

GOD GRANT THAT NOT ONLY THE
LOVE OF LIBERTY BUT A THOROUGH
KNOWLEDGE OF THE RIGHTS OF
MAN MAY PERVADE ALL THE
NATIONS OF THE EARTH, SO THAT
A PHILOSOPHER MAY SET HIS
FOOT ANYWHERE AND SAY,
"THIS IS MY COUNTRY."

BENJAMIN FRANKLIN



The restoration of Ellis Island and the scheduled opening of a museum for visitors there during 1989 inspire the theme for this year's annual report. From 1892 to 1954, 17 million immigrants passed through the Ellis Island gateway to a new land of refuge, freedom, and opportunity.

Cover from a painting by Mort Künstler

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The Depository Trust Company, a service company owned by members of the financial industry, is a national clearinghouse for the settlement of trades in corporate and municipal securities.

DTC also performs securities custody services for its participating banks and broker-dealers. In 1988, those Participants delivered \$7.9 trillion of securities through the depository's book-entry system, and securities in its custody reached nearly \$3.3 trillion at yearend.

DTC was created to prevent another paperwork crisis like that of the late 1960s. Its primary mission is to reduce the cost of securities services offered to the public by its Participants. It does so through its automated systems, its telecommunications links with more than 600 Participants and others, and its relationships with the hundreds of firms that serve as transfer agents, paying agents, exchange agents, and redemption agents for securities issuers.

HIGHLIGHTS

<u>TOTAL FOR THE YEAR</u>	<u>1988</u>	<u>1987</u>
Book-entry deliveries		
Market value (<i>In trillions</i>)	\$7.9	\$9.8
Number (<i>In millions</i>)	67.2	78.0
Cash dividend and interest payments (<i>In billions</i>)	\$178.2	\$151.2
Reorganization, redemption, and maturity payments (<i>In billions</i>)	\$196.3	\$140.9
<u>AT YEAREND</u>		
Eligible securities issues	608,916	490,620
Value of securities on deposit (<i>In trillions</i>)	\$3.28	\$2.82
Number of shares on deposit (<i>In billions</i>)	106.6	92.6
Principal amount of corporate debt on deposit (<i>In billions</i>)	\$844.8	\$668.4
Principal amount of municipal debt on deposit (<i>In billions</i>)	\$623.8	\$506.6
Participants	605	604
Broker-dealers	413	421
Banks	183	177
Clearing agencies	9	6

Once again, DTC's annual report seeks not only to report on activity in the depository during the prior year, but to explain its role in the post-trade processing and custody of securities. The first purpose is served by the recording, perhaps in daunting detail, of annual activity levels in DTC services. The sum of those activities and their breadth help explain DTC's function in the securities industry.

In 1988, DTC services related to trading volume in U.S. corporate stocks and bonds reflected the reduced trading activity that afflicted markets for those securities, with volumes down on the order of 15% to 20%. In DTC's securities-custody-related services, however, volumes increased by a similar or greater margin as those services continued their strong yearly growth.

This growth was a function of yet another large annual increase in the number of issues that were made eligible for DTC services, new issues distributed by underwriters through DTC, and greater use of the depository by Participants that had joined only recently. These and other factors raised the market value of securities in DTC's custody to almost \$3.3 trillion at yearend, even as the annual value of book-entry deliveries among Participants fell almost \$2 trillion, to \$7.9 trillion.

In retrospect, DTC may view the year 1988 as one in which a significant new program completed its first full year of operation, and as the beginning year for development of other major undertakings.

DTC's Same-Day Funds Settlement (SDFS) system is the first of those programs mentioned above. While U.S. trades in equities and bonds typically settle in next-day funds, certain other securities settle in same-day, or Federal, funds. These issues could not be made eligible for cost-saving depository services until DTC had developed a system to function alongside its Next-Day Funds Settlement system. Beginning in 1987 with municipal notes, more types of securities were made eligible in the SDFS system so that their total value in DTC custody increased eightfold over the year, to \$103 billion.

Another new program reached the pilot operation stage in late 1988 when DTC installed the initial capabilities for the International Institutional Delivery system. For DTC Participants, this effort will extend to institutional trades in foreign securities settling abroad many of the benefits of the Institutional Delivery system for institutional trades in U.S. securities.

Defining other programs desired by Participants, particularly services for mutual funds and commercial paper, occupied much staff time last year. The dialogue with users and others that such efforts require is no different in kind than those of prior years, but the total development effort is now greater.

With that in mind, it is especially appropriate to thank DTC Participants and each member of the industry committees that last year helped the depository define the operational requirements of industry needs. We want to thank DTC's staff as well for their performance. The corporate culture here is "efficient service to Participants"; without wide staff support and professionalism, that aspiration could not be achieved.



William T. Dentzer, Jr.
Chairman and Chief Executive Officer



Conrad F. Ahrens
President and Chief Operating Officer



In native costume, mother and child await the inspection process at the Ellis Island immigration station for the Port of New York.

Depository Trust's goal is to reduce the cost of securities processing for its Participants while increasing accuracy, security, and speed in that processing. It accomplishes this by continually making more issues eligible for depository services, reducing the number of certificates that must be shipped and handled within the financial community, automating and standardizing the flow of information, achieving economies of scale, and acting as a central intersection and "switch" for the flow of data, securities, and funds between Participants and agents for issuers of those securities.

DTC's services begin when participating banks and broker-dealers deposit securities with it. Participants can then affect their securities positions resulting from such deposits through instructions to the depository to perform a certain service, such as to deliver securities to another party through book-entry on DTC's records and collect payment from that party. Each DTC Participant uses a number of depository services, according to the services it offers to its customers. The depository's services are briefly described in this section, followed by a listing of 1988 volumes in selected services.

