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Commercial Paper and Business Cycles

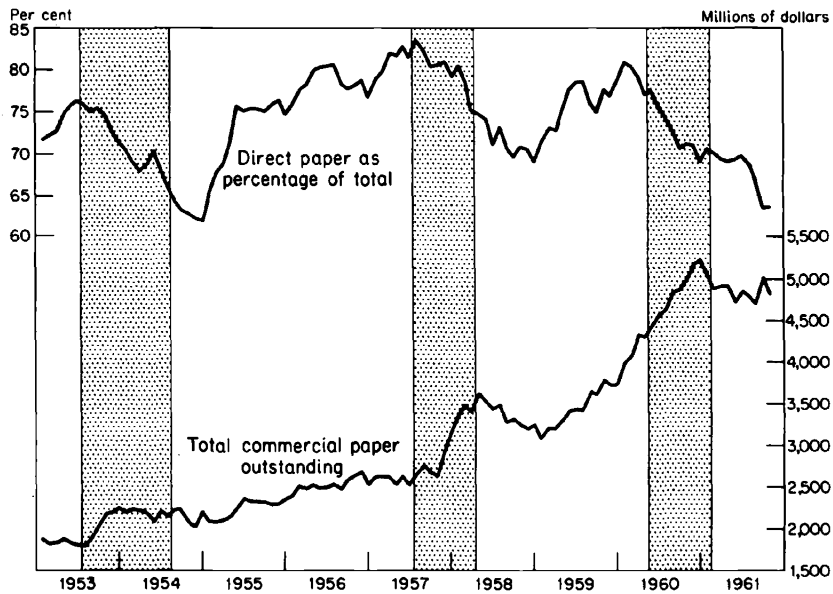
Cyclical movements of commercial paper have many aspects, such as the behavior of maturities, identity of borrowers and lenders at different cycle phases, and the behavior of outstanding paper. However, the discussion will focus on the last and will consist largely of an analysis of the Federal Reserve monthly series for the period 1953-61. I shall first describe the behavior of outstandings during business cycles and then undertake an explanation of this behavior.

Behavior of Monthly Outstandings

The lower line in Chart 13 is the Federal Reserve series for total commercial paper outstanding, adjusted for seasonal variations. Cyclical movements, corresponding to the three recessions and two complete expansions covered by the chart, are superimposed on the pronounced upward trend of this series. These movements consist of accelerated growth in commercial paper outstanding in recessions, followed by absolute declines early in expansions and moderate growth later in expansions. The timing relations are somewhat irregular; and, in view of the small number of cycle phases involved, it is not clear whether a normal cyclical pattern exists. In 1953, the period of accelerated growth in outstandings was very brief, occurring at the outset of the recession; in 1957, this phase began in the fourth month of the recession and lasted half a year; in 1960, it began in January, five months ahead of the first

CHART 13

Total Commercial Paper Outstanding, Federal Reserve Series, and Direct Paper as Percentage of Total, January 1953–October 1961



Note: Shaded areas represent business cycle contractions.

Source: Data for total commercial paper outstanding are from Appendix A. Dealer paper and direct paper were separately adjusted for seasonal variation, and the two adjusted series were then summed. Direct paper as a percentage of total paper is the ratio of the unadjusted direct paper series to the sum of unadjusted direct and dealer paper.

recession month, and continued for a full year. The amplitudes also differ, the amount of increase in outstandings being substantial in 1957-58 and 1960 but only modest in 1953. Similar comments are in order for the phase of declining outstandings and the phase of moderate growth. In 1954, the decline was scarcely perceptible and terminated soon after the 1955-57 expansion began. In the two more recent recessions, on the other hand, the absolute declines were sizable, and they continued for nearly a year, well into the succeeding business expansions.

The upper line in Chart 13 shows another facet of the cyclical behavior of commercial paper. During each of the last three recessions direct paper has declined sharply as a percentage of total outstandings. In 1957, the fraction in direct paper reached a peak at the business cycle peak; the fraction in direct paper led the cycle by one month in 1953 and by five months in 1960. In each instance this variable registered a trough four to seven months after the new business expansion had gotten under way. The rises in direct paper as a percentage of total outstandings that have occurred during business expansions have been roughly commensurate with the declines just noted; as a result, there has been little if any trend in the relative importance of the direct market since 1953.

