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Construction Lending at Large Commercial Banks

Large commercial banks dominate the construction-loan market. Moreover, their return on high quality construction loans is substantially higher than on prime commercial loans. Although much of the yield differential is often attributed to high risk characteristics, the study found that the explanation was largely in other factors.

Phasing Out the Certificate System: New Federal Reserve Methods.

Important new methods have been adopted by the Federal Reserve to ease the burden of handling Government securities. These methods—the new clearing arrangement and book entry system—may in the long run have implications for handling other types of securities.

Construction Lending at Large Commercial Banks

By PETER A. SCHULKIN

IN the recent tight money period, the market for long-term (or permanent) mortgages has been the subject of continuous attention. At the same time the construction-loan market has been almost totally neglected.¹ This neglect has persisted even though virtually all projects that require a long-term mortgage also require a construction loan of roughly equal dollar magnitude. Moreover, if a scarcity of construction-loan funds develops, it can limit the volume of new construction just as effectively as a scarcity of long-term mortgage funds.

This article examines the profitability, risk, and importance of construction lending by banks with assets of over \$500 million. It also considers the impact of the recent tight-money policy on construction lending. Rough estimates of the 1968 total volume of construction lending, broken down into supply and demand components, are included in the Appendix.

This article summarizes some of the major results of the author's Ph.D. dissertation, *Commercial-Bank Construction Lending*, available from the Research Department of this Bank as Research Report No. 47. The study was based largely on interviews conducted during 1969 with a national sample of 44 commercial banks with more than \$500 million in deposits. The sample included 31 or three-fifths of the banks with over \$1 billion in deposits. The national sample was supplemented by a New England sample of 16 banks with less than \$500 million in deposits. In addition to the interviews at commercial banks, 38 interviews were conducted at savings banks, life insurance companies, savings and loan associations, mortgage banking firms, and construction companies.

The Construction-Loan Market— an Overview

As shown in the Appendix, only three of the different categories of construction, accounting for about 30 percent of total dollar volume of all construction, ordinarily require financing by construction loan. These are single-family homes, apartment houses, and commercial buildings. Other types of construction—for example, government buildings, chemical plants, and oil refineries—are not normally financed by construction loan because they are not suitable as security for construction loans. Government property cannot, of course, be used as security for a private loan, while in the other cases, the specialized nature of the construction limits its value as collateral for the loan.

Savings and loan associations and mutual savings banks make primarily single-family home construction loans. These savings institutions usually make construction loans in anticipation of obtaining the permanent mortgages once the homes are sold. Thus, these institutions tend to reduce the amount of their construction lending when they want to limit their home mortgage lending. On the other hand, when home mortgages are in short supply, these institutions may generate new mortgage opportunities by increasing their construction lending.

¹Construction loans, which are occasionally referred to as building loans, are defined here as loans secured by a first mortgage on the property under construction.

Today, most large commercial banks, except those on the West Coast, do little construction lending for single-family homes; their bailiwick is construction loans on apartment and commercial buildings. And until recently, commercial banks have had little competition from other institutions for construction loans on these income-earning properties. Their newfound competition takes the form of real estate investment trusts (REIT's), which have greatly increased their role in construction lending in the last 2 years.² While the REIT's dollar volume of construction lending is considerably smaller than that of commercial banks at present, the REIT's may become the major construction lenders in the future.

Life insurance companies and pension funds regard construction lending as a risky, unsteady area requiring expertise they do not have and do not wish to acquire. Consequently, these lenders do not usually make construction loans.

The Nature of Construction Loans

Long-term mortgage funds are generally advanced only *after* a structure is built. Thus, other borrowed funds are needed to finance the *actual construction*. As security for these loans, lenders almost always require that they be given a first mortgage on the property under construction.

As previously mentioned, for single-family homes the same institution often makes both the builder's construction loan and the home buyer's long-term mortgage. For other types of mortgage-financed construction, the funds come more frequently from two different institutions. And the construction lenders usually require that the borrower negotiate a long-term mortgage commitment before they will make him a construction loan. The long-term or "takeout" commitment is extremely important to the construction lender, since the long-term mortgage funds are used to repay the construction loan.

Construction loans differ from long-term mortgages in many respects. One difference is that construction-loan funds are not supplied at one time but rather are advanced gradually as construction progresses. Moreover, because most construction projects run less than 2 years, this money turns over much more rapidly than long-term mortgage money. Another difference is that construction loans, instead of being amortized, are paid back in one lump sum shortly after the completion of the project.

A construction loan is subject to many different risks, any one of which can ultimately lead to the failure of the borrower before the loan is paid off. If the borrower fails, the lender may have to buy the property at foreclosure, complete it at great expense with a new contractor, and sell it in order to recover as much of his loan as possible. Even if the lender eventually recovers all of the principal and interest due him, the effective yield on his loan will probably be significantly reduced by costly legal expenses.

The construction-loan risk factors can be classified into three general categories. First, events occur which are beyond the control of the developer — strikes, unusual weather conditions, and unanticipated construction problems. Besides possibly being expensive in their own right, these events are costly because they delay the construction. And anything which hinders the progress of the construction adds to the developer's costs and increases the likelihood that he will not be able to repay his construction loan. If the project is delayed, the continuous expenses

²Real estate investment trusts are financial organizations that pay no Federal income tax on earnings if they meet several requirements. The major requirements are: that the trust invest most of its assets in real estate, either real property or mortgages; that it pay out at least 90 percent of ordinary income to shareholders; and that its shares be widely held. Several major banks have opted to join the competition by forming subsidiaries of their one-bank holding companies that have founded and currently manage real estate investment trusts.

of real estate taxes (which must be paid during construction), interest on the construction loan, and overhead will be higher than they would have been without delays. In addition, the steady inflation in construction costs will increase the cost of completion. A delay will also be expensive in terms of the frictional costs of interrupting the complex construction process. This is particularly true if a new general contractor or new subcontractors are hired to complete the project. Moreover, the long-term mortgage commitment may expire before construction is completed. In that case, the borrower may be unable to negotiate another long-term commitment which would make his project profitable — especially if interest rates are rising.