Deposits

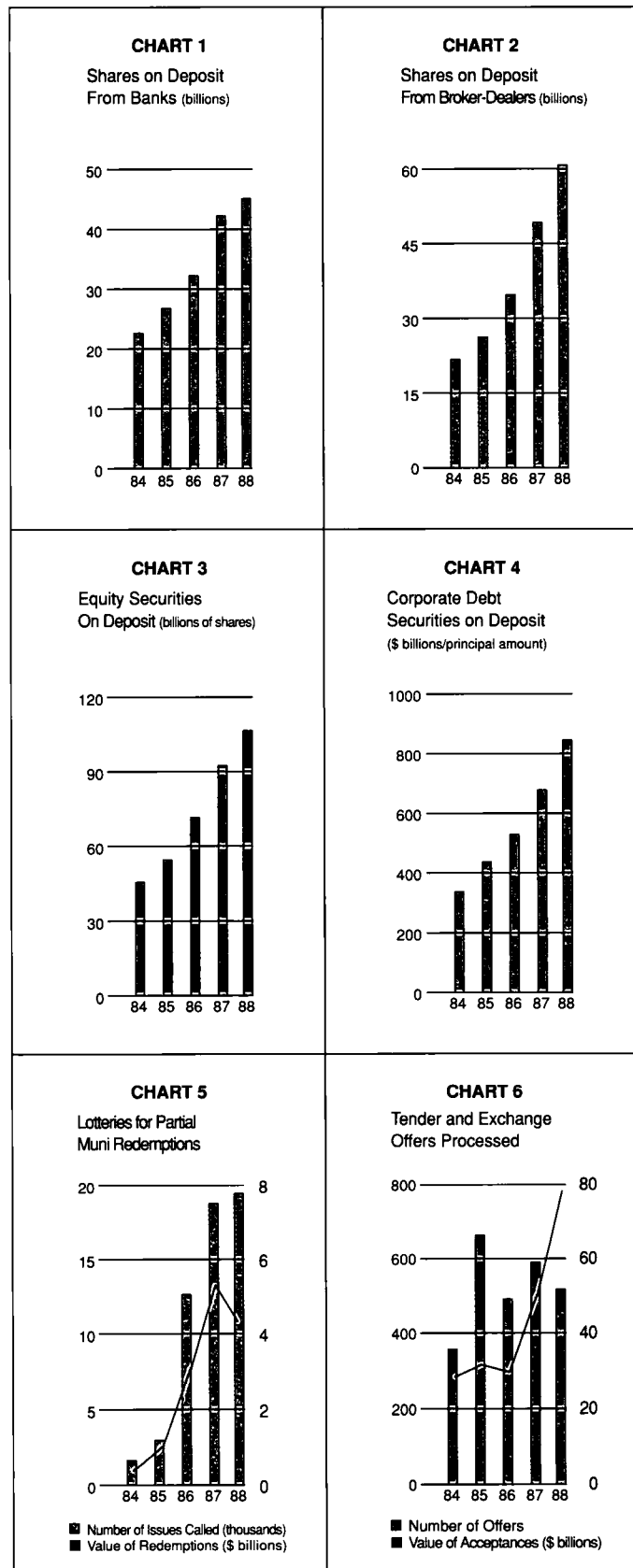
Deposits of certificates in eligible securities can be made at DTC or at various bank and clearing corporation offices nationwide that act in cooperation with DTC as depository facilities. More than 23 million certificates were deposited with DTC in 1988.

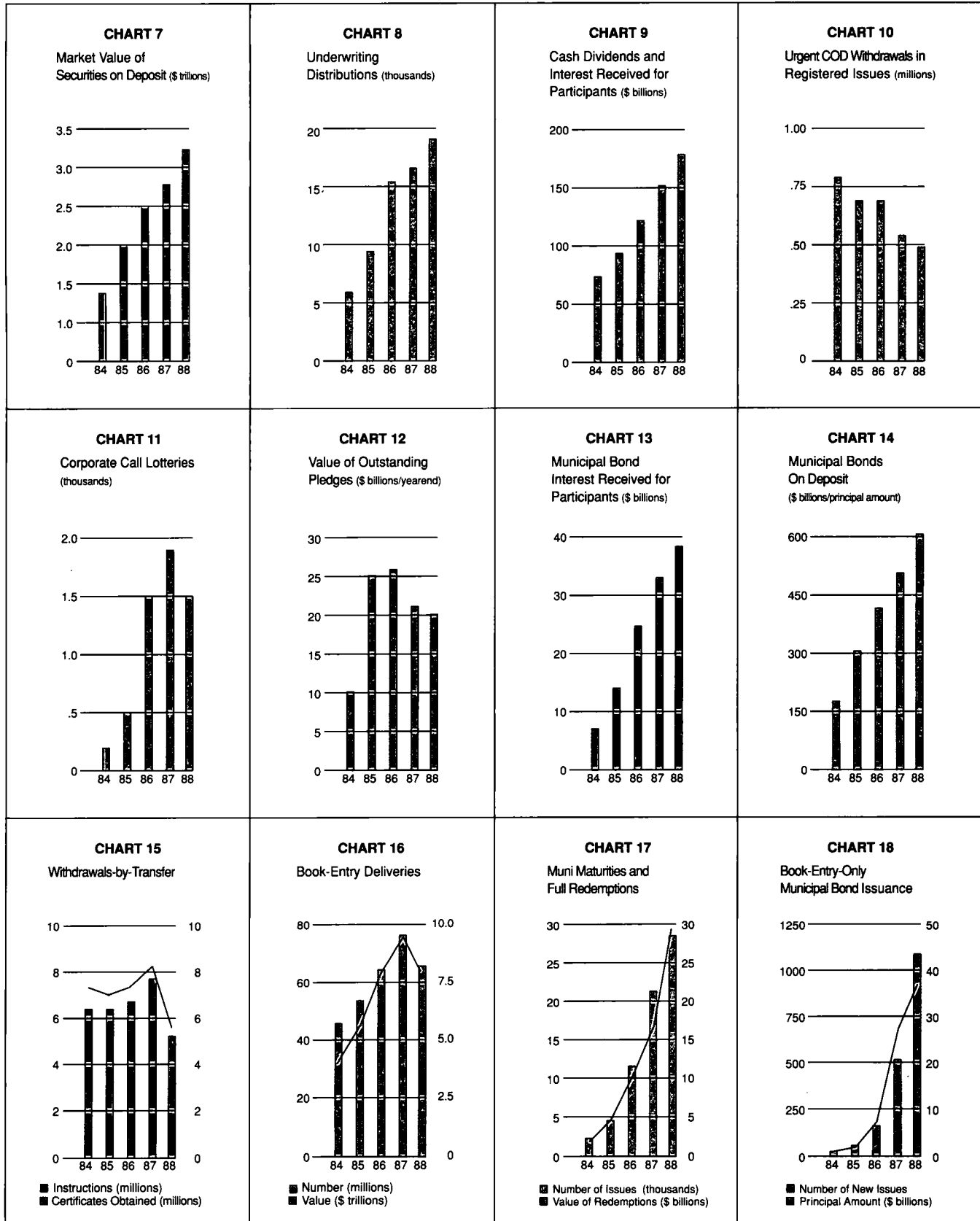
Deliveries

Changes of securities ownership are made by book-entry deliveries on DTC's accounting records. These deliveries may be with or without an accompanying money payment and are reported to Participants daily. Deliveries in 1988 were valued at almost \$8 trillion. (See Chart 16, page 7.)

