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

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Volume Publisher: NBER

Volume ISBN: 0-870-14136-8

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

Publication Date: 1945

Chapter Title: Analysis of "Free" Cash

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Chapter URL: http://www.nber.org/chapters/c4821

Chapter pages in book: (p. 51 - 59)

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ANALYSIS OF "FREE" CASH

THE CHANGES IN "FREE" CASH accumulated by large manufacturing corporations during the thirties, which were discussed in the preceding chapter, may be explained by a variety of factors. One of the most important of these factors—particularly in an analysis of changes in the thirties compared with those in the twenties—is the role of bank debts. Other factors that must be considered, however, include profits, holdings of marketable securities, and dividend payments.

THE ROLE OF BANK DEBTS

There are two reasons for paying particular attention to bank debts among the liabilities of a company, in connection with the analysis of "free" cash.

First, bank debts can be reduced with great ease at the borrower's initiative, which makes it improbable that they will exist simultaneously with large amounts of "free" cash. This is not true to the same extent of other types of liabilities. The use of accounts payable is a well established trade custom; companies do not change over to cash payments for the sole reason that they have "free" cash on their hands. As for tax liabilities, they rise and fall automatically with net income, provided that tax rates do not change. Long-term bonds, it is true, can be retired at the initiative of the company; they can either be called back, if they are callable, or repurchased in the open market. If a corporation expects to need funds again, it will call bonds only if a new issue can be floated at a lower interest rate, with due consideration being given to the costs of flotation. The new issue would simply replace the old one and no retirement of debts would take place. Only if the company is not in need of funds would the calling in of bonds lead to a reduction of "free" cash; in this case the existence of "free" cash may be the reason why the bonds were called at the particular time. The *repurchase* of bonds in the open market pays only if the market price is below the book value of the bonds. Con-

sequently, there is no reason to expect companies to retire their bonds in this fashion merely because they have temporarily "free" cash. Of course, the existence of "free" cash may possibly coincide with low bond prices; a repurchase of bonds may then take place, decreasing the amount of idle cash held by corporations. But in this case the decisive factor for the repurchase of the debt is the low level of bond prices and not the existence of "free" cash.[1]

Second, if a company or a group of companies pays off any type of liability other than bank debt, cash balances are merely transferred and no net decline occurs in cash balances in the economy as a whole. But if bank debt is repaid, a reduction of cash balances will result unless the banking system replaces bank loans by other types of assets. This point is of great importance if any attempt is made to generalize the conclusions that are reached in our analysis.

During the decade of the twenties, bank credit was of little importance for large manufacturing corporations; bank debt, measured by notes payable, was reduced sharply throughout that period. In 1929, the year before "free" cash began to accumulate, 27 companies out of our sample of 45 large manufacturing corporations had no notes payable. Therefore, when these concerns became liquid the paying off of bank debt did not provide an outlet for their excess funds. Total notes payable of the other 18 companies in 1929 amounted to 2.6 percent of their combined total assets. By 1931, the payables of 8 of these companies had been reduced to zero, and those of the remaining 10, to 0.7 percent. By 1931 the absolute amount of notes payable for the entire group of corporations had declined to 21 percent of the 1929 level. Thus the great liquidity which corporations built up after 1929 was accompanied by an almost complete disappearance of bank debt.

That bank debt as measured by notes payable does not disappear entirely, in spite of the accumulation of "free" cash, can be ascribed primarily to two circumstances. First, notes payable do not include only notes payable to banks, although the latter do constitute the bulk of the total.[2] It is possible that the relative

[1] The long-term debt of our sample of large manufacturing corporations was actually reduced during the period 1933-36.

[2] For an estimate of the percentage of notes payable due to banks, see Walter A. Chudson, *The Pattern of Corporate Financial Structure* (National Bureau of Economic Research, Financial Research Program, 1945) p. 46, especially fn. 3.

decrease of bank debt after 1929 may have been even greater than the movement of the total of notes payable would lead us to expect. Second, our figure for "free" cash relates to the *aggregate* of the 45 companies. Some of the companies within this group may not have had "free" cash and, consequently, may have been unable to reduce their bank debt to zero. These considerations must be kept in mind particularly for the years after 1932 when notes payable started to increase although there was still "free" cash in existence. Those companies increasing their bank debt may not have been the same as those that still had sufficient cash for expansion of inventories. Indeed, a detailed examination of the individual companies shows that cash was unequally distributed among them.

