Volume Title: Corporate Cash Balances, 1914-43: Manufacturing and Trade

Volume Author/Editor: Friedrich A. Lutz

Volume Publisher: NBER

Volume ISBN: 0-870-14136-8

Volume URL: http://www.nber.org/books/lutz45-1

Publication Date: 1945

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Chapter Author: Friedrich A. Lutz

Chapter URL: http://www.nber.org/chapters/c4822

Chapter pages in book: (p. 60 - 66)

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LIQUIDITY RATIOS AND CASH BALANCES

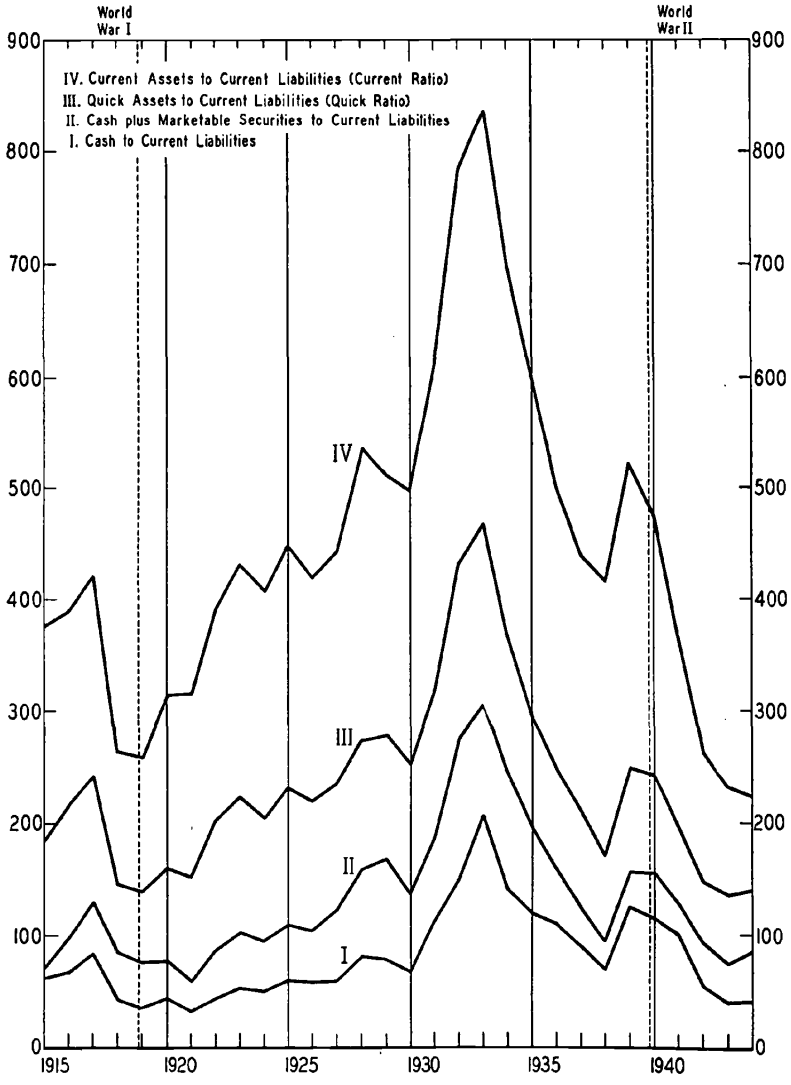
THE LIQUIDITY OF AN ENTERPRISE cannot be measured by one single figure or ratio; there is a scale of ratios expressing different degrees of liquidity. The most important of these ratios, according to the degree of liquidity they measure, are (I) cash to current liabilities, (II) cash plus marketable securities to current liabilities,[1] (III) cash plus marketable securities plus receivables to current liabilities (quick ratio), and (IV) current assets to current liabilities.