Pledges

Securities may be pledged by book-entries on DTC's accounting records to banks or other entities that have agreed to accept them as collateral for various purposes. Banks participating in DTC's pledge program numbered 94 at yearend. In addition, the Federal Reserve Banks of Boston, New York, Philadelphia, Richmond, and St. Louis accept pledges to their DTC accounts





from member banks to secure Treasury Tax and Loan accounts and deposits of public money, as well as advances at the discount window and intraday overdrafts. The Options Clearing Corporation (OCC) also accepts pledges to its DTC account. Total pledges outstanding at yearend to all pledgees exceeded \$20 billion.

Underwriting Distributions

Underwriters for new and secondary issues distribute them by book-entry against payment, with certificates usually available thereafter for investors who desire them. Last year, 361 lead managers used DTC to distribute nearly 20,000 corporate and municipal underwritings valued at more than \$367 billion. (See Chart 8, page 7.)

Custody

This DTC service allows Participants to reduce their costs of handling and safeguarding securities by leaving them with DTC, and to further reduce their costs by using other DTC custody-related services described here. At yearend, DTC held securities valued at almost \$3.3 trillion for its Participants.

Dividends and Interest

This service eliminates the need for Participants to collect dividend and interest payments directly from many sources on securities left with the depository.

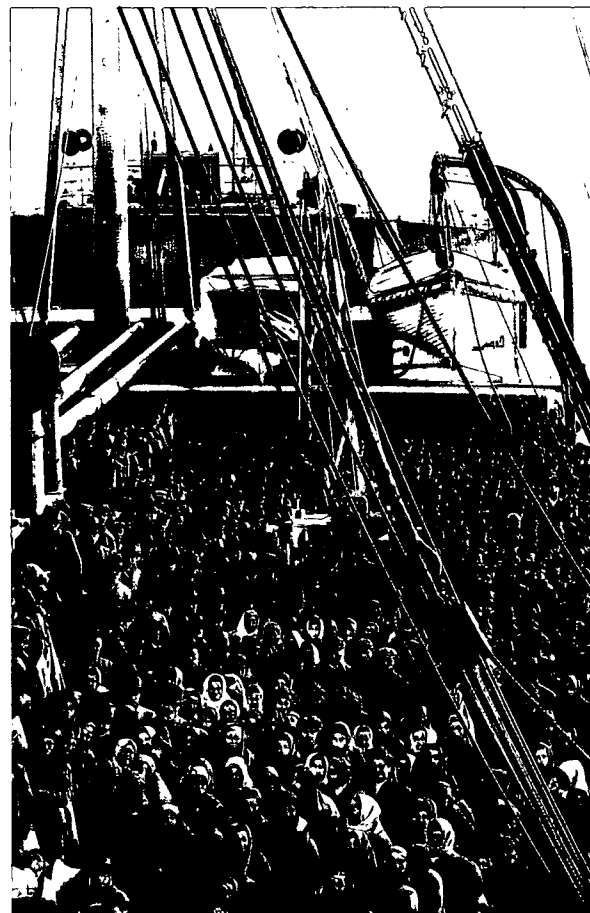
In 1988, DTC received for Participants 997,000 payments—74,000 on peak days—with corporate cash dividends and interest exceeding \$139 billion and municipal bond interest surpassing \$39 billion. (See Chart 13, page 7.)

The timeliness of corporate cash dividends and interest payments continued to improve. The depository received 98.3% of these funds on payable date, and 98% of their value in same-day funds. With municipal bonds, DTC receives virtually all payments on payable date.

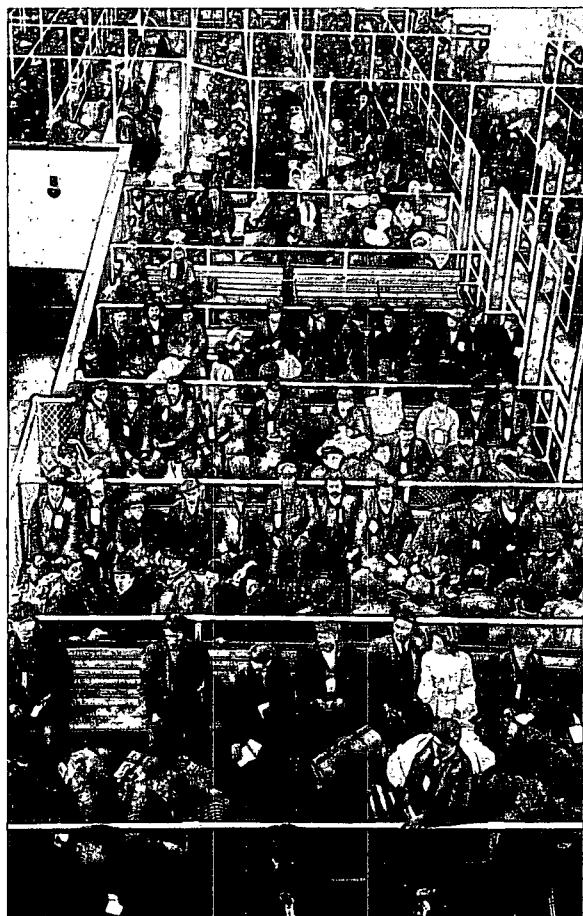
Voluntary Offerings

Tender and Exchange Offers: As instructed by their customers, Participants may accept tender and exchange offers for securities in their accounts and deliver them to agents through DTC. The value of such acceptances in 1988 exceeded \$78 billion. (See Chart 6, page 6.)

Conversions: Participants may instruct DTC to surrender convertible debt and equity securities in their accounts to conversion agents by book-entry for same-day credit in the underlying securities, usually common stock.



Nearly all privacy and dignity were lost on the crowded decks of passenger ships.



Immigrants are channeled through the processing maze of Ellis Island's registry room.

Over 170 million shares resulted from such conversions in 1988.