The situation in 1921 was quite different. The inventory boom which had preceded the postwar contraction was financed to a large extent by bank credit. When the recession came, corporations were pressed to pay off their bank debts, which resulted in a precipitate decline of such debts; consequently no "free" cash came into existence. The amount by which notes payable were reduced in 1921 was approximately the same as the maximum amount of "free" cash held by our sample of corporations in the early thirties.

In Chapter 1 it was shown that the cash balances of our sample of large manufacturing corporations in the thirties behaved differently from those of all reporting manufacturing corporations in that the latter declined after 1929 and the former did not. The explanation of this difference is found in the fact that by the end of the twenties large corporations were less dependent on banks than the average of all corporations. The conclusion follows that the atypical behavior of the cash balance of our sample of large corporations in the thirties was mainly attributable to the fact that bank debt was less important for large concerns than for the corporate universe. However, this assertion cannot be proved statistically since bank debt cannot be segregated from the data in *Statistics of Income,* the source for the cash balance figures for all corporations.[3]

Summary

(1) The accumulation of "free" cash by large corporations in the depression of the thirties reflects the fact that at the close of the twenties large cor-

[3] Neither can bank debt be segregated for the sample of medium and small manufacturing concerns, data for which were obtained from the Wisconsin income tax files.

porations had only a small amount of bank debt. The relatively large amount of bank debt before the depression of 1920-21, in contrast, resulted in practically no accumulation of "free" cash in 1921.

(2) The difference between the behavior of cash balances of large manufacturing corporations and those of all reporting manufacturing corporations in the thirties can very probably be ascribed to the fact that large corporations were relatively independent of the banks.

THE ROLE OF PROFITS

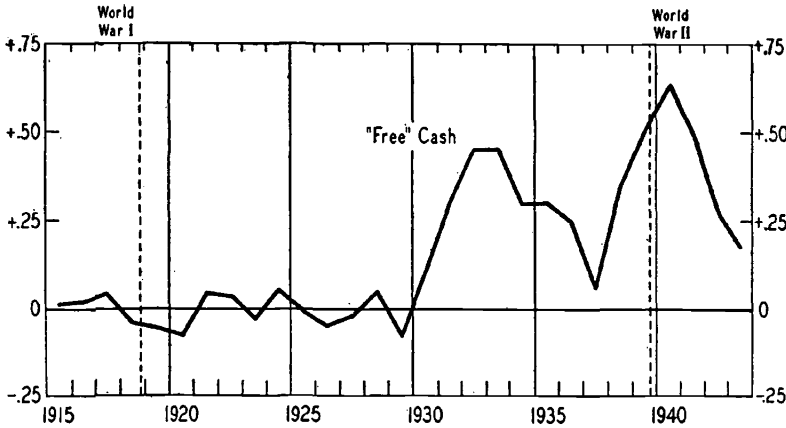
The connection between general business conditions and liquidity of corporations may be tested by correlating the profits of our sample of large manufacturing companies with "free" cash. What is of importance is the *expected* profit rate; that is, investments depend on the rate of profit which management expects to make and not on the profit rate made on previous investments. In this analysis, however, the actual profit rate must be used, for it is not possible to measure the expected rate. The limitations of this approach are recognized; but since the tendency displayed by the actual profit rate is undoubtedly one of the important factors shaping plans for the future, it is still sensible to compare the movement of this rate with that part of the cash balance which constitutes "free" cash. The profit rate that will be used in the comparison is the ratio of net income to net worth.

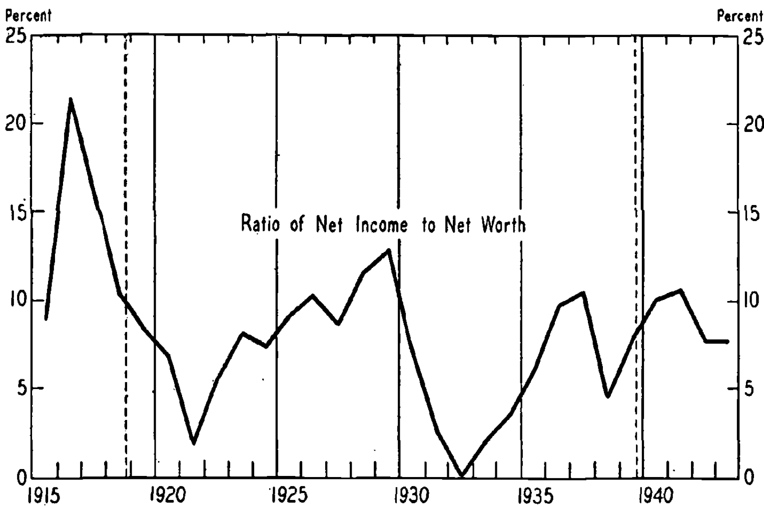
As indicated on Chart 15 the movement of the profit rate from 1929 through 1938 was inverse to that of "free" cash. On the whole, when the profit rate fell "free" cash rose, and vice versa. The mechanism that connects the profit rate with "free" cash in this period is simple. A rising profit rate goes hand in hand with an expansion of business and, therefore, with a rise of total payments. As soon as total payments increase, a larger part of a given cash balance is absorbed by transaction needs, and a smaller part appears as "free" cash. Thus even if the absolute level of the cash balance remains about the same, as was the case with the cash balance for large corporations in the thirties, that component of it which constitutes "free" cash declines as the profit rate rises, and advances when the profit rate falls.

