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THE SETTING AND THE FINDINGS

SINCE THE BEGINNING OF THE WAR, bank deposits as a whole have increased sharply, with the rise in business deposits being particularly marked. Between the end of December 1939 and September 1944 adjusted demand deposits of all commercial banks in the United States increased by 120 percent. According to surveys[1] by the Board of Governors of the Federal Reserve System about 63 percent of all demand deposits of banks on July 31, 1944 were held by domestic business enterprises. This figure indicates the paramount importance of cash balances held by business, since a large part of such balances consists of demand deposits.

Cash balances give rise to serious problems, two of which are noted here. First, since the cash balance policy of business enterprise determines the rate of turnover of a large part of demand deposits, it can greatly affect the volume of payments and thus pose difficult problems for monetary management, particularly in the immediate postwar period. Second, the use of the cash balances of business has important implications at the present time for the financing of the war: The greater the amount of cash that business holds in addition to what is necessary for its operations, the smaller the amount of government bonds that business buys and, therefore, the greater the amount of bonds the government has to sell to individuals or to the banks.

It would be wrong, however, to assume that the importance of the behavior of cash balances is being realized now for the first time. As far back as the late twenties the cash balance policy of enterprise attracted attention. Corporations and other business units then lent part of their cash balances on call to stock exchange members in order to take advantage of the high call loan rate which existed at that time. They were accused, rightly or wrongly, not only of contributing to the boom on the stock exchange by lending their cash on call, but also of feeding the financial markets at the expense of the markets for commodities.

In the thirties corporate cash balances again gave rise to heated

[1] See *Federal Reserve Bulletin*, November 1944, pp. 1069 ff.

discussions. During most of this period business allegedly held "idle" cash, i.e., cash balances in excess of current operating needs. Some economists accused private enterprise of contributing to the stagnation of the economic system by holding excess cash balances (instead of investing them) and thereby counteracting the stimulating effect of deficit financing. Others pointed out that one cannot expect enterprise in a profit economy to invest unless there is a reasonable prospect of making a profit.

No matter what stand is taken in these controversies, the mere fact that they have arisen is proof enough that the cash balance policy of enterprise must be considered of great importance to the economic system as a whole. The present study proposes to show how cash balances held by business actually behaved over the last three decades, 1914-43, to analyze why they behaved as they did, and to discuss some of the implications of the present cash balance position of business. Chapters 2-6 are devoted to a detailed analysis of the period between the two wars, 1919-39, and Chapters 7-9 deal with developments in World Wars I and II. The discussion is centered around manufacturing corporations, but a short analysis of the cash balances of trade is undertaken in Chapter 10.

The study is based primarily on compilations of annual financial statements of samples of manufacturing corporations in two size groups, large corporations (over $5 million total assets) and medium-sized and small companies ($50 thousand to $5 million total assets). A description of these samples, which were collected in connection with the Financial Research Program's Studies in Business Financing, is presented in Appendix A.[2]

Assets of our sample of 78 large manufacturing corporations amount to some 40 to 45 percent of the assets of all large manufacturing corporations in the country. The assets of our sample of 73 medium-sized and small manufacturing corporations, on the other hand, constitute a very small part of the total assets of all medium-sized and small corporations. However, all the evidence that could be gathered — such as the behavior of other

[2] These samples have been used in other studies in this series. See Albert R. Koch, *The Financing of Large Corporations, 1920-39,* and Charles H. Schmidt and Ralph A. Young, *The Effect of War on Business Financing: Manufacturing and Trade, World War I* (both studies, National Bureau of Economic Research, Financial Research Program, 1943).

samples of medium-sized and small manufacturing corporations, which are available for a limited number of years — indicates that the *direction* of the movement shown by cash balances of our sample does typify their size class.[3]

For our trade samples the numbers of corporations included are small. Although for trade as a whole no generalizations concerning the liquidity position of corporations can be made from an examination of our samples, a comparison of the movements of the cash balances of our trade samples and those of the manufacturing groups seems warranted.

SUMMARY OF PRINCIPAL FINDINGS

Does the behavior of corporate cash balances over the period 1919-39 show a definite pattern and, if so, what are the factors determining this pattern? How have the first and second World Wars influenced the movement of corporate cash balances? These are questions that the present study attempts to answer. To this end cash balances (and cash balances plus marketable securities) are examined in relation to the work they have to do, i.e., to payments; therefore, the ratio of cash (and of cash plus marketable securities) to payments plays the central role. Also, the relation of cash balances to other items of the balance sheet is examined and the factors behind this relation are analyzed. In addition, the movements of corporate cash balances are studied against the background of changes in the total means of payment, of which cash balances form a part.