Second, poor management may contribute to the failure of a project during its construction phase. The contractor may make an engineering mistake, may not anticipate rising costs, may misjudge his ability to handle a new line of construction, or may not keep tight enough financial control of his project. “Poor management” sometimes borders on criminal management when, for example, construction money is not used to pay subcontractors but is transferred from one project to another or used for personal purposes. In these and other cases, workers, subcontractors, or materialmen may record liens which are sometimes senior to the construction loan.

Third, even if the construction is satisfactorily completed, the construction lender may still have difficulty recovering his interest and principal. This is likely to occur when it is anticipated that the finished project will fail to produce its planned profits. Then the permanent lender who earlier promised to extend a mortgage may find some technicality enabling him to retract his commitment. In the case of single-family homes, it is not at all unusual for construction lenders to foreclose on “speculative” builders who were unable to sell their finished product.

Construction Loans at Large and Small Banks

Large commercial banks, which have traditionally favored short-term loans and investments, most often make only the construction loan on a project, leaving the long-term mortgage to a life insurance company, pension fund, savings institution, or some other lender. Due to the nature of construction lending, large banks (over \$500 million in deposit size) were on the whole relatively more active in construction lending than small banks.

The small banks in the survey rarely made any construction loans beyond the boundaries of their local banking areas. The loans they did make were often combination construction and long-term mortgages given to individuals for new homes or to small businesses for new buildings. Small banks financed more single-family home construction — both for local tract builders and individuals — than the larger banks which generally did very little or none.

Along with their relatively smaller loans, small banks often engaged in less rigorous construction-loan procedures. Thus, these small banks usually had a closer, less formal working relationship with their construction borrowers.

The rates on construction loans at small banks were often identical to the permanent mortgage rate or at most a percentage point above it. Moreover, small banks did not usually charge a construction-loan fee. Thus, rates of return on construction loans at small banks were almost always lower than those of the larger banks.

By contrast, the large banks financed large, well-established developers who constructed sizable residential (mostly multifamily) and large commercial projects. Many of these developers were given construction loans on projects that were outside of the lender’s state. Because of the size of the developers and the selectivity of the

Table 1

CONSTRUCTION-LOAN ACTIVITY OF LARGE BANKS*

<i>Construction loans outstanding as a percent of total deposits</i>	<i>Number of Banks</i>
0 — 0.99%	10
1.00 — 1.99	7
2.00 — 2.99	14
3.00 — 3.99	5
4.00 — 4.99	5
5.00 — 10.99	3

*Derived from interviews at 44 banks with deposits of \$500 million or more.

lenders, these construction loans were almost always of relatively low risk.

Large banks usually maintained a relatively steady volume of construction lending. However, they held widely different proportions of their portfolios in construction loans, ranging from 1 to 10 percent of total deposits. (See Table 1.) In addition to originating construction loans, many large banks were active in the purchase and sale of construction-loan participations.

Advantages of Large-Scale Construction Lending

Large construction-loan operations can benefit from certain economies of large-scale lending, which are, of course, not unique to construction loans. Perhaps the most obvious advantage is that banks with a large volume of construction lending can justify the employment of the specialized, skilled personnel necessary for properly overseeing a construction lending operation. Another economy is that the cost to the bank of administering a construction loan does not increase proportionately with the size of the loan. In addition, large portfolios enable lenders to reduce their risk through diversification. Moreover, to the extent that lower risk is not offset by lower rates, large banks also benefit from making loans to large borrowers with strong credit ratings.

The Profitability of Construction Lending

Although construction loans represent only one of a wide range of alternatives for a bank, they can be lucrative. At the large commercial banks in the survey, the gross yields on high-quality construction loans were 3 to 4½ percentage points higher than those on prime commercial loans.³ This differential was derived from a nominal construction-loan rate of 1 to 1½ percentage points over the prime commercial loan rate and a 1 to 2 percentage point per year construction-loan fee.⁴

What accounts for the differential? The interviewed bankers typically offered three explanations:

1. The deposit relationship offered by construction borrowers was not as attractive as that offered by commercial borrowers.
2. The expenses to the bank of construction lending were greater than those of commercial lending.
3. The risks in construction lending were greater than in commercial lending.

The Deposit Relationship — Since demand deposit balances represent the banks' lowest cost source of funds, banks tend to give preferential treatment, both in terms of rates and availability

³In the Los Angeles area the differential between the prime commercial loan rate and the rate on high quality apartment house construction loans has been approximately 5 percentage points since 1956, according to data compiled by the Ralph C. Sutro Company.

⁴Borrowers are only charged the nominal rate on funds actually advanced. Since the average amount of borrowed funds equals approximately one-half of the face amount of the loan, and since the construction-loan fee is computed as a percentage of the face amount, the fee's addition to the yield on funds actually lent is about double its stated amount, if the fee is stated on a per year basis. For example, suppose an apartment building that takes one year to build has a \$1 million construction loan at 9½ percent with a 1½ percent construction-loan fee. The average amount borrowed on this loan over the one year period will be \$500,000. Thus, the \$15,000 charged as a construction-loan fee in this case will contribute 3 percent to the yield the lender earns on funds advanced.

of funds, to borrowers who maintain high average balances. Generally, the balances maintained by developers were relatively smaller than those of other business customers both during the loan period and between loans. Hence, the relatively low level of balances kept by many developers explained part of the differential between loan rates offered to commercial customers and developers. It was estimated that at most one-half of the yield differential was explained in this manner.

It should be noted that the differences in the deposit holdings of the two types of borrowers were observed in varying degrees at the interviewed banks. And at some banks the deposit relationship was similar for both types. Moreover, most of the interviewed banks offered a lower-than-market construction-loan rate to the developers who kept balances comparable to those kept by commercial customers. Despite these reductions, however, the high-balance developers still paid effective rates which were significantly higher than those on commercial loans.

Expenses — The interviews indicated that the bank expenses for construction lending were not great because borrowers usually pay for most legal, architectural, engineering, and inspection expenses which are required in the administration of construction loans. Unfortunately, exact bank expense figures are not available because few banks had attempted to develop cost figures for their construction lending operation. However, information from the bank interviews and published reports of construction-lending real estate investment trusts (REIT's) suggested that the typical annual cost of administering a sizable construction-loan operation was 0.6 to 0.9 percent of the assets invested in construction loans. Since this figure is at most only slightly above the cost of administering a large-scale commercial loan operation, the cost to banks of making construction loans explains little of the rate differential.