These four ratios for our sample of large manufacturing companies rise and fall together, a rule to which there are only few exceptions (Chart 17). This similarity is not so surprising as it may appear to be at first sight. Only rather violent changes in the relative importance of the various components that make up current assets are likely to cause the liquidity ratios to move in opposite directions. As long as the changes keep within moderate limits, they simply cause different relative movements of the ratios. The fact that the distance between Curve II and Curve I on Chart 17 is smaller in 1937 than in 1927 indicates that the relative importance of marketable securities compared with cash was less in 1937 than in 1927. That Curve III is closer to Curve II in the thirties than in the twenties signifies that receivables were relatively less important in the thirties than in the earlier decade.

The wide range within which each ratio fluctuates reflects the fact that corporations do not aim at keeping liquidity ratios stable. Indeed it would often be impossible or in any case nonsensical to carry out such a policy. After 1929, for instance, all four liquidity ratios rose sharply because of a decline in current liabilities coupled with a smaller decline in most of the current assets. Given the

[1] In the case of the sample of medium-sized and small corporations, the item investments is considered a current asset and the nearest equivalent to marketable securities. The Wisconsin income tax returns, from which the sample was compiled, provide an item "investments" but not an item "marketable securities." It should be kept in mind that "investments" undoubtedly include such assets as investments in subsidiaries.

Chart 17—Year-End Liquidity Ratios of Sample of Large Manufacturing Corporations (Sample B)



volume of current liabilities, a policy that aims at keeping liquidity ratios fixed means either that part of current assets should be turned into fixed property—a policy which is not common in times when no profits are made and excess capacity exists[2]—or that com-

[2] It may, of course, happen in some cases that building for the future is done in time of depression. But these cases are the exception.

panies should decrease their liquidity ratios by paying out more dividends—again an unlikely action in the absence of profits.[8] All that can be said is that companies undoubtedly strive to avoid letting the ratios fall below certain levels. The rule that the ratio of current assets to current liabilities should be at least two to one, and the quick ratio at least one to one, has often been commented upon. These two rules by themselves do not establish a minimum for cash balances since the shares of the components that enter into the total constituting the numerators of the two ratios may vary. However, it is reasonable to assume that as long as management has any control over the liquidity ratios (which may not be the case in times when heavy unexpected losses occur) not only these two ratios but also the ratio of cash to total current liabilities will not be allowed to fall much below the limit set by current financial standards, although it is impossible to say exactly where this limit is. A safe assumption is that all through the period 1919-39 the ratio of cash to current liabilities was above the minimum, just as the quick ratio and the ratio of current assets to current liabilities were above their respective minima. If this assumption is correct, the conclusion follows that considerations of liquidity, as measured by any one of the four ratios, played a negligible part in the determination of cash balances in the period under consideration.

The ratios discussed so far are not the only ones by which liquidity can be measured. The ratio of cash to payments that was used in earlier chapters is a fifth measure of liquidity. A rise in this ratio suggests that a certain amount of cash is set "free," i.e., not required for cash payments. In this sense a rise indicates increasing liquidity, and a fall decreasing liquidity. Because of its stability up to 1929 this liquidity ratio is considered more important, for a study of the movements of cash balances, than any of the four ratios presented in Chart 17. For this reason use was made, in the previous chapters, of the ratio of cash to payments (and cash plus marketable securities to payments). It is true that

[8] Although the purpose of the present study is to investigate cash balances, not to analyze in detail the movements of the liquidity ratios, attention may be drawn to the fact that the ratios do not show a definite cyclical pattern. They rose during the boom of the twenties and continued to rise at an accelerated rate in the depression until 1932. Only after 1932 do we find a counter-cyclical pattern.