The reader must be warned that the following summary gives only a broad outline of the findings of the study. Not all the results could be indicated in a summary of a few pages; neither could necessary modifications of these results be stated here, nor all the terms be defined.

In the first four years of World War II the total means of payment in the United States increased by 78 percent whereas cash holdings of the sample of large manufacturing corporations used in the present study rose by only 47 percent. Furthermore, if the cash holdings of these corporations are related to their payments, it is found that the ratio of cash (average of two successive

[3] For a more detailed statement see C. H. Schmidt and R. A. Young, *op. cit.*, pp. 85 ff.

year-end figures) to payments in 1943 was not much higher than that in 1937, when the ratio was the lowest of any year since 1929. On the basis of these standards of comparison, it cannot be said that large manufacturing corporations had any "excess" cash liquidity in 1943.

A different result is obtained if all liquid funds (cash plus marketable securities) are related to payments. The ratio of liquid funds to payments in 1943 was considerably above the 1937 ratio, which was the lowest in the entire period, 1916-43. But in 1943 factors were present which necessitated a higher liquidity of corporations, the most important of them being increased tax liabilities. If these various factors are taken into account, it appears that large manufacturing corporations in 1943 had not increased their liquidity beyond what was necessary to provide for expected payments. This does not mean that at the end of the war when reconversion sets in on a large scale they cannot draw on cash or marketable securities for the purpose of reconversion; these two types of assets will have increased further in 1944 and some of the factors that necessitated a high liquidity position in 1943 may disappear after the war, or at least diminish in importance. Whether their marketable securities and cash, together with what the corporations may expect from the government following contract termination and under various provisions of the income and excess profits tax law, are sufficient for reconversion needs cannot be precisely estimated. It is not possible to predict with any accuracy the extent to which corporations may draw funds from the capital market and the banks during the period of reconversion.

World War I is the period in which corporations, under the impact of the various war loan drives, bought marketable securities on a large scale for the first time, and marketable securities have continued to be a significant item up to the present among corporations' assets. At the end of World War I the liquidity position of large manufacturing corporations was higher than at the beginning, whereas the reverse was true for large trade corporations. Yet not only the latter but also large manufacturing corporations relied on outside funds to finance plant expansion and inventory during the boom that followed the first World War.

During the twenties large manufacturing corporations appear to have held no more cash than was required by their volume of transactions. The ratio of cash to payments (and also cash plus marketable securities to payments) rose sharply in the depression years of the early thirties, fell from 1933 to 1937, and then rose again in 1938, a year of business contraction. In other words, the velocity of circulation of the cash balances of large manufacturing corporations was relatively stable in the twenties, declined in the depression after 1929, rose in the upswing of 1934-37, and fell again in 1938.

Thus in the years of business contraction during the thirties, the large manufacturing corporations held what in this study is called, for lack of a better name, "free" cash (or "free" liquid funds if marketable securities are included), i.e., cash (or cash plus marketable securities) that is not tied up by the volume of transactions. In the technical jargon of the monetary economist, they hoarded money. The movement of this inactive money shows an inverse correlation with the profit rate of the large companies. A primary reason, though not the only one, for this accumulation of "free" funds during 1930-33 is that the large manufacturing corporations were largely independent of bank credit in the year 1929 so that the reduction of their bank debts did not absorb the "surplus" cash which they accumulated, as a result of the depression, chiefly through liquidation of inventories and receivables. This situation is in marked contrast to that in 1921 when the large manufacturing corporations were heavily indebted to the banks and no "free" cash made its appearance. These comparisons suggest that in a system in which business is not indebted to the banks to any great extent — i.e., in which deposits are created or canceled through the purchase or sale of government securities — business fluctuations may reflect themselves not in an increase or decrease of bank loans and deposits but in a change in the velocity of circulation of deposits and, perhaps, in a change in ownership of deposits between consumers and enterprise.