The Risk Factor — Perhaps the most widely held explanation for the high rates charged on construction loans was that they are inherently very risky. Typical of many of the statements encountered is the following:

The inherent risks in construction lending are well-known and clearly indicate that extra compensation is justified for the financing of construction. . . .⁵

Contrary to this conventional wisdom, however, the evidence uncovered in the bank interviews indicated that a well-run construction loan operation could consistently expect to have negligible losses in the economic environment that has prevailed in the postwar period. Most of the active bank lenders had a history of very small losses, usually amounting to a maximum of 0.5 percent of the average outstanding amount of construction loans annually. Their low loss record was a consequence of many factors, the most important being selectivity in the making of loans and the careful control of on-going loans. In short, sophisticated lenders have developed construction-loan procedures and know-how which have kept losses very small. However, it is not always easy to determine the extent of construction-loan losses.⁶ Moreover, several active bank construction lenders had poor records. In sum, it appeared that the risk in construction lending was small for a well-run operation and large for those operations lacking in construction-loan expertise.

While it is difficult to get actual figures on bank construction lending performance, some statisti-

⁵Matthew R. Solomon, "The Determination of Yields on Real Estate Construction Loans," *Journal of Commercial Bank Lending*, LII (October, 1969), pp. 5-9.

⁶Quantification of construction loan risk was difficult because bankers were often reluctant to talk about or even mention their problem construction loans. And when the problems were detailed, it was difficult to estimate the additional bank legal, administrative, and other expenses. Moreover, a bank sometimes incurred a "disguised" construction loan loss by such means as lending a developer money over and above the construction loan or by extending a favorable take-out mortgage.

cal indication of the risk of construction lending may be obtained by reviewing the performance of the two largest construction-lending REIT's.⁷ From their inception in 1961 through 1969 these two trusts made over \$600 million in construction and development loans and reported aggregate losses of principal of less than one-tenth of one percent.⁸ Thus, these two trusts appear to have very minor losses in relation to their volume of construction lending. This evidence of the low potential risk is all the stronger because the trusts have typically made construction loans to borrowers who could not secure them at lower rates from banks.

Thus, the recent loss records of the REIT's and interviewed banks suggest that the conventional bankers' wisdom may overstate the risk for well-run construction-loan operation. However, some lenders have warned that one should not extrapolate from the recent construction lending experience. They maintain that inflation and the expanding economy have bailed out many problem construction loans. These points are not easy to test. However, counter-arguments have been proposed: the economic climate has changed and a major recession is extremely unlikely to take place; but if one should occur, losses in construction loans will not exceed those of commercial loans since construction loans are secured and are normally made against sound long-term mortgage commitments.

Whether or not construction loans are high risk — and the evidence cited here indicates that they are not — the fact that they are widely *believed* to be high-risk loans is one of the major explanations for the high rates now being charged on construction loans.

CONSTRUCTION LENDING IN THE 1969 TIGHT-MONEY PERIOD

A side issue investigated in this study was the part played by the cost and availability of con-

struction loans in the volume of new construction activity during the 1969 credit crunch. The study did not yield complete and conclusive answers but it did provide an insight into developments during this period.

The Inelastic Demand for Construction-Loan Funds

There are two basic reasons for expecting developers to be insensitive to the cost of construction-loan funds. One is the fact that most developers — if they are to remain in business — must regularly obtain construction-loan financing. Of the different types of developers, only the large diversified corporations with prime credit ratings can consider financing projects by means other than construction loans — out of cash flow, by drawing on a bank line, or by selling short-term paper. None of these alternatives are available to the highly-leveraged developer whose assets are almost exclusively mortgaged real estate — the usual case for the developers of residential and commercial construction.

The second reason for expecting developers to be relatively insensitive to the construction-loan rate is that the construction-loan charges are usually a small component of the overall construction package. In general, the shorter the construction time, the less significant the construction-loan rates to the developer. In the extreme case of a single-family home that takes 3 months to build, a construction loan at an effective annual cost to the builder of 15 percent will only add 1½ percent to the cost of building the home. Table 2 shows the impact of a one percentage point change in the construction-loan

⁷Continental Mortgage Investors and First Mortgage Investors, both of which are listed on the New York Stock Exchange.

⁸In 1969 these trusts were temporarily holding title to properties worth about \$3.7 million which were acquired after the borrowers defaulted in their construction-loan payments. In the case of these foreclosed property holdings, both trusts' managers believed that the value of the property held was in excess of the principal owed.

rate as a percent of the total cost of construction for projects with different construction times.

The relative unimportance of construction-loan rates was confirmed by interviews with bankers and other construction lenders. When they were asked whether the construction-loan rate had an impact on developers' decisions to build or not to build, their consensus was that the construction-loan interest rates were rarely, if ever, a factor.

The Availability of Construction Loans

That construction loans were difficult to obtain in 1969 cannot be disputed. At all of the interviewed banks developers who had not been regular customers of the banks only rarely obtained a construction loan. Moreover, well-established bank customers were by no means assured of receiving all of the construction financing that they requested. The situation at commercial banks during this tight-money period is summed up by survey findings which show that large bank commitments for new construction loans declined by more than one-half from early 1969 to early 1970.⁹

While new construction-loan commitments were severely limited at commercial banks, commitments at REIT's increased significantly and commitments at other institutions held steady. New and existing REIT's increased their holdings of outstanding construction loans by over \$1 billion in 1969. Insured savings and loan associations closed approximately \$250 million more in construction loans in 1969 than in 1968. The outstanding construction loans of New York State savings banks averaged about \$50 million higher in 1969 than in 1968. Statistics on the construction lending of life insurance companies and mortgage bankers in 1969 were not available at the time of writing; but bank and non-bank interviews indicated that both mortgage bankers and life insurance companies increased their con-

struction lending by some relatively small amount. In the aggregate, however, due to the dominance of commercial banks in the construction-loan business, total construction-loan activity appeared to show a definite decline from the beginning of 1969 to the beginning of 1970.