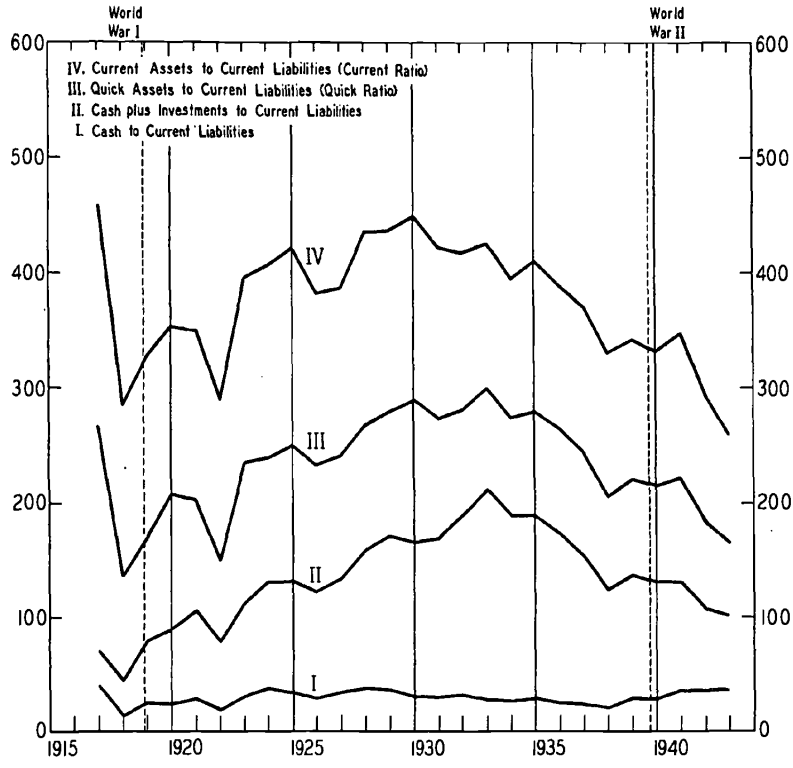
the other four ratios—and not the ratio of cash (or cash plus marketable securities) to payments—are the ones discussed in accounting literature. They are indeed important for short-term creditors of the company, but they are definitely of little importance to our special problem. Business management also gives little consideration to such ratios, except as it is necessary to do so to meet requirements of credit grantors.[4]

The liquidity ratios for the sample of medium-sized and small manufacturing corporations (Chart 18) yield a picture somewhat different from that shown by the ratios for large manufacturing companies. The point to be stressed is the relative stability of the ratio of cash to current liabilities for the medium and small concerns, indicating that the cash holdings of these companies never were much above what was considered the necessary minimum. The ratio of cash to payments, discussed in Chapter 4, indicates that "free" cash increased in the depression of the early thirties. The relative stability of the ratio of cash to current liabilities suggests that the increase in "free" cash was necessary to prevent the ratio from falling too low, which strengthens the conclusion that the holding of "free" cash by manufacturing corporations in the thirties was much more a phenomenon of large than of medium-sized and small corporations.

A final comment on liquidity is fitting at this point. The four ratios shown in Charts 17 and 18 can serve as a measurement of liquidity for individual corporations or for a small sample of corporations, but they cannot serve as a measurement of the liquidity of all enterprises or of a large sample of them. This fact is quite clear for the "quick" ratio and the ratio of current assets to cur-

[4] A comparison of the ratio of cash to payments with the ratio of cash to current liabilities shows that the two ratios tend to move together when they are experiencing sharp changes (from 1929 onward with the exception of the years 1933 and 1940), whereas if the changes are minor, as in the twenties, the movements of the ratios differ. The ratio of cash to payments is the ratio of the average of two succeeding year-end cash balance figures to payments in the year between the cash balance dates. The ratio of cash to current liabilities, on the other hand, is the ratio of cash holdings at the end of the year to then existing current liabilities, which will become part of total payments only during the coming year. There is therefore no a priori reason why the two ratios should move together; but it is understandable that they show a tendency to do so after 1929. If, as a result of a depression, payments and current liabilities decline while cash balances remain relatively stable, as they did after 1929, the two ratios are bound to change together. The same is true if payments and current liabilities rise as a result of an upswing in business, provided that the absolute level of cash balances does not change much (1933-37).