Chart 14 shows dollar values of each of the two components of commercial paper outstanding, together with differentials between the prime bank rate on business loans and yields offered on paper. It can be seen that the cyclical oscillations in the ratio of direct to total paper reflect widely different behavior patterns in the component series. Dealer paper shows a strong upsurge during business contractions, then recedes at a moderate rate throughout business expansions. Like dealer paper, direct paper typically grows rapidly during the first four to six months of contractions; but unlike dealer paper, it falls sharply during the remainder of the contraction and for several months of the succeeding expansion; it then rises until midway in the next business contraction. The cyclical turning points of direct paper outstanding lead those of dealer paper by six to twelve months at peaks and by even longer intervals at troughs.

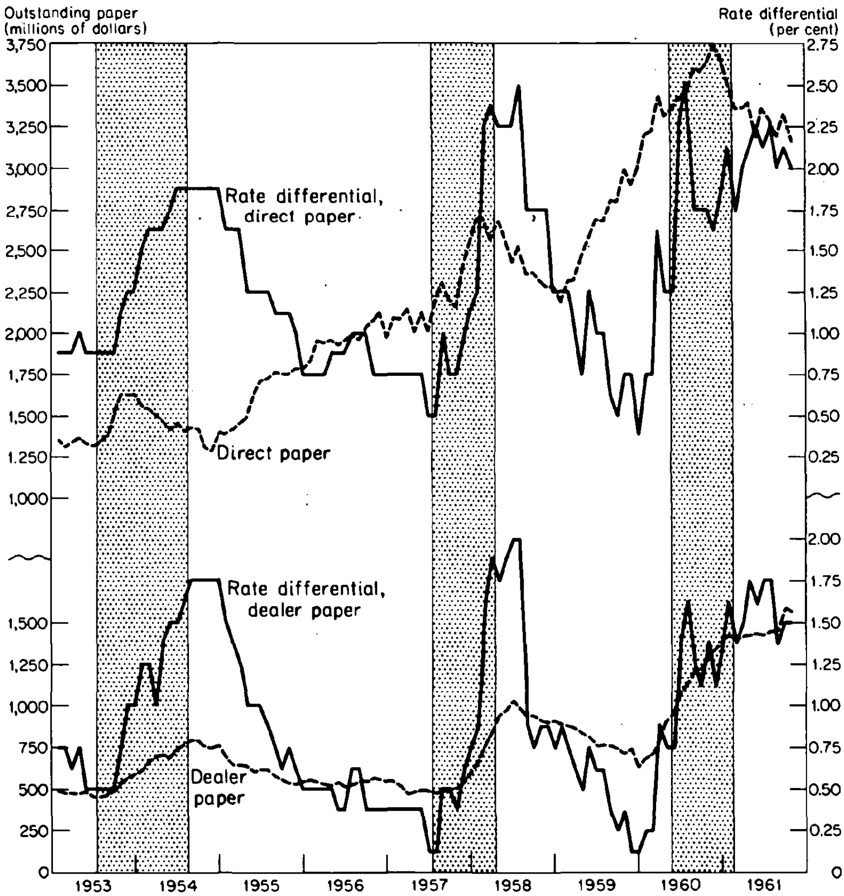
Cyclical Changes in Demand and Supply

SIMPLE SUPPLY HYPOTHESIS

In part these cycles in outstanding paper are the result of cost changes, reflecting cyclical shifts in the supply of funds. It is known, from Table 14 and Chart 14, that commercial paper becomes relatively much cheaper during recessions, as paper yields fall more than bank rates; and it is reasonable to suppose that many potential paper borrowers shift away from bank loans and into paper on these occasions. The

CHART 14

Direct and Dealer Paper Outstanding and Difference Between Bank Prime Interest Rate and Commercial Paper Yields, January 1953–October 1961



Note: Shaded areas represent business cycle contractions.

Source: Direct and dealer paper outstanding are from Appendix A; data are adjusted for seasonal variation. Rate differentials: bank prime interest rate from *Wall Street Journal*; direct paper yields and dealer paper yields are same as in Chart 12.

behavior of total paper outstanding is consistent with this view (Chart 13), and it is clear from Chart 14 that *dealer* paper outstanding is closely associated with rate differentials.

However, the relation breaks down for direct paper, despite a highly similar pattern of cost changes. During the 1953-57 peak-to-peak business cycle, direct paper outstanding moved inversely with the rate differentials: when paper became cheaper, less was borrowed, and vice versa. Since 1957 the two series have at times moved together, at times inversely, but it is abundantly clear that cost effects cannot account for much of the cyclical pattern in direct paper outstanding.