Thus, at first glance it seemed that the limited availability of construction loans may have been restricting new construction activity. However, taking the permanent mortgage market into account, the role of construction lending appeared greatly diminished.

The Permanent Mortgage Market

During 1969, the permanent mortgage market was buffeted by the same tight-money problems that affected construction lending. While this tight-money environment limited the amount of funds that long-term lenders had available for mortgages, these lenders were faced with a very strong demand for mortgages. For income-earning properties the limited supply and strong demand enabled the long-term lenders to use "sweetners" or "kickers" (usually based on the project's gross or net receipts) to increase the potential yields on permanent mortgages by as much as 15 percent or more. These high rates reduced the profits available to developers and caused many to revise or scrap plans or to shelve them pending less expensive mortgage terms. Nevertheless, the demand for permanent mortgages remained very strong. Despite the strong demand and high yields, long-term lenders, under tight-money pressures, greatly cut back on new commitments in the last half of 1969 and the first half of 1970. Long-term lenders were being so selective at this time that they had little difficulty finding developers who could obtain construction financing. Moreover, if a construction loan could not be obtained for a project that was ex-

⁹A series was developed from the Federal Reserve Board's Quarterly Loan Commitment Surveys for the 32 banks that reported consistent construction-loan data.

Table 2
HYPOTHETICAL EXAMPLES OF THE IMPACT OF THE CONSTRUCTION
LOAN CHARGES ON CONSTRUCTION COSTS*

<i>Type of Construction</i>	<i>Time Construction Loan is Outstanding</i>	<i>Effective Construction Loan Cost to the Builder (As a Percentage of Borrowed Funds)</i>	<i>The Construction Loan Cost as a Percentage of Total Construction Costs</i>	<i>Impact on Column (4) of a One Percentage Point Change in Column (3)</i>
<i>(1)</i>	<i>(2)</i>	<i>(3) Percent</i>	<i>(4) Percent</i>	<i>(5) Percent</i>
Single-family home	3 months	15	1.500	0.100
Apartment building	1 year	15	6.000	0.400
Office building	2 years	15	12.000	0.800

** Major assumptions:*

- 1) That the average balance of the construction loan during the period it is outstanding is one-half the face amount.
- 2) That the face amount of the construction loan is equal to 80 percent of all construction costs, including land.

ceptionally attractive, the long-term lender could always participate heavily in the construction loan, essentially paying someone to administer it, or make the construction loan directly if circumstances permitted.

Thus, the study's findings are consistent with the hypothesis that the bottleneck limiting (commercial and residential) construction in 1969 and early 1970 was the price and availability of permanent mortgage money; and that the limited availability of construction money did no more than reduce the pressure on the permanent mortgage bottleneck.

Summary

Commercial banks are the leading construction lending institutions. Large banks do relatively little single-family home construction lending and most often make construction loans for commercial structures and apartment-houses, leaving the long-term mortgages for other lenders. The larger banks are relatively more active in construction lending than small ones because they are in a better position to take ad-

vantage of the economies of large-scale construction-loan operations.

Gross yields on high-quality construction loans were 3 to 4.5 percentage points more than on prime commercial loans. Although this differential has often been attributed to high-risk characteristics, an analysis of these loans showed that during the last decade loan losses have been insignificant for well-run construction-loan operations. The study found that much of the yield differential was explained by the differences in the deposit relationships of construction and commercial borrowers, and by the fact that many bank lenders believed that construction loans were very risky.

Large bank construction lending in the 1969 tight-money period was also examined. The study found that large banks severely limited their new construction-loan commitments in 1969. At the same time other institutions, primarily REIT's, were taking up much of the slack. An analysis of the situation concluded that permanent mortgage lending had a much greater influence on construction activity in 1969 and early 1970 than did construction lending.

APPENDIX

An Overview of Construction Lending — 1968

In this appendix the total volume of construction-loan funds advanced during 1968 is estimated in two ways. The first is by adding up the amounts that can be attributed to the different lending institutions. The second is by adding up the amounts that can be attributed to the different types of construction. Since the second method of estimating was done without the benefit of published data, it was regarded as a crude check on the first.¹

Construction Lending by Institution

Savings and Loan Associations

Savings and loan associations have always been active in construction lending. As pointed out in the text, they make these loans primarily to obtain the permanent mortgages on the properties being constructed.

For 1968, the Federal Home Loan Bank Board reported \$6.5 billion in construction-loan closings at insured savings and loan associations. Since the closing precedes the advancing of funds and since the 1968 figure represents a \$1.1 billion increase over 1967, it can be inferred that the amount of dollars advanced on construction loans in 1968 was less than the amount closed that year. Considering that an insignificant number of closed loans were not fully used, it was estimated that \$6.1 billion in construction-loan funds was advanced by savings and loans in 1968.

Mutual Savings Banks

Mutual savings banks have been a small but steady factor in the construction-loan market. As noted in the text, mutuals do construction lending for the same reasons as savings and loan associations.

Both the state of New York Banking Department and the Savings Banks Association of New York State have collected statistics on the construction lending of New York State savings banks. As of December 31, 1968 the New York State savings banks held approximately \$281 million in construction loans.²

In 1968 mutual savings banks in the State of New York held approximately 58.9 percent of all mutual deposits in the Nation. Having no reason to suspect otherwise, it was assumed that the savings banks outside of New York State held construction loans in the same ratio to total deposits as those in New York State. Thus, as of December 31, 1968 all mutual savings banks are presumed to have held \$477 million in outstanding construction loans. And considering that mutuals make primarily single-family home construction loans, a turnover rate of twice a year can be expected for the mutuals' construction loans. Thus, it was estimated that total funds advanced by savings banks in 1968 amounted to approximately \$950 million.

Life Insurance Companies

No statistics are available on the aggregate construction lending done by life insurance companies. However, interviews at life insurance companies and banks as well as the information available in the meager construction-loan literature indicated the life insurance companies did a very limited amount of construction lending. These companies generally considered construction loans to be out of their area of business.

Having little information on which to draw, total construction-loan funds advanced by life companies in 1968

were estimated at \$200 million to \$600 million with \$400 million representing the most likely figure.

