Management Services: A Magazine of Planning, Systems, and Controls

Volume 4 | Number 5 Article 9

9-1967

Investment of Corporate Cash

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Short-term investment of idle corporate cash can pay off very well, if four major criteria are kept in balance. Here is a mathematical pointing system to aid management in finding a safe and profitable program —

THE INVESTMENT OF CORPORATE CASH

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In recent years the investment of corporate cash in the money market has become an important part of the financial manager's responsibility. The new attention to profitable short-term investment is part of a growing emphasis on increasing the velocity of corporate funds. The reasons for this trend (chiefly the increased availability of cash because of high depreciation charges and the rising level of interest rates, which makes it more costly to hold idle cash) and some of the ways of conserving and making better use of cash were discussed in detail in an earlier issue of Management Services.[1]

The financial managers of corporations that have large amounts of surplus cash are responsible for putting it to work at a high yield while at the same time keeping it secure. This is a highly skilled task. Today's money market offers a wide range of temporary securities from which the financial manager may choose, and they vary widely in risk and return. The purpose of this article is to examine the characteristics of the major available investment alternatives in relation to corporate policy and to suggest a mathematical pointing system that holds safety, liquidity, length of maturity, and yield in balance.

[1]See "Increasing the Velocity of Corporate Cash" by Edward J. Mock and Donald H. Shuckett, M/S, July-August, 1966, p. 39.

Each of the four investment criteria (safety, liquidity, length of maturity, and yield) is assigned an arbitrary value. The most important criterion, safety, is given the highest factor value, 4; the least important, yield, is given the lowest factor value, 1. Then the principal types of money market securities are listed and ranked in relation to each other.

The short-term securities in which corporations most commonly invest are listed in Exhibit 1 on page 55. In selecting among them the financial manager must evaluate them in terms of those same four principal criteria: safety of principal, the liquidity or marketability of the security, maturity, and yield.

Safety first consideration

It is essential to ensure the safety of corporate funds. To do so, many financial managers restrict themselves to marketable investments that remain relatively stable in price. Thus they minimize the risk of capital loss if liquidation should become necessary.

Another important ingredient of safety is the financial stability of the organization sponsoring the security. Securities guaranteed by the United States government or issued by a government agency are considered the safest. The degree of safety of commercial paper, finance company paper, and certificates of deposit depends to a large extent on the size and reputation of the issuing corporation or bank.

Since surplus cash is available primarily for short-term investment, liquidity is a major consideration. It should be possible, in case of need, for financial managers to convert the investments into cash on short notice.

Short maturities are also preferred since most companies intend to use the invested cash in the near future for receivables, inventory, or other payments—or want to have it reasonably available as a hedge against the unexpected. If the cash invested is earmarked for specific payments, such as dividends or taxes, it is desirable to acquire a flexible security with maturity dates chosen to coincide with the date of the cash disbursement.

The final objective of short-term corporate investment, of course, is to maximize yield. Minute variations in yield can be significant when large sums of money are involved; for a corporation with excess cash of $25 million, for example, an increase of only one basis point (0.01 per cent) can have a major impact. To obtain higher yields within the limits of safety and corporate policy requires careful selection of securities.

Weighting investment factors

To evaluate a security in terms of these four criteria, safety, liquidity, maturity, and yield, a company might develop a model such as that illustrated in Exhibit 2 on page 56. This model is essentially a point system for ranking the securities by weighted factors for the four criteria.

Each of the four investment criteria is given an arbitrary value of one to four. The most important criterion, safety, is given the highest factor value, 4; the least important criterion, yield, is given the lowest factor value, 1. Then the principal types of money market securities are listed and ranked in relation to each other. The rank of 1 represents the greatest risk and the least return. Finally the security's rank is multiplied by each of its factor values to obtain a tabulation of weighted security-factor values. The total of the weighted values represents the relative strength of each security. The higher the total number the stronger the security.

The ranking of the securities depends on the current yield rates and the extent to which the securities meet the other investment criteria. To arrive at the values in

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Principal Short-Term Corporate Investment Alternatives