Redemptions

When a security matures, is fully or partially called by the issuer, or is redeemed by owners, DTC redeems the security and pays the proceeds to affected Participants. Total municipal redemptions by issuers grew 19% in 1988, to nearly 48,000, while the dollar value redeemed rose nearly 60%, to approximately \$34 billion, much of it reflecting the growth in the number of SDFS issues eligible. Those numbers include partial calls in municipal issues, which increased to more than 19,000, largely because of the increase in eligible issues. Partial calls in corporate issues decreased to 1,530. (See Chart 5, page 6, and Chart 11, page 7.) Participants also may redeem floating-rate notes and securities with similar repayment options through DTC, as well as reinvest the proceeds of maturing U.S. Treasury bills in their DTC accounts for new T-bills issued on maturity date.

Dividend Reinvestment

When permitted by an issuer's reinvestment plan, the Dividend Reinvestment Service (DRS) allows Participants, for interested customers, to reinvest dividends without withdrawing their shares from DTC. In 1988, DRS included 201 participating plans and helped reinvest \$1 billion of dividend distributions.

Units

Participants can separate units—such as a share and a warrant, or a bond and a put option—into their components or combine the components into units, and deliver them by book-entry through DTC. The depository received almost 30,000 such instructions in 1988.

Warrant Subscriptions

Warrants for common stock may be exercised by book-entry through DTC. Over 2,000 subscriptions in 83 eligible warrant issues were processed in 1988 resulting in 84 million shares.

Options

Last year, 186 banks and broker-dealers used DTC to deposit securities to satisfy OCC margin or clearing fund requirements. At yearend, the value of securities so deposited, or "pledged," totaled \$4.8 billion, representing 92% of the value of securities collateral with OCC from all sources.

Third-Party Pledge System: Under this system, banks may pledge securities on deposit at DTC to OCC on behalf of a broker-dealer to satisfy OCC requirements for

the writer of a call option. The system also allows a put option writer to instruct its bank to move T-bills to DTC and then pledge them to OCC for the account of the OCC clearing member carrying the writer's short position, reducing the clearing member's margin requirements.

Withdrawals

Certificates can be withdrawn from DTC custody in either of two ways:

1) Withdrawals-by-Transfer (WTs), in which certificates are routinely transferred to the name of a Participant's customer or another party. Some 5.8 million new certificates were created in this manner during 1988. (See Chart 15, page 7.) Depending on the issue, its transfer agent, and the agent's location, newly registered certificates are generally available one to two weeks after DTC has received WT instructions.

(2) Certificate-on-Demand (COD) urgent withdrawals, in which registered or bearer certificates are released quickly and directly from the depository. Almost 3 million certificates were so provided by DTC in 1988. The total number of CODs for all registered issues has continued to decline, reflecting the industry's increasing use of depository book-entry delivery over physical delivery. (See Chart 10, page 7.)

Fast Automated Securities Transfer

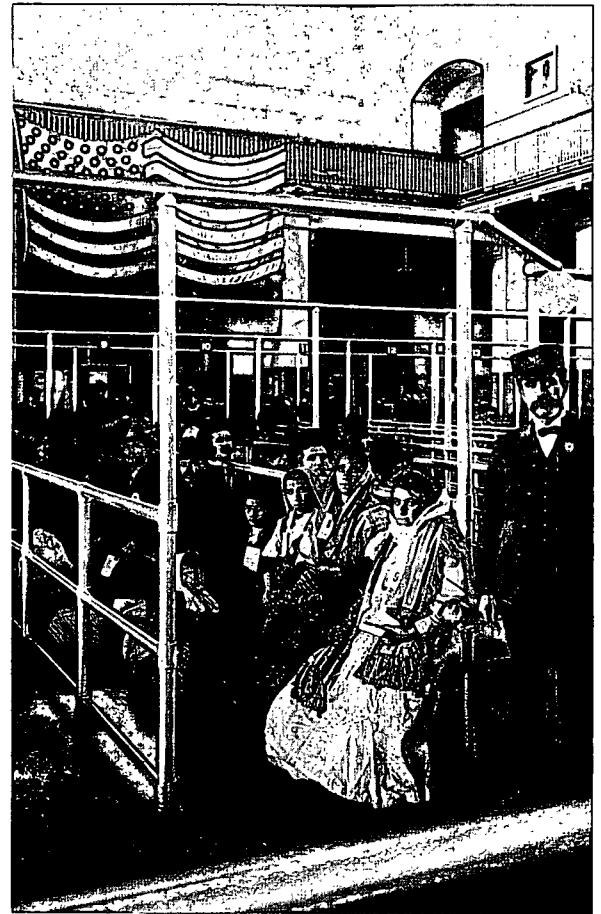
Under this program, known as FAST, DTC reduces the movement of certificates by leaving some securities with transfer agents in the form of balance certificates registered in its nominee name, Cede & Co. Balance certificates are adjusted daily for DTC deposit and withdrawal activity.

Agents can participate in the WT portion of the program only, or they can also handle COD withdrawals by taking part in the full-FAST program.

Direct Mail Service

A Participant can speed the receipt of newly registered certificates to its customers or third parties by having transfer agents and DTC mail them directly, rather than returning them to its offices prior to mailing. Over 1.1 million certificates were handled this way in 1988.

When agents mail the certificates, DTC receives registration information by automated means, reformat it if needed, and forwards it to transfer agents in machine-readable form. The agents then issue certificates and return transaction details to DTC for its records and for reporting to Participants. When a Participant wishes all transferred certificates mailed, DTC assumes the responsibility whenever transfer agents do not provide direct mail service.



Immigrants anxiously await inspectors' rapid-fire questions: "...have money?... job?..."



Immigrants often carried unwieldy baggage and tired children.