Mortgage Bankers

Mortgage bankers have used their own capital and funds borrowed from commercial banks to do a sizable volume of construction lending. For the mortgage banker, construction lending is a potentially profitable service that he can offer as part of a developer's overall financing package.

The picture may be different in the future, however, for in 1969 a number of mortgage bankers — both independent and bank-affiliated — established construction-lending REIT's to service their customers and others. Many other mortgage bankers are contemplating forming a trust or have already registered one with the Securities Exchange Commission, although they have not yet sold securities to the public. These trusts should have a significant negative impact on the future volume of construction lending done directly by mortgage bankers.

The Mortgage Bankers Association reports that in 1968 mortgage bankers dispersed \$1.7 billion of construction-loan funds.

Real Estate Investment Trusts

The two major construction-lending real estate investment trusts advanced a total of approximately \$150 million in construction-loan money in 1968. Few other REIT's were active construction lenders in 1968, so the 1968 volume of funds advanced by REIT's on construction loans was estimated at \$200 million.

Commercial Banks

Unfortunately, there are no published statistics on commercial bank construction lending. At the present, construction loans are combined with all other mortgage holdings in reports to the regulatory authorities. The study did, however, provide a basis for estimating the total volume of bank construction lending.

The study found that although new bank construction-loan commitments declined substantially during 1969, earlier commitments led to an increased amount of dollars advanced on construction loans. The study estimates 1968 bank construction lending at \$10 billion.³

The estimates for the amounts of construction lending done by the different types of construction lenders are grouped together and totaled in Table 1. Of the major construction lenders, commercial banks were the most active in terms of dollars advanced on construction loans in 1968. In that year they supplied about \$10 billion of construction funds, one-half the total supplied by the major construction lenders.

Construction Lending by Type of Construction

Public Construction

The \$27.7 billion of public construction in 1968 was financed by means other than construction loans because the government owned the property and essentially played the

¹In the near future HUD will publish for the first time data on the construction loans of the major mortgage lending institutions.

²The figures reported both by the New York Banking Department and Savings Banks Association of New York State are unpublished.

³See *Research Report*, Chapter VII and Appendix C of that Chapter.

Table 1
CONSTRUCTION LENDING
BY MAJOR CONSTRUCTION LENDERS — 1968

<i>Lending Institution</i>	<i>Estimated Dollars Advanced on Construction Loans in 1968 (Billions)</i>
Commercial Banks	\$10.0
Savings and Loan Associations	6.1
Mortgage Bankers	1.7
Mutual Savings Banks	0.9
Life Insurance Companies	0.4
Real Estate Investment Trusts	0.2
Total	\$19.3

role of developer. As a result, contractors hired by the government cannot use a first mortgage on the property under construction as collateral for financing.

Residential Construction

The \$28.8 billion of residential construction included \$5.02 billion of "additions and alterations" which are not normally financed by construction loans.⁴ The \$23.8 billion remaining was almost entirely accounted for by single-family and multi-family homes. Both of these types of residential construction are usually financed largely by construction loans. The interviews indicated that the developers' equity in these cases is usually not much in excess of the land (which is not included in the Census Bureau value of construction figures). However, not all of the \$23.8 billion was financed by construction loan because in some cases the developers' equity was in excess of the land and because some residential construction was financed by means other than construction loan. It was estimated that the actual figure fell in the range of \$16 billion to \$20 billion, with the most likely estimate being \$18 billion.

Nonresidential Construction — Industrial Buildings

Much of the \$5.6 billion of industrial building construction was financed by means other than construction loan. For large, well-established corporations this type of construction is often financed out of cash flow or drawings on a bank line of credit. Moreover, banks are often reluctant to finance industrial construction with a construction loan because the collateral value of a highly specialized building is limited as is the amount of industrial construction that receives permanent financing. In addition, the \$5.6 billion figure included some additions and alterations which are, in any case, rarely financed by construction loan. All factors considered, it was estimated that \$1.0 billion of construction lending was extended for industrial buildings in 1968.

Nonresidential Construction — Commercial Buildings

Of the \$8.3 billion of commercial structures built in 1968, approximately 90 percent was in the categories of "office buildings" and "stores and other mercantile buildings." These two categories, which were about equal in dollar magnitude, generally require construction financing.

Considering that some construction financing came from nonconstruction-loan sources, that some additions and alterations are included in the \$8.3 billion, and that some projects did not receive construction financing equal to the construction cost, the amount advanced in 1968 on commercial construction loans was estimated at \$5.0 billion.

Nonresidential Construction — Other Buildings

The principal components of this \$4.9 billion category of construction are: hospitals and other institutional buildings, \$1.6 billion; educational buildings, \$1.0 billion; and religious buildings, \$1.0 billion. It was very difficult to estimate the proportion of this category financed by construction loan. Based on the description of bank construction-loan holdings obtained during the interviews, it was estimated that total construction financing for this category amounted to 30 percent of the value of this construction or \$1.5 billion.

Nonresidential Construction— Other (than buildings) Construction

A very limited amount of this \$9.3 billion category is financed by construction loan. Banks do some financing in this area with "development loans" but such financing is very limited and sometimes conceptually difficult to separate from construction lending. Examples of construction-loan financing of nonbuilding construction by the interviewed banks were improvements at an oil refinery and a marina. Because of the specialized nature of most of this category of construction, and because it does not usually receive permanent financing, banks generally do not finance such construction on a construction-loan basis. Based on the interviews, it was estimated that in 1968 such construction lending amounted to roughly \$0.5 billion.

Summary

Approaching the volume of construction lending question from the value of construction side, the total volume of construction lending in 1968 was estimated to be \$26.0 billion (see Table 2). Yet in Table 1 the total volume of construction lending by the major construction lenders was estimated at \$19.3 billion — the difference being some \$6.7 billion.

Obviously, some of this difference will be accounted for by the construction lending of sources not included in Table 1. Individuals, finance companies and others will add some construction lending funds to the total.

It is, of course, also possible that the figures reported in Table 2 are in excess of the amount actually financed by construction loans. Moreover, the estimates of the construction lending by the major construction lenders may be understated.