Securities	Comments
Treasury Bills 91-day maturity, issued weekly	These are the most popular investment since they combine security (as obligations of the U. S. government) with liquidity (because of the frequency and regularity of their issuance).
U. S. Treasury Notes, Certificates of Indebtedness, and Tax Anticipation Certificates More than 91-day but less than five-year maturities	Also popular, these are useful for companies that wish to invest to meet specific cash requirements (dividends, taxes, and capital expenditures).
Federal Agency Securities Offerings of five federally sponsored credit agencies (federal land banks, banks for cooperatives, federal home loan banks, federal intermediate credit banks, Federal National Mortgage Association) that issue their own securities and borrow directly from the public Most corporate portfolios are restricted to nine-month to one-and-a-half-year maturities	These securities are not guaranteed by the federal government, and their yield is generally just above that of Treasury securities. However, they are considered very safe investments.
Public Housing Authority Notes Issued to finance various government land development projects Most corporate portfolios are restricted to one-year maturities	These securities have the double advantage of being guaranteed by the federal government and of being tax-exempt. The latter feature makes the effective yield to a corporation roughly double that quoted. The strong demand for these notes makes them very liquid in the secondary market.
State and Local Bonds One-year and longer maturities (A number of states will provide almost any maturity required by a corporate buyer.)	Those rated AA and AAA are considered very safe investments. Their tax-exempt status makes them the highest-yielding security in the money market. They are sometimes used to meet specific cash requirements.
Bankers' Acceptances One-month to six-month maturities (usually three months)	A bankers' acceptance is a time draft, drawn on a large bank by a trader, that becomes a negotiable instrument and can be discounted for resale to investors. It is considered a very safe investment.
Time Certificates of Deposit (CD's) Activity is generally restricted to prime certificates with a maximum maturity of 90 days. However, maturities of up to a year are available.	The CD is a receipt given by a bank for a time deposit of money. The bank promises to return the amount deposited plus interest to the bearer of the certificate on the date specified. The certificate is transferable and may be traded before its maturity date. The current maximum rate for certificates over $100,000 is 5½%; under $100,000, 5%. Market rates for prime certificates are often ¼% higher than rates for Treasury bills of comparable maturity. Because the denominations offered are large and Federal Deposit Insurance Corporation protection is limited to $10,000, the size and reputation of the issuing bank are important.
Finance Company Paper Short-term maturity, usually 90 days (A number of finance companies will provide almost any maturity required by the corporate buyer.)	These obligations of companies financing consumer appliances and automobiles are reasonably safe, but much depends upon the reputation of the issuing company. They are traded on the secondary market, and maturity dates are usually very flexible. Yield is generally high.
Commercial Paper Usually four-month to six-month maturities but sometimes as short as five days (Purchasers usually intend to hold such obligations until maturity.)	Commercial paper today consists mainly of short-term, unsecured promissory notes issued by a relatively small group of highly rated companies. The yield is usually the highest of those that can be obtained from any short-term security except tax-exempts.

EXHIBIT I

the example the yield rates for October, 1966, were used. The length of the maturity was evaluated by giving the shorter maturities the higher value. To evaluate liquidity and safety the considerations mentioned earlier in the article were used. The model developed here would be useful until yield rates fluctuated significantly or until a new type of money market instrument were offered.

The actual selection of a complete investment portfolio also requires consideration of the corporation's basic investment policy. The financial manager must determine what percentage of the portfolio each type of security should represent.

A way of comparing the total yields from portfolios of varying composition is shown in Exhibit 3 on page 57. In this matrix of alternative portfolios[2] the percentage

[2]Adapted from *Money-Market Investments: The Risk and the Return*, Morgan Guaranty Trust Company of New York, New York, 1964, page 56, Table 4.

If a company were investing $20,000,000 annually in the money market . . .

Relative Value of Securities as Related to Risk and Return Factors

Security's Relation to Factor

	Safety	Liquidity	Maturity	Adjusted Yield	
Treasury Bills	7	9	7	1	5.22%
U. S. Treasury Notes	6	8	1	2	5.36
Federal Agency Securities (FHLB)	3	6	2	4	5.55
PHA Notes	5	7	4	8	6.66*
State and Local Bonds (tax-free)	4	5	3	9	7.50*
Bankers' Acceptances*	2	2	7	5	5.65
Time Certificates of Deposit	2	4	6	3	5.45
90-day Finance-Company Paper	1	1	7	6	5.88
Commercial Paper	2	3	5	7	6.00

*adjusted to before tax for comparison purposes

TIMES (×)

Value of Factor

Safety	4
Liquidity	3
Length of Maturity	2
Adjusted (before tax) Yield	1

EQUALS (=)

Weighted Security-Factor Values

	Safety	Liquidity	Maturity	Yield	Total	Rank
Treasury Bills	28	27	14	1	70	1
Treasury Notes	24	24	2	2	52	3
Federal Agency	12	18	4	4	38	5
PHA Notes	20	21	8	8	57	2
State Bonds	16	15	6	9	46	4
Bankers' Acceptances	8	6	14	5	33	8
Certificates of Deposit	8	12	12	3	35	6
Finance-Company Paper	4	3	14	6	27	9
Commercial Paper	8	9	10	7	34	7

EXHIBIT 2

of the composition of a given investment portfolio that a specific investment medium makes up is multiplied by the applicable yield to derive the weighted yield factor for that investment medium in that investment program. The weighted portfolio return for a given investment program is determined by summing the weighted yield factors.