SELECTED 1988 SERVICE STATISTICS

Deposits (Total for the Year)	
Registered Certificates	17,558,200
Bearer Certificates	5,920,200
Total	23,478,400
Deliveries (For the Year)	
Number	67.2 million
Value	\$7.9 trillion
Pledges (At Yearend)	
To Banks	\$10.8 billion
To Options Clearing Corporation	4.8 billion
To Federal Reserve Banks	4.8 billion
Total	\$20.4 billion
Underwriting Distributions	
Number of Underwritings	19,529
Number of Issues (CUSIP numbers)	88,719
Total Value	\$367.3 billion
Dividends and Interest	
Number of Payments Received	997,000
Number of Paying Agents	1,350
Total Corporate Cash Dividends and Interest	\$139.1 billion
Total Municipal Bond Interest	\$39.1 billion
Total Stock Dividends	2.3 billion shares
Tender and Exchange Offers	
Offers Processed	536
Agents Involved	111
Value of Acceptances	\$78.1 billion
Conversions	
Eligible Issues	349
Number of Resulting Shares	171.9 million
Redemptions	
Full Calls and Maturities	33,852
Municipal Partial Calls	19,309
Corporate Partial Calls	1,530
Units	
Eligible Issues	754
Instructions to Combine	11,659
Combining 2.6 billion components into	
825 million units	
Instructions to Separate	17,643
Separating 390 million units into	
1.2 billion components	
Warrant Subscriptions	
Eligible Issues	83
Subscriptions Processed	2,021
Resulting Shares	84 million
Certificate Withdrawals	
Daily Average Withdrawals-by-Transfer	20,800
Total 1988 New Registered Certificates	5.8 million
Daily Average Certificates-on-Demand	
For Registered Securities	1,800
Total Certificates Withdrawn in 1988	1.2 million
Daily Average Certificates-on-Demand	
For Bearer Securities	980
Total Certificates Withdrawn in 1988	1.7 million
Direct Mail Service	
Number of Participants	72
Participating Transfer Agents	10
Certificates Mailed by Agents	401,000
Certificates Mailed by DTC	733,900
Total Certificates Mailed	1,134,900

The more issues made eligible for DTC services, the more useful the depository is for its Participants. DTC originally made listed equities eligible, then over-the-counter (OTC) equities and listed and unlisted corporate debt. The municipal securities program began in 1981, and in 1987 eligibility was broadened to a variety of securities that settle in same-day, rather than next-day, funds.

During 1988, more than 153,000 issues were made eligible, bringing the total number of eligible issues to 608,916 at yearend, an increase of 24%. Approximately half of that increase was in serial or term issues of municipal bonds distributed by underwriters through the depository. More than 3,000 of the newly eligible issues were securities that settle in same-day funds.

A table below reports the number of eligible issues by type of security.

*Eligible Issues **

CORPORATE ISSUES	
Listed Equity Issues	2,819
OTC Equity Issues	19,434
Corporate Debt Securities	16,016
Units	754
Warrants	1,242
American Depositary Receipts	787
Unit Investment Trusts	18,200
Certificates of Deposit	15,225
Total Corporate Issues	74,477
MUNICIPAL ISSUES	
Registered Municipal Bonds	309,145
Bearer or Interchangeable Municipal Bonds	223,622
Municipal Notes	212
Total Municipal Securities	532,979
GOVERNMENT ISSUES	
U.S. Treasury and Federal Agency Issues	1,460
Total Eligible Securities	608,916

*By CUSIP number, as of December 31, 1988

Eligibility for New Issues

DTC's *Operational Arrangements* paper, first distributed in 1987, outlines criteria that must be met to ensure a new issue's eligibility for depository services. The arrangements, which include observance of call notification standards for municipal bonds endorsed by the Securities and Exchange Commission, aim to maximize the number of eligible issues while maintaining orderly processing and ensuring timely dividend, interest, principal, and redemption payments. DTC internal planning consultants will help investment bankers and their



All but the youngest children carried bundles, often containing all of their possessions.



*The faces of these children
suggest uncertain confidence
in their American future.*

operations staffs apply the arrangements to new issues during structuring, whether certificates are available to investors or an issue is in book-entry-only form.

Voting Rights

Registration of securities deposits in DTC's Cede & Co. nominee name enables the depository to:

- Promptly determine whether certificates are transferable or whether replacement securities should be required from the depositing Participant.
- Permit retransfer of certificates quickly and simply, when necessary.
- Allocate dividends, distributions, and voting rights to Participants properly and without delay.

While these reasons require it to be the owner of record, DTC's objective is to avoid being a barrier to communications between issuers and beneficial owners. Indeed, in some cases, the existence of DTC may assist a corporate issuer in keeping up with changes in ownership of its voting stock.

Several reports serve issuers: The *Security Position Listing Report* itemizes by Participant the number of shares of each issue on deposit. DTC sends this report to each issuer annually without charge, indicating Participant positions as of the record date for the issuer's annual meeting. Issuers may also obtain daily, weekly, monthly, or dividend-record-date listings for a modest fee.

DTC's *Participant Proxy Contact List* specifies each Participant's name and address, and the name and phone number of the person responsible for handling proxies there. The depository updates this list four times yearly, and sends it to issuers without charge.

The *Omnibus Proxy* enables issuers to communicate directly with Participants, and enables Participants to exercise voting rights of securities they hold. The *Omnibus Proxy* is, in effect, an assignment: Cede & Co., the shareholder of record, assigns each Participant the voting rights of shares in that Participant's DTC account as of record date. The depository forwards the *Omnibus Proxy*, with a list of Participant assignees, to the issuer, while simultaneously notifying each Participant listed there that it has sent the *Omnibus Proxy* and specifying the number of shares the Participant is entitled to vote.

After DTC completes these steps—soon after record date—communication between issuers and beneficial owners occurs as if the depository did not exist. A brochure on this subject, *Shareholder Communications and The Depository Trust Company*, is available on request.

Seven years after DTC began extending its services to municipal securities, issuers, brokers, dealers, and custodian banks continue to increase their use of these services.

As a result, at yearend, nearly \$624 billion in principal amount of municipal bonds and notes was in DTC's custody. Municipal bonds at DTC—bearer, interchangeable, and fully registered—accounted for more than 75% of the principal amount of all such bonds outstanding. More than 530,000 of those issues (by CUSIP number)—33% of all municipal bond issues—were DTC-eligible.