Chart 18—YEAR-END LIQUIDITY RATIOS OF SAMPLE OF MEDIUM-SIZED AND SMALL MANUFACTURING CORPORATIONS



rent liabilities. From the point of view of the individual corporation, receivables and also inventories are liquid assets which can be turned into cash fairly easily on short notice. However, receivables and inventories cannot be considered liquid assets for the corporate universe, since their liquidation by one corporation in most instances[5] means that cash is drawn from another corporation and not from outside sources. Nor can the ratios of cash and of cash plus marketable securities to current liabilities serve as a measurement of liquidity for all corporations. If, for instance, cash or marketable securities were used to reduce accounts payable,

[5] At all times, some part of receivables represents sums owed by consumers and some part of inventories (finished goods) can be liquidated by sale to consumers. Also at the present time, a substantial part of total receivables represents sums due from the government. Part of these assets are therefore liquid from the point of view of the corporate system as a whole in the sense that they are capable of drawing funds from outside the system (i.e., from consumers and/or the government).

the ratios would increase. Yet the liquidity of the aggregate of corporations with respect to the "outside" economic sphere would not be affected by this procedure.

The liquidity of *all* companies can be tested only by the following ratios: (1) The ratio of cash to payments.[6] A rise in this ratio suggests that the aggregate of productive units holds additional money which could be disposed of at any time.[7] (2) The ratio of cash plus marketable securities to payments. If marketable securities can be sold to the banking system or other investors, excluding enterprises, they can be used to increase the total deposits at the disposal of the companies. In this sense they contribute to the liquidity of the aggregate of enterprises. But since the willingness of the banking system and other investors to buy marketable securities cannot be counted upon, the value of this ratio for the measurement of total liquidity depends on the special conditions of the banking system and these other investors at the time for which the measurement is made. (3) The ratio of cash to bank debt plus "other current liabilities" (tax liabilities and liabilities to other than business enterprises). This ratio measures the liquidity of the aggregate of companies in relation to the claims which can be brought against them from "outside" the universe of productive enterprises. (4) The same is true for the ratio of cash plus marketable securities to bank debt plus other current liabilities. To this ratio, however, remarks similar to those made with reference to the ratio of cash plus marketable securities to payments apply.[8]

[6] For all practical purposes the ratio of cash to sales can be substituted for the more accurate ratio of cash to payments, since the two ratios show essentially the same movements.

[7] The reader may be inclined to argue that a large part of the payments is made from one company to another and, therefore, that the ratio of cash to total payments is not a better measurement of liquidity than any of the other four ratios discussed. This is not so. For the aggregate of corporations, accounts receivable can largely be canceled against accounts payable; both refer to a given moment of time. Payments on the other hand are a flow of money. It would be correct to cancel part of the flow of payments against part of the flow of receipts, if a measure of the net inflow or outflow of cash is desired. But in our discussion the average cash balance (which is not a flow of money) is related to the flow of payments. If the (unknown) payments to other corporations are deducted from the total payments figure, then the cash held for these payments should be deducted from the cash figure. If this were done, it is doubtful that the ratio of cash to payments would change materially. The data available, however, do not permit such a correction.

[8] A fifth measurement is to include in the numerator of the ratio receivables which are owed by consumers and the government, and that part of inventories which can be sold within a relatively short time outside the corporate universe. It is, of course, practically impossible to subdivide receivables and inventories from this point of view.

The difference between the liquidity of an individual enterprise and that of an aggregate of enterprises has to be kept in mind. It is one of the reasons why, in this study, the ratio of cash to payments has been used rather than any one of the ratios shown in Charts 17 and 18.

SUMMARY

(1) The usual liquidity ratios (cash to current liabilities, cash plus marketable securities to current liabilities, quick ratio, and ratio of current assets to current liabilities) are on the whole of little importance in a study of the movements of cash balances of corporations.

(2) These ratios cannot serve as measures for the liquidity of the aggregate of corporations. Among the ratios which can be used for this purpose, the ratios of cash, and of cash plus marketable securities, to payments are the most important.