Time base of matrix

In the matrix presented as an example the yield rates on U. S. Treasury bills, commercial paper, Federal Home Loan Bank bonds, bankers' acceptances, 90-day finance company paper, certificates of deposit, and Treasury notes represent the highs for October, 1966. The yield on tax-exempt securities is the adjusted pretax average yield on Public Housing Authority notes and state and municipal bonds for October, 1966.

Portfolio policies

The eight investment programs presented can be used to demonstrate the corporate investment policies and decisions behind the percentage composition of the portfolios. Programs A and B represent conservative portfolios for a company mainly concerned with security of principal. This company maintains primary reserves in the form of Treasury bills and notes to provide funds for unforeseen disbursements on short notice or to meet unexpected variations in operating cash requirements.

Programs C and D are still conservative, with 40 per cent of the funds in Treasury bills and notes, but they strike more of a balance between short- and longer-maturity investments, thus increasing the yield. A company could invest 40 per cent in certificates of deposit, Federal Home Loan Bank bonds, Public Housing Authority notes, and tax-exempt securities for the primary purpose of meeting a particular predictable future cash need, e.g., dividends or plant expansion. Such securities are purchased to mature on or near the date of the cash need. This avoids the liquidity risk.

. . . there would be a difference of $185,400 in interest earned between Programs A and H.

Matrix of Alternative Portfolios

Program	Percentage Composition of Portfolio									Yields		
	TB	TN	CD	FHLB	BA	CP	PHA	TE				
A	30%	30	10	10	5	5	5	5%		TB	5.22%	
B	25	25	10	10	10	5	10	5		TN	5.36	
C	20	20	10	10	10	10	10	10		CD	5.45	
D	20	15	10	10	10	10	15	10	TIMES	FHLB	5.55	EQUALS
E	15	10	5	10	10	20	15	15	(×)	BA	5.65	(=)
F	10	10	10	10	10	10	20	20		CP	6.0	
G	10	5	5	10	10	10	25	25		PHA	6.66	
H	5	5	5	5	10	10	30	30		TE	7.50%	

Program	Weighted Yield Factors									Weighted Returns on Portfolio
	TB	TN	CD	FHLB	BA	CP	PHA	TE		
A	1.566%	1.608	.545	.555	.282	.3	.333	.375%		5.564%
B	1.305	1.34	.545	.555	.565	.3	.666	.375		5.651
C	1.044	1.072	.545	.555	.565	.6	.666	.750		5.797
D	1.044	.804	.545	.555	.565	.6	.999	.750	EQUALS	5.862
E	.783	.536	.272	.555	.565	1.2	.999	1.125	(=)	6.035
F	.522	.536	.545	.555	.565	.6	1.332	1.5		6.155
G	.522	.268	.272	.555	.565	.6	1.665	1.875		6.322
H	.261	.268	.272	.277	.565	.6	1.998	2.25		6.491%

Notes to Table

TB: 91-day U. S. Treasury Bills
TN: U. S. Treasury Notes
CD: Negotiable Time Certificates of Deposit
FHLB: Federal Home Loan Bank Bonds
BA: Bankers' Acceptances
CP: Commercial Paper
FHA: Public Housing Authority Bonds
TE: Tax-Exempt Securities

Adapted, with permission, from *Money-Market Investments The Risks and the Return*, copyright 1964 by Morgan Guaranty Trust Company of New York, New York, page 56, Table 4.

EXHIBIT 3

The emphasis in Programs E and F is on medium-term maturity dates, with 40 per cent invested in bankers' acceptances, Federal Home Loan Bank bonds, and commercial paper. This portfolio carries somewhat greater risk and therefore higher returns. Forty per cent of the portfolio is in Public Housing Authority bonds and tax-exempt securities. A company with such a portfolio usually can predict its operating cash requirements with considerable reliability.

Programs G and H are the most dynamic. They are well balanced between medium-term and long-term maturities. Moreover, they provide for a short- and medium-range safety factor in the form of Treasury bills, notes, and negotiable certificates of deposit. Primary emphasis is on Public Housing Authority and tax-exempt securities, which produce the highest yields; 60 per cent of the portfolio is invested in these securities.

Possibilities of profit

The impact of increasing the return on an investment portfolio by a fraction of a per cent is clear from the following calculation: A basis point (0.01 per cent) of yield has a value of $1,000 per $1,000,000 invested each year. This means that if a company were investing $20,000,000 annually in the money market, there would be a difference of $185,400 in interest earned each year between Programs A and H, as presented in the matrix decision model. This might be enough to compensate for the higher risk of Program H. It might also be sufficient to pay the salary of a good portfolio manager and his staff.

The financial manager of a company with large amounts of excess cash to invest must utilize the available investment media skillfully to obtain high yields. By using the two analytical techniques presented in this article, he can evaluate his alternatives in terms of the basic investment criteria and of basic corporate policy. With this information as a tool, he should be able to increase the return on his total portfolio without undue sacrifice of security.