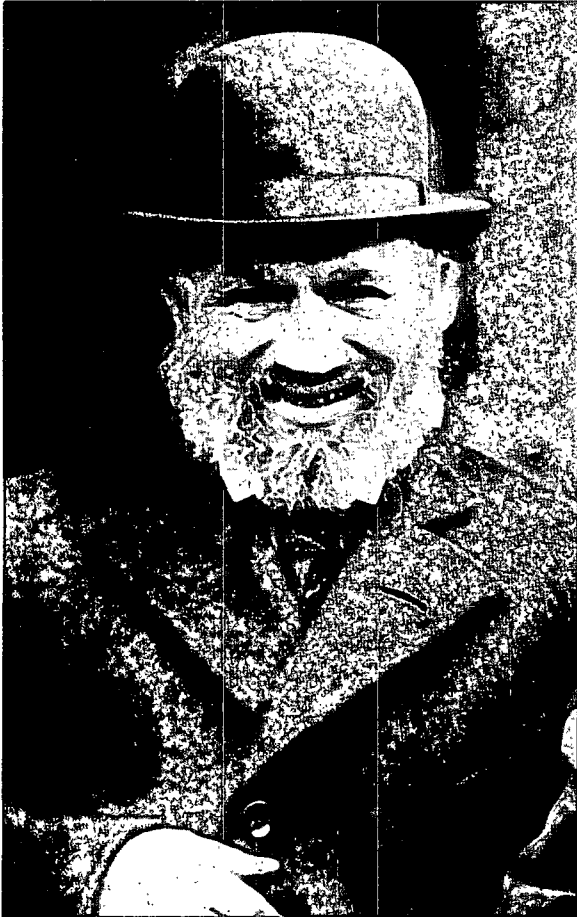
Increasing issuer awareness of the cost advantages of DTC use has largely accounted for the program's sharp growth in recent years. In 1988, more than 5,600 new issues of municipal bonds—72,833 issues as measured by CUSIP number—with a principal amount of over \$102 billion were distributed through DTC. According to data from the Public Securities Association (PSA) and other sources, this represents almost 78% of all new, long-term bond issues last year and more than 95% of their principal amount.

Using depository services benefits Participants and their customers by reducing costs and "fails," as well as risk of loss while securities are handled and shipped. The depository also facilitates prompt collection of municipal bond interest, and improves redemption processing—particularly for partial calls—thereby reducing problems and losses from delayed or missing call notifications. The problems such procedures present for the industry and investors should diminish as future underwritings are distributed through DTC and as the depository continues to make more outstanding bearer bond issues eligible for its services.

A recent aspect of DTC's municipal services is the municipal note program, using its Same-Day Funds Settlement (SDFS) system, which was added in 1987. Last year, 229 note issues with a par value of \$15.5 billion were distributed through that system. Based on PSA figures, this activity represented 10% of all such issues and



*Clad in native peasant garb,
a bewildered immigrant
girl awaits admission
on Ellis Island.*



This elderly Ellis Island immigrant smiles on the threshold of a new life.

67% of their par value. More information on municipal note activity in DTC is on page 16 in the "Same-Day Funds Settlement System" section.

Variable-rate demand obligations (VRDOs) also were made eligible in the SDFS system, with 17 issues distributed in 1988, totaling nearly \$405 million.

New issues distributed in book-entry-only form, with no certificates available to investors, further reduce underwriting and ongoing costs to issuers. In 1988, of new municipal bond issues distributed through DTC, approximately 20% of the issues and 35% of their principal amount—\$35.8 billion—were distributed in book-entry-only form. For municipal notes, the corresponding figures for book-entry-only volume were 36% and 69%, or \$10.7 billion. More information about municipal securities in book-entry-only form may be found in the "Securities in Book-Entry-Only Form" section on page 17.

<i>Municipal Statistics:</i>	1988	1987
Principal Amount of Municipal Bonds on Deposit (<i>Billions</i>)*	\$609.5	\$502.7
Municipal Bond Underwritings		
Distributed through DTC	5,626	4,755
Total Principal Amount (<i>Billions</i>)	\$102	\$91
Eligible Municipal Bonds (By CUSIP Number)	532,767	428,243
Daily Average Municipal Bond Book-Entry Deliveries	13,200	12,800
Municipal Bond Issues With Partial Redemptions For Which Lotteries Were Run**	19,309	18,825
Resulting Call Proceeds (<i>Billions</i>)	\$4.5	\$4.8
Bond Coupons Cut (<i>Millions</i>)	40.9	40.1
Municipal Note Issues		
Distributed through DTC (By CUSIP Number)	229	15
Total Principal Amount (<i>Billions</i>)	\$15.5	\$1.4
Eligible Municipal Note Issues (By CUSIP Number)	212	189
Principal Amount On Deposit (<i>Billions</i>)	\$14.3	\$4.3

* Includes \$4.9 billion principal amount of VRDOs.

** See Chart 5, page 6. Maturities and full redemptions can be found on Chart 17, page 7.

DTC's Same-Day Funds Settlement (SDFS) system grew steadily in 1988—its first full year of operation—with nearly 350 direct and indirect Participants and more than \$100 billion of securities on deposit by yearend. (See Table 1.)

Begun in mid 1987, SDFS offers depository services to certain types of securities that settle in same-day, or Federal, funds and relieves Participants of the need to process transactions in those issues with certificates.

Municipal variable-rate demand obligations (VRDOs) became eligible for the system in January 1988, leading to the distribution through SDFS of the first book-entry-only issue—in February. By yearend, 249 book-entry-only issues (municipal notes, VRDOs, money market preferreds, and medium-term notes), with a total principal amount of \$14.1 billion, had been distributed through SDFS.

System growth accelerated in July, when regulatory requirements took effect requiring that SDFS-eligible securities transactions generally settle through the system.

With the addition of collateralized mortgage obligations (CMOs) in October (they had been eligible for the next-day system since 1983), all six security types originally envisaged for the SDFS system had become eligible. In addition, certain types of government agency securities not eligible for the Federal Reserve book-entry system, as well as government trust certificates, became eligible in 1988. (See Table 2.)

System Benefits

SDFS Participants follow operating procedures virtually identical to those for DTC-eligible issues settling in next-day funds. The system benefits users by:

- Replacing costly, error-prone certificate delivery with book-entry efficiency.
- Reducing securities custody costs.
- Permitting automatic trade settlement through DTC's Institutional Delivery system.
- Providing significant control features for trade settlement, which place a limitation (cap) on and require collateralization of each Participant's intra-day net settlement debit.
- Extending the book-entry-only option to issuers of securities that settle in same-day funds.

Other SDFS Highlights

- DTC began reclassifying to the SDFS system issues of the targeted security types already eligible in the Next-Day Funds Settlement system.

Affected are zero coupon bonds backed by U.S. government securities, auction-rate preferred stock and notes (completely reclassified), and tender-rate preferred stock and notes. By yearend, the depository had reclassified 827 issues of these security types. DTC began reclassifying CMOs early in 1989.

- DTC completed a new computer connection with the Federal Reserve System—Fedwire Link—enabling automatic crediting of SDFS Participant accounts for payments received over Fedwire into DTC's account at the Federal Reserve Bank of New York. Fedwire Link speeds Fedwire processing by virtually eliminating manual intervention at DTC.