In the twenties the rising profit rate for large corporations was not accompanied by a decline in "free" cash.[4] The explanation

[4] There seems to be a negative correlation for minor year-to-year movements of the profit rate and "free" cash in this period.

Chart 15—"FREE" CASH AND RATIO OF NET INCOME TO NET WORTH OF SAMPLE OF LARGE MANUFACTURING CORPORATIONS (SAMPLE B)





The declining profit rate for large manufacturing corporations in 1930-32 and in 1938, unlike 1920-21, gave rise to the accumulation of "free" cash. The rising profit rate in the middle thirties led to a decline of "free" cash.

for this lack of correlation has been given in the preceding section: The upswing in the twenties did not inherit "free" cash from the depression of 1921 because in that year cash had been used to reduce bank debt.

THE ROLE OF MARKETABLE SECURITIES

An analysis of the movement of marketable securities is difficult because the information available is insufficient on two vital points. First, the exact composition of marketable securities is not known. If the increase during the period 1925-28 is to be judged, a point of vital importance is to know what part of marketable securities were stocks, what part bonds, and what part call loans.[5] That stocks might have been bought in the twenties with a view to the capital gains that could be made is suggested by a comparison of stock prices and the holdings of marketable securities, which shows a strong correlation between the two throughout that period.[6] Second, to what extent the decline that set in after 1928 came from write-downs of the value of securities and to what extent from actual sales is not known. An analysis of surplus adjustments in the years 1929-32 does not reveal any influence of security write-downs, but this does not prove that they were not made. Indeed, if it is true that stocks were a part of marketable securities up to 1928, it seems inevitable that security write-downs occurred after that date. A safe assumption is that during the thirties the composition of the security portfolio changed in favor of bonds.

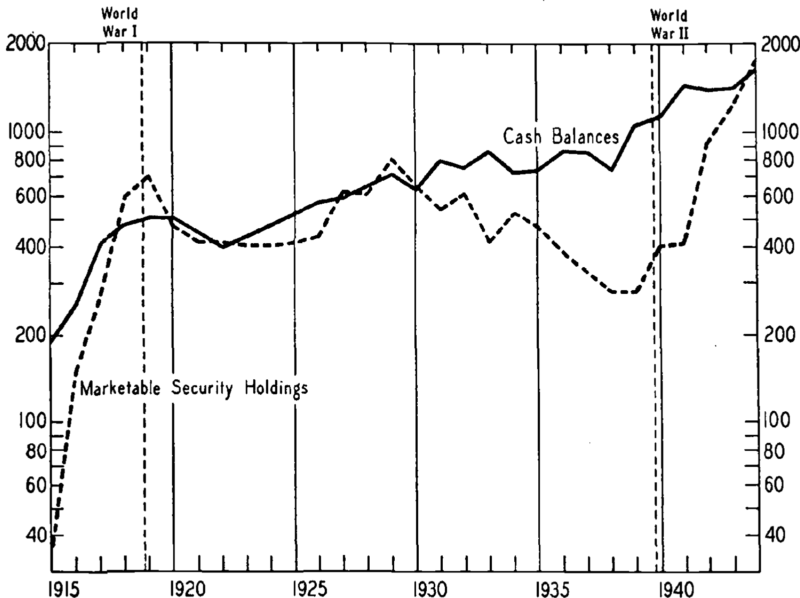
Corporations might be expected to prefer marketable securities to idle money; it might be argued that a small yield is better than no yield. On the other hand, it seems reasonable to assume that in times of a high profit rate on operations, the amount of marketable securities in the possession of corporations will not rise more than is necessary to contribute to the liquidity of the company. In other words, marketable securities would not be expected to rise relatively more than cash.

The facts are quite contrary to these expectations. Chart 16 shows that our sample of large manufacturing corporations built up their marketable securities at a more rapid rate than their cash balances during 1925-28, in spite of high profits on operations. In the depression of the thirties when the profit rate was low and "free" cash made its appearance, marketable securities were

[5] Call loans were included in marketable securities whenever they were shown separately in the company reports.