Table 2
CONSTRUCTION ACTIVITY AND
CONSTRUCTION LENDING, 1968
(Billions of Dollars)

	<i>Value of New Construction Activity</i>	<i>Estimated Amount Financed by Construction Loans</i>
Public	\$27.7	0
Private	<u>57.0</u>	<u>26.0</u>
Residential	28.8	18.0
Nonresidential	28.2	8.0
Buildings	18.8	7.5
Industrial	5.6	1.0
Commercial	8.3	5.0
Other	4.9	1.5
Other Construction	9.3	0.5
Total	<u>84.7</u>	<u>26.0</u>

⁴U.S., Department of Commerce, Bureau of the Census, *Value of New Construction Put into Place*, October, 1969, p. 19, reports 1968 "expenditures for additions and alterations to private housekeeping residential properties, excluding farm, in the United States" was \$5.018 billion.

Phasing Out the Certificate System: New Federal Reserve Methods

By RONALD J. TALLEY

SECURITIES markets have been overwhelmed by paper work during the past 5 years. Nearly everyone agrees that this is the result of an obsolete mechanical system for handling securities transactions. Most observers feel that automation is the only solution, with elimination of certificates as the ultimate salvation.

Although the major crisis in paper work in the stock market has stimulated numerous studies and proposals for change, no major technological breakthroughs have been achieved. In the market for Government securities, on the other hand, while the paper work problem has been less severe, important new systems have been introduced by the Federal Reserve in cooperation with the U.S. Treasury and primary dealers.

These improvements are embodied in two new systems — the book-entry procedure and the new clearing arrangement. Through the book-entry system, certificates have been eliminated for approximately \$100 billion, or 43 percent, of the marketable public debt. The new clearing arrangement, which is in operation at the New York Fed, has achieved an 80 percent reduction in the necessary handling for securities transfers covered by it. The workings of these two innovations are outlined below,¹ together with a brief discussion of the new book-entry system's implications for other types of securities, such as equities, and municipal and corporate bonds.

The New Clearing Arrangement

The Federal Reserve Banks, in their role as fiscal agent for the Treasury, have long been involved in Government securities trades between

parties located in different Federal Reserve districts. In these trades, the securities are "shipped" between the two districts by means of the Fed's telegraphic transfer system, which was introduced in 1921. Under this system when the seller's Reserve Bank receives the securities and transfer instructions from the seller, it "retires" those securities (adding them to its unissued stock) and relays the transfer instructions by wire² to the buyer's Reserve Bank. That Bank then "reissues" the securities from its unissued stock and delivers them over the counter to the buyer.

Until recently, such transactions were handled individually. Since most of the daily trading involves the 16 or so primary Government securities dealers in New York, each dealer (or his representative) sent messengers to the New York Fed many times a day to deliver and pick up the securities involved in an average of some 1,500 transactions daily. This procedure necessitated counting and examining securities for each transaction by both the Fed and the dealers — a very time-consuming, labor-using method of transfer.

The new clearing arrangement vastly improved that situation by consolidating each dealer's

¹This discussion draws heavily on F. T. Davis and M. J. Hoey, "Automating Government Securities Market Operations," staff study prepared for the Treasury-Federal Reserve Study of the U.S. Government Securities Market (Federal Reserve Bank of New York, June 1969).

²Technically referred to as a "Commissioner of Public Debt (CPD) wire." A fee of \$3 is charged for each such wire transfer of securities.

activities into just one settlement delivery a day. This arrangement has been effected between the New York Fed and 11 member banks,³ most of which are either themselves primary dealers or are clearing agents for nonbank primary dealers. During trading hours the Fed and the participating banks notify one another over closed-circuit teletype of trades that have taken place, which in the past would have required physical deliveries. Instead, the details of each transaction are now entered into "clearing accounts" maintained by the New York Fed. A security delivery is considered completed once such an entry is made.

At about 3 o'clock each trading day, the Fed totos up the net securities of each issue owed to, and by, the individual participating banks. Within a half an hour, the participating banks are expected to have their messengers deliver the securities owed by them, and pick up the securities owed to them. Payment for securities transferred is made through the reserve accounts of the participating banks, the accounts of the buyers being debited, and those of the sellers credited, for each transaction.

The great advantages of this new system are the tremendous time-saving in delivery and the elimination of the physical handling and exposure of bearer securities. In the old days, it typically took up to 2 hours to complete physical delivery of inter-district traded securities to or from the New York Fed.⁴ Now, teletype delivery takes only 2 minutes. This translates into significant man-hour savings (for both the New York Fed and the participating banks) as the counting, examining, and messenger delivering which used to go on constantly throughout the day, in most cases now are necessary only once, at the end of each day, and on a net (rather than gross) basis for each issue. Other important benefits are realized in the relief provided from the notorious thefts and "fails" problems. Moving securities in the streets only once a day, and on a net basis, rather than throughout the

day clearly minimizes exposure and could help to cut down on thefts, while the nearly instantaneous delivery of traded securities eliminates the cause of "failures to deliver" within a specified time.

On the other side of the benefit-cost picture, both the Fed and the participants incur the costs of installing and leasing closed-circuit teletype facilities, while the Fed pays all of the costs of conducting the central switching and settlement operation.⁵ Also, the participating banks have agreed to indemnify the New York Fed for any loss or expense arising in the event of non-delivery of balances owing to the Fed.

Intra-City Clearing for New York Trades

Once the important savings from applying the clearing arrangement to inter-district trades were recognized, it was expanded to include local New York City trades as well. In these trades, both the buyer and the seller are located in New York City. Inclusion of these "intra-city" transfers, for which the Fed currently imposes a charge of 50 cents per transfer to help defray costs, began in August 1967, after the arrangement had been in operation for inter-district trades for about a year. The same participating banks are involved in this expansion as in the original arrangement.

Unlike inter-district transactions involving

³They are: The Bank of New York, Bankers Trust Company, The Chase Manhattan Bank N.A., Chemical Bank, First National City Bank, Franklin National Bank, Irving Trust Company, Manufacturers Hanover Trust Company, Marine Midland Grace Trust Company of New York, Morgan Guaranty Trust Company of New York, and United States Trust Company of New York.

⁴Delivery time for an incoming transfer, for example, is the time elapsing from the receipt of the wire at the New York Fed until the final processing of the delivered securities at the office of the buying dealer.