- At the request of the Public Securities Association (PSA) and the New York Clearing House Association, DTC began developing a plan to add commercial paper to the SDFS system. In October, DTC distributed a proposal to Participants and others for comment. At yearend, DTC was reviewing industry responses and was continuing to work with a task force of the PSA's Money Market Committee to further define such a service.

Table 1

SDFS GROWTH:	1988	1987
Direct Participants	161	54
Indirect Participants	186	100
Settling Banks	60	24
Total SDFS accounts	278	99
Principal Amount of SDFS		
Securities on Deposit (<i>Billions</i>)	\$103.4	\$11.0
SDFS-Eligible Issues (CUSIPs)	3,806	785
Value of Trades Settled (<i>Billions</i>)	\$196.8	\$6.0
SDFS Underwritings	406	8
Their Total Principal Amount (<i>Billions</i>)	\$41.9	\$1.4

Table 2

SDFS-ELIGIBLE ISSUES:*		
Security Types	Issues (CUSIPs)	Principal Amount On Deposit (\$ Billions)
Municipal Notes	212	\$14.3
Municipal Variable-Rate Demand Obligations	319	4.9
Zero Coupon Bonds**	2,396	44.3
Auction-Rate and Tender-Rate Preferred Stock and Notes	461	20.9
Medium-Term Notes	136	.6
Collateralized Mortgage Obligations	84	.7
Government Trust Certificates	192	12.4
Government Agency Securities	6	5.3

*As of December 31, 1988

**Backed by U.S. Government Securities

The issuance of debt securities in book-entry-only (BEO) form continues to gain momentum as issuers reduce expenses and investors grow more comfortable owning securities without having certificates available to them. In 1988, issuers distributed BEO securities valued at \$111.5 billion in principal amount through DTC.

With book-entry-only, issuers authorize the deposit at DTC of a single "global" certificate for each issue (each maturity of a debt issue). This certificate is issued in DTC's nominee name and held by the depository for the issue's life. Changes in beneficial ownership are recorded by book-entry at DTC and, in turn, reflected on the records of its Participants and their correspondents. These records are used to allocate dividend and interest distributions and principal redemptions. Investors receive transaction confirmations and periodic statements reporting activity and balances in their securities accounts. No certificates are available to investors.

Since DTC often holds more than 80% of the value of an issue in which certificates are available to investors, BEO's ability to achieve 100% by eliminating those certificates appeals to many issuers, who realize reduced costs. BEO also appeals to many investors, who reduce or eliminate the risk, expense, and inconvenience of safekeeping their certificates.

Book-Entry-Only in '88

Municipal Bonds

The trend was toward including smaller issues, as issuers and underwriters continued to seek more of BEO's savings and administrative ease, as indicated by the following figures:

- Approximately 33% of the principal amount of all new municipal bond issues in the U.S. during 1988 was in book-entry-only form, up from 28% last year.
- BEO municipal bonds represented 35% of the total principal amount of all muni bonds distributed through DTC in 1988.
- The \$35.8 billion principal amount of BEO muni bonds distributed through DTC last year (see Chart 18,

page 7) raised the total for the past seven years to nearly \$72 billion—almost double the total at yearend 1987.

Municipal Notes

The availability of DTC's Same-Day Funds Settlement (SDFS) system, designed to accommodate securities that settle in same-day funds, resulted in great use of the book-entry-only form of muni notes last year:

- The \$10.7 billion principal amount of notes in BEO form accounted for over 50% of the principal amount of all new muni notes issued in the U.S. last year, compared with no BEO issuance in 1987, when SDFS was just beginning.
- Approximately two thirds of the principal amount of all note issues distributed through DTC was BEO. Given the many privately placed notes, this figure might be the best indicator of BEO's share of the publicly traded market.
- Major issues by Texas, New York City, New York State, and California were in BEO form, with the latter two—the two largest issues in the municipal market in 1988—each in principal amount of over \$2 billion.

Corporate Securities

Medium-term notes and auction-rate and tender-rate preferred stock and notes became SDFS-eligible in 1988, helping spur the development of BEO for corporate debt securities. (See below.) Medium-term notes in this form gained wide issuer acceptance as the year closed.

Information Available

DTC has BEO publications and a BEO video presentation designed for issuers, available on request.

Corporate Security Types Distributed by BEO through DTC

- Asset-Backed Securities
- Auction-Rate and Tender-Rate Preferred Stock and Notes*
- Certificates of Deposit
- Conventional Corporate Notes
- Medium-Term Notes*
- Mortgage-Backed Securities
- Warrants Linked to Currency Exchange Rates

* SDFS-eligible

Custody of Institutional Assets

Banks and their institutional customers continued to take advantage of depository services in 1988 as their assets in DTC increased almost \$400 billion to nearly \$2.5 trillion.

Pension Fund Assets

While bank Participants continued to deposit private pension fund assets into their DTC accounts in 1988, most had previously been placed in the depository.

Growth also continued in the deposit of state and municipal retirement system assets. Until recently, pension fund assets were sometimes restricted by state laws or regulations enacted before the depository system was developed; however, the last state with restrictions, Wyoming, began in 1988 to permit depository usage. In fact, 49 states and the District of Columbia now have all or part of their pension fund assets in eligible securities on deposit at DTC through custodian banks.

Insurance Company Assets

As with public pension funds, restrictions in various states often obstructed depository custody of securities owned by insurance companies. Though many states

permitted depository use at the state insurance commissioner's discretion, in other states the problem was statutory—typically a requirement that assets be physically domiciled within the state.

Forty-nine states and the District of Columbia permit their domestic insurance companies to deposit assets out-of-state. Only Wyoming requires domestic insurers to maintain assets within the state. Currently, several hundred insurance companies are known to have their securities on deposit at DTC through custodian banks.

Investment Company Assets

Virtually 100% of investment company DTC-eligible assets are on deposit. In addition, as more securities become DTC-eligible, custodian banks can deposit eligible portions of mutual fund debt portfolios.

Institutional Delivery (ID) System

The ID system, a method for reporting and settling institutional trades in U.S. securities markets, reduces costs and increases assurance of timely settlement. It introduces a single, automated entity—DTC—to coordinate all clearance and settlement activity of broker-dealers, institutions, and their agents.

DTC's vault on Long Island, New York. Almost all of the registered and bearer municipal bond certificates on deposit with DTC are located here. DTC expanded the vault in 1988 to accommodate additional bearer issues joining its eligible securities list.



