated much more widely during the period covered, on a year to year basis, than has aggregate economic activity in the United States, as measured by GNP. Instalment credit has fluctuated more widely than noninstalment credit. While the credit series have had greater percentage increases than GNP during expansions and greater percentage declines than GNP during contractions, the differences have been greater during expansions. Credit has been growing at a faster rate than GNP during the period of this study.

2. We have examined automobile credit, the major component of instalment credit, in relation to disposable personal income and have shown that this relationship has been especially marked in the case of auto credit when related to the component of GNP most relevant to its immediate economic future. Both disposable personal income and automobile credit have grown rapidly in the years since 1920 but it is clear that auto credit, whether measured in terms of outstandings, extensions, or repayments, is a larger percentage of disposable personal income today than it was prior to World War II. Auto credit outstanding has increased seventeenfold since 1929 in contrast to disposable personal income, which has increased only fivefold. The imposition of Regulation W drastically curbed the use of credit during World War II, but since that time auto credit outstanding at the end of each year has almost never fallen below four per cent of disposable personal income for the year.

3. Along with this absolute and relative growth in credit, both instalment credit and especially automobile credit have continued to re-

flect cyclical fluctuations highly correlated with those in GNP. The potential impact of fluctuations in credit on economic stability via factors that might impinge on the availability or cost of credit, particularly instalment credit, or on the continued ability and willingness of consumers to fulfill their credit obligations is therefore even greater today than in the prewar period.

4. All measures of consumer credit outstanding have conformed to general business cycles quite consistently but with a lag at both peaks and troughs. This applies with few exceptions to total consumer credit outstanding, instalment credit outstanding, automobile credit outstanding, and noninstalment credit outstanding. Total consumer credit outstanding and total noninstalment credit have not shown cyclical declines in the postwar period. In general, credit outstanding has lagged by about six months at business cycle peaks and three months at troughs, with considerable variation in the length of lag from one turn to the next.

5. The general conformity to the business cycle extends to the flow of credit as well as to the outstandings. Thus, we find that net credit change and extensions (both for instalment credit and for automobile instalment credit) turn in close conformity to the business cycle turns. The exception is repayments, which generally ceased to exhibit cyclical declines in the postwar period.

6. It follows, therefore, that it is possible to compare the timing of the turning points for net credit change, extensions, repayments, and outstandings for both instalment credit and for automobile credit alone with the peaks and troughs in business cycles. The results of such a comparison reveal a distinct and logical pattern. Net credit change leads the business cycle turns, followed by extensions, which generally turn at or shortly before business cycle turns, with outstandings and repayments turning last and lagging business cycle turns. This sequence has been quite consistent throughout the period under review. It is logical because when a lagging series (repayments) is subtracted from a coincident or leading series (extensions), the series representing the difference between the two, i.e., the net credit change, will tend to lead both at cycle turns. Repayments lag simply because the instalment method involves spreading the repayment over a period subsequent to the extension. Finally, credit outstanding lags behind the net change since it is the cumulation of net change, and it lags behind extensions for the same reason that the repayments do.

7. Automobile credit continues to be the largest part of instalment credit outstanding, and the most volatile part as well. It is also the only

portion that can be readily related statistically to the production and sale of the consumer goods for which it is utilized.<sup>1</sup> Moreover, because turns in auto industry activity can be compared to the business cycle turns it is possible to provide critical information relevant to the general assessment of the impact of credit on economic stability, as exemplified by the following questions. Does a major industry such as the automobile industry simply react to turns in economic activity and so merely intensify them, or does it expand and contract its activities prior to turns in general economic activity and become one of many determinants of business cycle turns? What role does credit play in all this? Does credit expand and contract in response to changes in the auto industry, or is the chain of causation the other way around? Unfortunately, the data do not yield definitive answers. Indeed, timing relationships can never provide definitive answers to questions of causality. They either are consistent or not consistent with hypotheses concerning causality.

We have argued that, though extensions are a measure of the most direct relationship between credit and the automobile industry's activity, net credit change is the best measure of the total impact of credit on consumer purchasing power at any given time; also that peaks represent the end of periods of increasing stimulation, whereas troughs represent the end of periods of increasing depression in so far as the impact on automobile purchases is concerned.

At peaks and at troughs we find that net change in auto credit outstanding turns first (and with a notably long lead at business cycle peaks), and automobile registrations turn later. It would appear, therefore, that changes in the net impact of auto credit activity, as measured by turns in net credit change, precede changes in the auto registrations at peaks. Registrations too, however, usually lead at peaks. At troughs the situation is more complicated. Both net change in auto credit outstanding and auto credit extended lead both business cycle turns and new car registrations, but the latter, in contrast to their behavior at peaks, lag more often than not at the troughs.

This suggests that the credit industry may ultimately play some role in determining the degree of stability that the automobile industry exhibits, and that this role is of great potential importance in determining stability in the general economy. One cannot say how large a role on the evidence at hand. Net change in credit outstanding is simply one

<sup>1</sup> That is, we can compare the timing in the turns in auto credit activity with the turns in production and sale of automobiles. We have generally utilized new passenger car registrations as a proxy for auto production and sales.

of many factors that might precipitate subsequent turns in economic activity. The study of timing relationships provides insights into two critical areas—the relationship of automobile credit to activity in the auto industry, and the relationship of the auto industry to economic activity generally.

Our study is not inconsistent with the assumption that changes in the net impact of auto credit can make themselves felt in activity in the industry, both at peaks and at troughs. The evidence we have suggests that the auto industry may be more active in the precipitation of downturns than in recovery. In all these cases, however, it is impossible with the evidence at hand to be dogmatic about the conclusions reached, or to comment on the importance of the relationships that appear to be present, in comparison with the myriad other factors that help to precipitate both recessions and recovery.