⁵Technically, the Treasury pays the Fed's salary costs, since they are incurred as a result of the Fed's fiscal agent activities. However, the Treasury does not pay the Fed's teletype expenses.

New York parties, there was no tradition of Fed involvement in intra-city trades. These trades had been settled individually, by the old (2 hour) physical delivery by messengers between clearing banks, with counting and examining on both ends of the delivery. In contrast to that procedure, with the clearing arrangement facilities the seller's clearing bank now merely sends wire notification of the transaction through the New York Fed to the buyer's clearing bank over the closed-circuit teletype. The Fed adjusts the clearing accounts of the two banks appropriately and the end-of-day net settlement balances include both intra-city and inter-district transfers. Again, delivery time is cut to just 2 minutes with the clearing arrangement.

Pending installation of suitable electronic data processing equipment to handle the full volume (which is sizable) of intra-city transfers, these transactions have been limited to those of a minimum of \$250,000 each. The full benefits from applying the clearing arrangement to local New York City transfers therefore await the removal of this restriction, which should be possible soon. Unrestricted use of the clearing arrangement for intra-city transfers should bring all of the accompanying benefits of rapid, economical delivery — namely, lower operational costs, and fewer “fails” and thefts.

Book-Entry of Government Securities at Federal Reserve Banks

While the new clearing arrangement has reduced the burden of certificate handling, the book-entry system, introduced at all Reserve Banks in 1968, has simply done away with the certificates of certain U.S. Government securities. By this system most of the Government securities now held at Federal Reserve Banks are stored electronically in computers, rather than held physically in the vaults in certificate form. That is, paper securities have been replaced by book-

entries, in the form of magnetic impressions in the memory of Reserve Bank computers. These entries contain all the information previously recorded on certificates — namely, par amount and issue description.

The owners of the book-entry securities in custody at Federal Reserve Banks consist of member banks, Government Agencies, foreign central banks and international organizations,⁶ the Federal Reserve System itself (for its Open Market Account) and certain other accounts. Book-entry accounts of member banks are found at all Federal Reserve Banks, while the book-entries of the other owners are maintained by the New York Fed.

Book-entry securities held for member banks fall into several categories, according to the purpose for which they are held. Largest in dollar value is the “safekeeping” account. These are securities owned by member banks, and deposited with the Reserve Banks instead of being held in the vaults of the owner banks. With book-entry, moreover, the safekeeping service was extended for the first time to banks located in financial centers.⁷ A second important “purpose” of book-entry-held member bank securities is as collateral behind Treasury Tax and Loan Accounts and other public deposits. The other major category encompasses securities serving as collateral for Reserve Bank advances (“loans and discounts”) to the member banks. Taken together, these three “purposes” account for almost all (approximately 90 percent) of the Government securities held for member banks by the Reserve Banks.

⁶Specifically, the international organizations are: Asian Development Bank, Inter-American Development Bank, International Bank for Reconstruction and Development, International Development Association, International Finance Corporation, and the International Monetary Fund.

⁷Formerly, member banks located in the financial districts of cities having Reserve Banks were excluded from the safekeeping privilege at Reserve Banks, mainly because of limited vault space.

Every bank or agency owning book-entry securities has an account listing its holdings, just as when certificates were held in custody. Owners keep their own records and may request Reserve Bank figures if needed. Securities which are book-entries with the Federal Reserve can be transferred to other book-entry accounts, shipped to other districts by wire transfer, or withdrawn from custody in certificate form. The Reserve banks satisfy requests for certificates by drawing on their stocks of unissued paper securities. Conversely, securities deposited for safekeeping (as book-entries) are added to these unissued stocks. A record of the details of each such transaction is transmitted to the parties involved by way of an "advice of transaction." The securities inventories at the Reserve Banks are kept at levels necessary to meet day-to-day needs, and "excess" securities are returned to the Treasury.

The book-entry procedure, representing a radical change in the form of Government debt, was developed jointly by the Treasury and the Federal Reserve System, which is fiscal agent for the Treasury. In the latter role, the Reserve Banks handle the issuance, retirement, and interest payments on bearer Treasury obligations. Issuing new debt instruments and retiring old ones, therefore, may create and destroy book-entry securities. Payment connected with those activities, as well as interest payment on book-entry securities, is accomplished by credits and debits to reserve accounts.

In all, book-entry covers a sizable proportion of the dollar volume of outstanding marketable public debt securities. As mentioned above, at mid-1970, the book-entry securities (\$100 billion) owned by member banks and others amounted to approximately 43 percent of the outstanding marketable public debt.

Future

Book-entry at the Federal Reserve is still limited in its scope both as to participants and type of security included. At this stage ownership of book-entry Government securities is largely restricted to member (and some nonmember) banks, while the securities themselves are obligations only of the U.S. Treasury. Sometime in the future the system could be expanded, through the member banks, to include other private owners, and broadened to include the obligations issued by Government-sponsored agencies (e.g., the Federal National Mortgage Association).

Currently, the Federal Reserve and the Treasury are actively considering proposals to make book-entry available to non-bank dealers in Government securities and also — through the New York Stock Exchange's Stock Clearing Corporation — to brokerage houses as well. Putting dealer inventories on book-entry would be a significant milestone in the direction of total automation of the Government securities market, as dealer trading and financing require movements of huge amounts of traded and collateral securities daily. One plan being considered for brokerage houses, which have been particularly hard hit by thefts, would allow them to deposit their Governments with the New York Stock Exchange's Central Certificate Service, which would maintain a single book-entry account with the New York Fed, presumably through a member bank.

An additional possibility is to extend coverage to the Government securities held by financial center banks in custody for their correspondent banks and others. This coverage would not only be important in itself, but it would also pave the way for eventual complete coverage by book-entry, setting a precedent for extension of the so-called "third party" accounts to "other" owners (i.e., nonbanking institutions and individuals) through the member banks.

Major extensions such as these and others are of course contingent upon general acceptance of the basic idea and the continued success of the present operations, as well as the absence of legal barriers. Mechanically, though, there is no problem of feasibility, given the tremendous storage capacity of modern computers.