It seems likely, therefore, that the simple supply hypothesis accounts for cyclical shifts in the relative cost of commercial paper, but that these cyclical shifts in cost only partially explain the behavior of outstandings during business cycles.

DIFFERENTIAL SUPPLY HYPOTHESIS

There are other possible explanations from the supply side. Conceivably, the differences in behavior of the dealer and direct paper markets reflect *differential* supply behavior over the cycle—a distinct possibility, since the groups holding the two types of paper are not entirely the same. This is particularly plausible when one considers that banks are major holders of dealer paper, and that dealer paper outstanding increases in recessions, when bank loans are falling, and tends to fall during expansions, when bank loans are rising. Furthermore, on this interpretation one would expect the differential between dealer paper yields and direct paper yields to shrink during periods of expanding dealer paper and to grow during opposite periods. From Chart 12 it can be seen that the expected changes in these differentials did tend to occur during 1953-56 and (in lesser degree) in 1959-60. However, they did not occur during 1957-58. Furthermore, countercyclical supply changes in the dealer market can hardly account for the cyclical changes in *direct* paper outstanding. It is highly probable that the direct market also experiences an easing of supply during recessions, though the degree of easing is undoubtedly less than in the dealer market; yet direct paper outstanding falls during such periods. It may be concluded that this differential supply hypothesis explains part, but by no means all, of the differences in cyclical behavior of the two divisions of the commercial paper market.

DIFFERENTIAL DEMAND HYPOTHESIS

From the foregoing it is clear that one must turn to the demand side of the market to explain completely the behavior of commercial paper during business cycles. It also seems highly likely that there are differences in the cyclical behavior of the demand for funds in the two segments of the paper market.

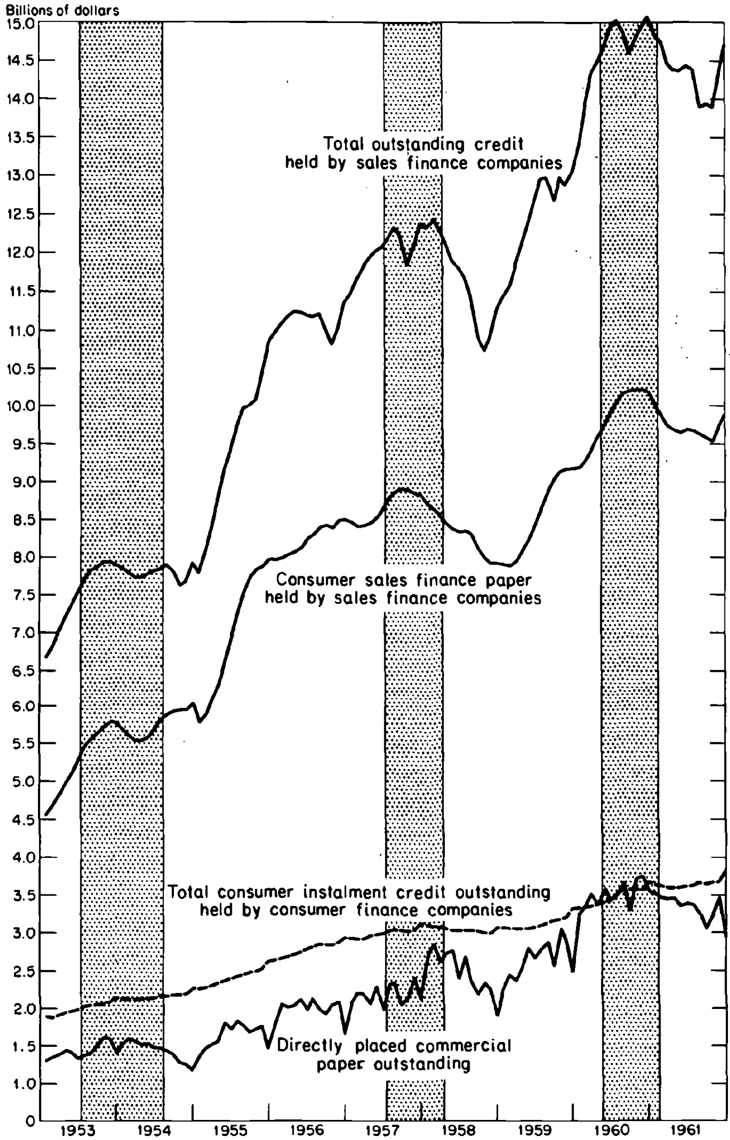
According to the differential demand hypothesis, the demand for funds in the direct market falls so sharply midway during recessions that outstanding direct paper declines despite substantially eased supply conditions. Early in business expansions demand recovers sufficiently to induce a rise in outstandings despite a tightening of supply conditions; and supply changes exert the dominant influence in the direct paper market only briefly, at the outset of recessions. This hypothesis also asserts that the dealer market is much less subject to these cyclical shifts in demand.