In order that the holdings of "free" cash by large manufacturing corporations during the thirties may be placed in their true perspective, it should be mentioned that the increase in cash holdings never absorbed in any year more than 3.6 percent of the total cash receipts of the companies, and that the decrease never financed more than 2.7 percent of the cash payments. There was always a net contribution to the cash balance on current account, i.e., the difference between receipts from sales and operating expenditures was always positive. Nonoperating expenditures (mainly dividends and expenditures on fixed equipment) were always greater than cash receipts from sources other than sales (mainly cash receipts through increases in funds from outside). On noncurrent account there was therefore a drain on the cash balance, which was financed mainly by the surplus of cash receipts on current account.

Large trade corporations present a picture similar to the one for large manufacturing corporations in so far as the ratio of cash plus marketable securities to payments is concerned: This ratio shows a rise in periods of business contraction and a fall in periods of expansion. But for the large trade group the ratio of cash alone to payments in the thirties did not display the inverse cyclical pattern shown by the ratio of cash to payments for large manufacturing corporations. The contrasting movements of the ratios of total liquid funds to payments and of cash alone to payments indicate that the distribution of liquid funds between cash and marketable securities for trade corporations differed from that for manufacturing companies. During the present war years the percentage increases in cash and marketable securities (particularly the latter) for large trade corporations have been greater than for large manufacturing corporations. As measured by the ratio of liquid funds to payments, the liquidity of the trade corporations in 1943 was exceptionally high, mainly because of a decrease in receivables and a decline in fixed property, due to postponement of repairs and replacements.

For medium-sized and small manufacturing corporations the percentage increases in cash balances and marketable securities during World War II have been considerably greater than in the case of the large manufacturing corporations. Since the rise in the volume of payments for the smaller size group did not keep pace with the increase in their liquid funds between 1939 and 1943, their ratio of liquid funds to payments advanced sharply. In contrast to large manufacturing corporations the medium-sized and small manufacturing corporations definitely showed an increase in liquidity. The same is true for medium-sized and small trade corporations. Thus the group of large manufacturing corporations is the only one for which the level of liquidity in 1943 was not high.

During periods of business contraction in the thirties the increase in "free" cash of medium-sized and small corporations in both manufacturing and trade was small. Relatively great losses for these companies and probably also the retirement of bank debt absorbed the liquid funds that would otherwise have been accumulated. The phenomenon of "inactive" or "hoarded" corporate cash in the thirties is thus mainly one of large manufacturing corporations.

If the cash balance is considered in relation to other items of the balance sheet, it is found that in periods of business contraction during 1914-43 companies added to their cash balance through partial liquidation of inventories and receivables, and (with a time lag) through the postponement of replacements for fixed equipment. Most of the additional cash obtained in this way was paid out of the business, mainly by distribution of dividends which were not currently earned and by reduction of debts. When bank debts were of no particular importance and losses small, the cash balance tended to rise in relation to other assets during periods of business contraction, and to fall during periods of expansion. This cyclical pattern was traced by large manufacturing corporations in the thirties, but at no time during the period studied was it followed by medium-sized and small manufacturing concerns.

Cash balances of the corporate universe followed the general cyclical pattern shown by the total means of payment in the period 1926-36. In other words, the ratio of cash balances of *all* manufacturing and of all nonfinancial corporations (available since 1926) to the total means of payment was relatively stable during those years. Corporations neither gained cash at the expense of other cash holders nor lost cash to the rest of the cash holders to any marked degree.

A comparison of the movement of the cash balances of the samples of manufacturing corporations used in this study and that of the cash balances of all manufacturing corporations indicates that the behavior of the cash balances of the subgroups into which manufacturing corporations may be divided differs widely. In particular, cash balances of large manufacturing corporations showed the impact of the contraction period 1930-33 only in so far as their increase was retarded; cash balances of all manufacturing corporations, in contrast, declined. The main reason for this difference in behavior may be found in the fact that large manufacturing corporations were not dependent on bank credit.

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In its attempt to explain the influence of money on the economic system the so-called "cash balance approach" of monetary theory uses as its basic tool the ratio of cash to expenditures. Economists, who make use of this approach, analyze the factors determining this ratio for the various groups of cash holders, the reasons why these factors, and with them the ratio of cash to expenditures, change over time, and the effects of such changes on prices and production.

In so far as the present study investigates cash balances of corporations in relation to their payments, it is linked to this broader field of monetary theory. It is hoped that by analyzing corporate cash balances over a period of approximately thirty years this study makes a contribution to our empirical knowledge in this area of monetary research. At the same time, by throwing light on the behavior of corporate cash balances over this relatively long stretch of time, it may help provide a somewhat broader perspective for the current widespread discussion of the cash liquidity of corporations.