The New Clearing Arrangement and Book-Entry System Combined

At the present time, balances in clearing accounts must still be settled by physical deliveries at the end of business each day. Obviously, maximum benefit from the Federal Reserve's two new methods would be achieved if the clearing arrangement and a broadened book-entry system were combined. Then clearing balances could be settled by simultaneously crediting and debiting the book-entry accounts and reserve accounts of market participants. As mentioned above, a movement in this direction is underway in the form of inviting dealer inventory participation in the book-entry system.

While broadened book-entry would facilitate clearing settlement, it should be pointed out that the two systems are mutually dependent. That is, if the big New York banks were to make full use of book-entry, it would be quite impossible to service their accounts without the clearing arrangement set-up. For in the absence of the clearing arrangement, the trading activities of these banks could create an intolerable volume of traffic at the New York Fed throughout the day, as a result of making physical deliveries out of the book-entry custody accounts.

The Advantages of Book-Entry

The book-entry procedure represents a significant improvement over traditional means of holding securities in custody accounts. Through it certificates, and the associated headaches, have been eliminated for many securities.

One important advantage of book-entries over certificates is the reduced risk of security disappearance. When the billions of dollars worth of securities at the Reserve Banks were all kept in the vaults, in bearer certificate form, there was always the possibility (however small) that high-valued securities might be misplaced. By transforming securities from highly negotiable, and valuable, pieces of paper to computer-stored book-entries, this risk has been substantially reduced.

The book-entry system also has other advantages. The Treasury's printing costs are obviously lower as fewer certificates need to be printed. Also, the Reserve Banks have realized cost savings in vault space and labor devoted to coupon-clipping and processing, since with book-entry interest payments are simply credited to reserve accounts.

Book-Entry for Other Types of Securities

The Federal Reserve's accomplishment of wholesale elimination of certificates certainly must be viewed with an envious eye from Wall Street, where operations experts are busily devising routes to a similar goal. It is therefore interesting to consider both the benefits of applying the book-entry principle to other securities, and the obstacles confronting such applications.

The outstanding attraction of a book-entry arrangement in the securities industry at large would be the potential improvement in the processing of traded securities. With book-entry, securities can be simply debited from the seller's account, and credited to the buyer's account, by computer. In contrast to that instantaneous and virtually costless method of transfer is the archaic, lumbering system presently operating in the securities markets. In the case of common

stocks, for example, certificates now must travel a long and tortuous path, from bank vaults to chaotic, work-jammed back offices of brokerage houses, and then to equally overburdened transfer agents, and back again to brokerage houses and bank vaults. Not only is this system unnecessarily costly, but experience in recent years has shown that its capacity is inadequate. It simply cannot handle the volume of modern-day trading activity.

Improvements in the processing of traded securities, moreover, would naturally be most important where trading is relatively heavy, as it is for common stocks. Where trading is less active, as in the municipal and corporate bond markets, the advantages of a book-entry arrangement in ease of transfer would be of less moment. In addition, most municipal and corporate bonds are bearer rather than registered in form, thus avoiding the troublesome change-of-ownership aspect of transferring registered securities. This, too, would tend to make book-entry relatively less advantageous for these bonds than for common stock. At the same time, however, absence of the transfer-agent problem would imply that it would be easier to institute a book-entry arrangement for bearer securities than for registered ones.

Besides processing benefits, book-entry in other securities markets would also be accompanied by all of the other advantages which have been realized in the Federal Reserve application. Most important of these is the relief which could be achieved from the serious problem of securities loss and theft.⁸ Obviously this benefit would be greater for bearer securities than for registered ones. In fact, book-entry for bearer securities would seem to convert them to a registered form.

In short, significant advantages of replacing certificates with book-entries are relatively clear. What is not so clear, however, is how to make this change. This is a seemingly-impossible task,

fraught with many more obstacles than was the Federal Reserve-Government-securities conversion. The principal differences are the special circumstances surrounding book-entry at the Federal Reserve and the relatively fragmented nature which characterizes other securities markets.

On the one hand, the Fed's book-entry system involves the debt securities of one issuer, the United States Government, held by its Fiscal Agent. The change, in fact, can be seen as simply one of internal record-keeping and storage methods, effected within a single institution. Other securities, however, present a coordination problem of monumental dimensions. Equity shares and corporate bonds are issued by thousands of corporations, and ownership records are kept by a multitude of transfer agents. Similarly, municipal obligations represent the debt of more than 10,000 issuers. Moreover, the common stock counterpart to Federal Reserve custody arrangements, in which brokerage firms hold securities for their customers, involves scores of independent brokerage houses, with little uniformity among them in record-keeping methods.

Furthermore, acceptance of book-entry securities was no problem in the Federal Reserve application. For one thing, securities owners were not much affected, since book-entries are freely exchangeable with certificates. Also, many of the securities converted to book-entry were legally required to be held at the Reserve Banks. Finally, there was no question of the safety of book-entry Government securities held at the Fiscal Agent, the Federal Reserve System. For all of these reasons, acceptance of book-entry procedures would be a much more formidable problem for book-entry applied to other securities.

⁸On Wall Street this situation has even deteriorated to the point that many insurance companies are actively considering discontinuing that type of coverage altogether.

Lastly, legal impediments to drastic alterations in the nature of securities are likely to loom much larger for other financial claims than for Government securities held at the Federal Reserve. Again, the difficulties are multiplied by the number of independent entities involved — namely, the securities laws of the 50 states.

In sum, there are real advantages to applying the book-entry principle to other securities (some of which are already being realized in the New York Stock Exchange's Central Certificate Service), but for any of these instruments full-scale adoption will have to overcome many significant obstacles.

Conclusion

This article has described two new methods of

securities handling which have been introduced by the Federal Reserve. The new clearing arrangement, presently in effect only at the New York Fed,⁹ has greatly facilitated Government securities deliveries within the confines of the New York marketplace. Book-entry is in effect at all of the Reserve Banks, and is unique in the securities industry in successfully eliminating certificates for billions of dollars worth of securities. These two new methods, moreover, can be seen in the context of a general trend in securities handling, making use of modern technology to phase out an antiquated and truly obsolete system of issuing, guarding, and shifting around peculiar pieces of paper.

⁹The Federal Reserve Bank of San Francisco is currently testing the usefulness of a teletype securities transfer link with one of its member banks.

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