If the level of receivables of finance companies is taken as an index of their demand for short-term funds, it should be found, if the differential demand hypothesis is valid, that receivables of firms that borrow through dealers are considerably more stable during business cycles than receivables of direct borrowers. Data are lacking for some firms in both segments of the market, but several pieces of evidence are available that are consistent with this hypothesis. First, there is a strong relationship between direct paper outstanding and total sales finance company credit, as can be seen in Chart 15. The turning points in the two series coincide closely in every instance. Even the hesitation in the growth of receivables late in 1959 has its counterpart in the commercial paper series. Second, cyclical movements in consumer instalment receivables of consumer finance companies are extremely mild, whereas for sales finance companies these movements are pronounced (Chart 15). The cyclical volatility of *total* sales finance company credit (including business credit as well) is even greater. Consumer finance companies, of course, borrow only through dealers; most sales finance companies also borrow through dealers, but the largest companies, which account for the bulk of sales finance receivables and commercial paper outstanding, borrow directly.

Third, from the NBER sample there are data for fifteen personal loan company paper borrowers in 1952, 1953, and 1954, and for eighteen such companies in 1956, 1957, and 1958. The year-end paper outstand-

CHART 15

Outstanding Credit Held by Sales and Consumer Finance Companies and Direct Paper Outstanding, January 1953–December 1961



NOTES TO CHART 15

Note: Shaded areas represent business cycle contractions.

Source: Directly placed commercial paper outstanding is from Appendix A. All other data are from FRB monthly releases on sales and consumer finance companies. Personal loans held by sales finance companies are not included.

ings of these companies have the same cyclical patterns as the monthly Federal Reserve dealer paper series during these years; and, what is more important, their receivables (as well as their outstanding commercial paper) *increased* during both recessions.[1] Fourth, among sales finance companies only, the large direct borrowers in the NBER sample experienced declining receivables late in both recessions (see Table 15). Receivables of the smaller firms, on the other hand, rose in 1954 and fell proportionately less in 1958 than those of the direct borrowers (by 7.7 per cent and 12.7 per cent, respectively). This is what one would expect, since personal loans, which are cyclically stable, are less important for direct borrowers as a group than for the rest of the sales finance industry. Several direct sellers, including General Motors Acceptance Corporation, have no personal loans at all.

Finally, the yield differentials shown in Chart 12 behave, on the whole, as predicted by the differential demand hypothesis. Other things (principally the supply conditions in the two segments of the market) remaining the same, differential movements in the demand for funds will result in variations in the spreads among yields on dealer paper, direct paper, and Treasury bills.[2] In particular, a decline in the demand for direct paper funds at a time of steady or increasing demand for dealer paper funds will result in a widening spread between dealer yields and direct yields, and in a narrowing spread between direct yields and bill yields. In fact, as I showed earlier, the *ceteris paribus* assumption does not hold; if the dealer market experiences a relatively greater easing of supply at the same time that the direct market experiences a relatively greater slackening of demand, the predicted change

[1] During 1952-54 the figures for commercial paper were $49 million, $38 million, and $64 million; for gross receivables, $1,036 million, $1,152 million, and $1,217 million. The corresponding figures for 1956-58 were $46 million, $61 million, and $83 million and $1,804 million, $2,035 million, and $2,120 million.

[2] This assumes that the supply schedules of funds to these markets are not perfectly elastic with respect to yield.

TABLE 15

SELECTED BALANCE SHEET ITEMS OF SALES FINANCE COMPANY BORROWERS OF COMMERCIAL PAPER FUNDS, 1952-54 AND 1956-58
(million dollars)

	1952	1953	1954	1956	1957	1958
Firms that borrow directly[a]						
Commercial paper outstanding	1,199	1,347	1,097	1,710	2,097	1,706
Bank loans	845	561	551	1,227	1,194	655
Long-term debt	949	1,972	2,046	3,770	3,983	3,961
Gross receivables[b]	3,567	4,733	4,667	8,150	8,762	7,645
Firms that borrow through dealers[c]						
Commercial paper outstanding	50	46	76	33	29	60
Bank loans	355	366	350	318	360	266
Long-term debt	88	135	147	172	188	206
Gross receivables	571	633	674	619	675	623

SOURCE: NBER finance-company sample; data are for end of company fiscal years.