[6] Mr. A. Kisselgoff investigated this point in detail, and his results are used here.

Chart 16—YEAR-END CASH BALANCES AND HOLDINGS OF MARKETABLE SECURITIES OF SAMPLE OF LARGE MANUFACTURING CORPORATIONS (SAMPLE B)



In most years in the period 1929-37, large manufacturing corporations preferred to draw on their marketable securities instead of cash balances to finance part of their payments.

liquidated to a considerable extent (with the exception of the years 1931 and 1933).[7]

Why did corporations increase their marketable security holdings during the twenties in spite of the high rate of return which (to judge from the high profit rate on operations) they could have obtained if they had invested their funds in operating assets? Since this problem transgresses the topic of the present study, a detailed analysis will not be attempted here; a few remarks must suffice.

As already indicated above, rising prices on the stock exchange, which promised substantial capital gains in addition to dividends,

[7] The figures available for the sample of medium-sized and small corporations do not permit the separation of marketable securities and investments; therefore, the movement of marketable securities alone cannot be shown for this group of corporations.

may have induced corporations to put an increasing part of their funds into securities. Another factor is that plant expansion of large industrial concerns proceeded at a comparatively high rate during the twenties. At such times liquid funds have to be accumulated to prepare for huge payments. If the stock market is favorable, corporations may take advantage of the situation by floating stock even though they may intend to use the money only in the rather distant future. The funds thus obtained need not be held in the form of cash but can be invested in securities or lent on call. In addition, in the later stage of a boom when the economic system is working at relatively full capacity, an attempt to increase operating assets may meet with delays, so that accumulated funds in the meantime either have to be kept idle or have to be invested in securities. As such investment was profitable in the late twenties, it is no wonder that corporation funds were put to that use.

The explanation of the liquidation of securities in the thirties is more difficult. By selling securities before their "free" cash was exhausted, companies kept their cash balances high, at the expense of the earnings which they could have obtained from securities. The preference for cash in the first years after 1929 is understandable considering the highly unstable condition of the security market and the extreme uncertainty about the future which prevailed in those years. Furthermore, interest rates, on the whole, were falling in the thirties, and therefore bond prices showed a rising trend. It is well known that from about 1935 onward the opinion was widespread that interest rates could not stay at the low level which they had reached (or bond prices remain at their high level). This feeling may not only have prevented corporation officials from investing excess cash in government and other bonds, just as it prevented bankers from putting their excess reserves into fixed interest securities, but it may actually have induced them to sell bonds in order to realize capital gains as long as it was still possible to do so. This is particularly plausible for the years after the bottom of the depression was reached, and even more so for the years 1936 and 1937, when the profit rate on operations was again high. If an increase in inventories can be financed by selling securities at a profit, it is more advantageous to do so than to draw on cash balances, provided no further rise of security prices is expected. That the prices of bonds

influence the amount of marketable securities held by corporations is indicated by developments in the two years 1931 and 1933. In those years, banks liquidated securities heavily for several months, and the low prices made the purchase of such securities attractive to corporations.

Summary

(1) The rise in corporate holdings of marketable securities in the twenties is probably due to the attractive investment opportunity which the stock exchange offered in those years as well as to the expansion of enterprise which required a substantial amount of funds that were temporarily invested in securities or lent on call.

(2) Such liquidation of marketable securities as occurred in the thirties can probably be ascribed to the rise in the prices of bonds, and (after the bottom of the depression was reached) to the rise in current assets for which the sale of marketable securities provided part of the necessary funds. The high bond prices made it advisable to finance an increase in assets by drawing on marketable securities rather than on cash. In the two years (1931 and 1933) when bond prices fell, the corporations purchased marketable securities.

THE ROLE OF DIVIDENDS

No causal relationship exists between "free" cash and dividend payments in the sense that the former determines the latter.[8] Dividend payments (see Chart B-2 in Appendix B) tend to rise and to fall with net income, not with the liquidity position of companies. In the business contraction of the thirties, profits for our sample of large manufacturing companies declined sharply (in 1932 net losses were incurred). In such a situation companies reduce their dividend payments although, as a rule, the reduction is not so great as the decline in net income would warrant. All that can be said, therefore, is that "free" cash would have been greater in the early thirties if the companies had reduced their dividend payments still further.

[8] In 1943 some companies reported that they increased their dividends because they had idle cash on hand. But it must be remembered that 1943 was also a year of increased earnings; moreover, as a result of war material priorities, etc., there was only a limited outlet for cash disbursement in the production sphere.