[a] For 1952-54, four very large sales finance companies that borrowed directly throughout the period; for 1956-58, one large and five very large sales finance companies that borrowed directly throughout the period.

[b] Includes only consumer and wholesale receivables.

[c] For 1952-54, five small, ten medium, five large, and one very large sales finance companies that borrowed through dealers throughout the period; for 1956-58, four small, twelve, medium, and five large sales finance companies that borrowed through dealers throughout the period.

in spreads between dealer yields and direct yields may not materialize. Nevertheless, on several occasions—most notably, late in 1958—the spread between dealer yields and direct yields widened appreciably at a time when direct outstandings were falling.

The spread between direct yields and bill yields has also behaved much as predicted (Chart 12). It rose sharply late in 1953, when direct paper outstanding also rose sharply; fell in 1954, when direct outstandings fell; rose again in 1955 and early 1956, as outstandings grew rapidly; then fell in the remainder of 1956 and the first half of 1957, as the growth in outstandings slackened; rose sharply late in 1957 and early in 1958, as outstandings spurted upward again; fell to sizable negative values by late 1958, as outstandings fell; recovered in the first half of 1959, as outstandings began to snap back; and fell during the 1960-61 recession, as outstandings again declined.[3]

The conclusion seems well established, therefore, that differential behavior in the demand for funds goes a long way toward explaining the different cyclical patterns in the two segments of the commercial paper market.

DIFFERENTIAL DEMAND ELASTICITY HYPOTHESIS

Unfortunately, some difficulties remain. The picture I have drawn so far cannot account for the behavior of certain business finance companies and smaller sales finance companies that sharply increased their paper borrowing in recessions despite sharp declines in receivables. The explanation of these cases seems to be that demand elasticities, though high for all borrowers, are considerably higher for some than for others. In other words, while some borrowers proceed rather cautiously, others do not hesitate to switch from bank loans to paper when paper funds become slightly cheaper relative to bank funds.

In part, such differences among borrowers may simply reflect personality differences among officials responsible for financial policy. However, the data in Table 15 suggest an additional consideration. Sales finance companies that use the dealer market rely heavily on banks for short-term funds, while those that sell paper directly rely much less on

[3] It should be noted that during the 1959 steel strike direct yields were again below bill yields for a brief interval, even though direct outstandings continued to rise with only a momentary hesitation. This apparent discrepancy in the general relationship described in the text can readily be explained, however. The yield series shown in Chart 12 is that of a single leading direct borrower whose receivables consist largely of automobile paper. This firm's paper outstandings did decline late in 1959 during the period of negative yield spreads. Other direct borrowers, on the other hand, who were relatively unaffected by the strike, maintained their paper yields and expanded their paper outstandings at this time. Thus, the "exception" only proves the rule.

the banks. As a result, switches from bank loans to paper have relatively little effect on total bank debt of the smaller borrowers, but a very substantial effect on bank debt of the direct borrowers. It is reasonable to suppose, therefore, that dealer market borrowers on the whole encounter less resistance to repayment of bank debt than do the large direct borrowers.

SUMMARY

A marked difference in the behavior of direct paper and dealer paper during recent business cycles has been noted. While direct paper outstanding has increased and decreased with business expansions and contractions, dealer paper has tended to move in a countercyclical fashion. These movements can be explained by the following four propositions. During recessions there is:

1. A general increase in the supply of funds to the money market and to both divisions of the commercial paper market.
2. A relatively greater easing of supply in the dealer paper market.
3. A decline in the demand for funds in the direct paper market and a relatively stable demand for funds in the dealer market.
4. A higher elasticity of demand for paper funds by some business finance companies and smaller sales finance companies than by the large direct borrowers.

Changes opposite to those described under (1) to (3) take place during business cycle expansions.

These propositions are consistent with the observed pattern of change of finance-company receivables and with the behavior of the relative cost of paper funds. Furthermore, their implications with respect to the differentials between bill yields and direct yields and between direct yields and dealer paper yields are also generally in accord with fact.