ID in '88

- The *ID* system expanded by yearend to include 7,252 institutions, broker-dealers, custodian banks, and other agents. Average monthly volume of *ID* confirmations processed through the system exceeded 1.36 million for the fourth quarter, off 24% from the comparable 1987 period, which included the exceptional volumes surrounding the October market break. For the year, nearly 35.7 million confirmations, affirmations, and prescheduled deliveries were processed through *ID*, a 13.3% decrease from 1987's record trading levels. (See Chart 19, page 20.)
- In February, rule changes took effect that increased the scope of the requirement for use of an institutional delivery system of a registered securities depository for trade settlement of eligible issues on a delivery-versus-payment/receipt-versus-payment basis. This requirement stems from New York Stock Exchange Rule 387, Section 64 of the National Association of Securities Dealers's Uniform Practice Code, and similar rules of other stock exchanges.
- Effective July 1, transactions in securities eligible for DTC's Same-Day Funds Settlement system were generally required to settle through the system.

- The affirmation rate of trade confirmations reported by broker-dealers through the *ID* system maintained its impressive 90% level for corporate debt and equities, peaking at a record 92% in August. Each percentage-point increase represents roughly 10,000 additional confirmations affirmed monthly.
- DTC continued to emphasize more efficient use of *ID* for munis, in connection with Municipal Securities Rulemaking Board Rule G-15, which generally requires that institutional municipal transactions be settled through *ID*-like facilities of securities depositories. Educational programs helped raise the industry's affirmation rate for institutional trades in municipals to a record 70% in August. The rate stabilized at 68% at yearend, up from 63% the year before.
- Several steps were taken during the year to improve the *ID* system, including making it available to process syndicate trade data, thereby eliminating the need to re-enter data when an offering closes and providing automatic distribution of securities at that time; adding the Cumulative Eligible Trade Report to the Participant Terminal System (*PTS*) and *PTS Jr.*; improving one on-line function, Automatic Affirmation—which makes quick, computerized affirmation of a large number of



Reviewing functions of the International ID system with the aid of DTC's new computer graphics system are (seated) DTC's Russell Ferro, Director; (from left) Joe Anastasio, Senior Operations Officer, Salomon Brothers Inc; Robert W.A. Kay, President, Morgan Stanley Trust Company; George Sullivan, Senior Vice President, Fidelity Investments; and DTC's Max Ivenitsky, Graphic Designer.

trade confirmations possible—and creating another, *ID Trade Input*—which allows low-volume users to submit trade confirmation data to DTC electronically.

■ DTC's International Institutional Delivery system began as a pilot program as the year ended. It extends certain *ID* system benefits—trade confirmations and affirmations—to U.S. investors for trades in foreign securities executed outside the U.S.

The "International *ID*" initiative stems from foreign trade clearance and settlement problems that result in high costs for brokers, dealers, custodians, and investors. Since the foreign issues considered for International *ID* generally are not DTC-eligible, services for such issues stop short of DTC book-entry delivery and settlement; instead, such trades settle in foreign markets between the parties, their custodians, or their sub-custodians.

Industry representatives from U.S. banking, brokerage, and investment manager sectors worked with DTC through several ad hoc committees to develop International *ID*.

How the ID System Works

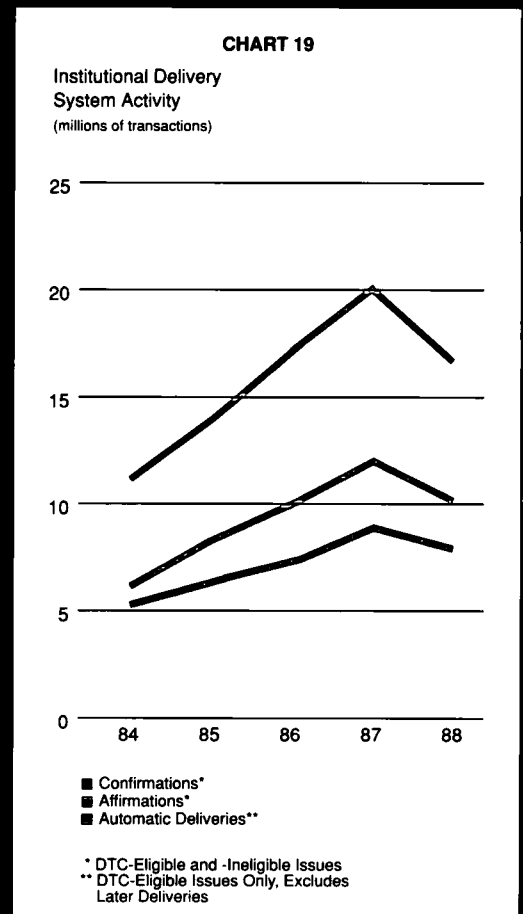
(1) A broker or bank dealer executing an institutional trade furnishes DTC with transaction details—such as price, quantity, and date—which the depository passes on as a legal confirmation to the broker's institutional customer, the customer's agent, and other interested parties.

(2) If the *ID* confirmation accurately reflects the institution's order, the institution sends acknowledgment (*ID* affirmation) to DTC. If the confirmation contradicts the institution's trade order records, the institution can act early enough in the settlement cycle so the broker can enter corrections into the *ID* system. If the broker's trade details are insufficient to generate a confirmation, DTC rejects the confirmation to the firm so the problem may be resolved for timely settlement.

(3) When affirmation of the trade confirmation is received, DTC forwards settlement instructions to the agent and submitting broker.

(4) If the deliverer has sufficient securities in its DTC account, the depository automatically completes delivery by book-entry on the morning of settlement date and processes the related money settlement as directed. If the deliverer's position is not sufficient at that time, delivery may be accomplished later that day.

(5) If the security is not DTC-eligible, the deliverer and receiver settle the transaction outside DTC based on depository instructions that facilitate completion of the delivery on settlement date.



DTC GROWTH: A THREE-YEAR RETROSPECTIVE

<u>ELIGIBLE ISSUES</u>	<u>1988</u>	<u>1987</u>	<u>1986</u>
Equities	24,282	20,578	17,274
Corporate debt	16,016	13,324	10,631
Municipal debt	532,979	428,243	321,281
Other	35,639	28,475	22,735
Total	608,916	490,620	371,921
 <u>SELECTED SERVICES</u>			
Market value of book-entry deliveries <i>(In trillions)</i>	\$7.9	\$9.8	\$8.1
Number of book-entry deliveries <i>(In millions)</i>	67.2	78.0	66.7
Value of securities on deposit <i>(In trillions)</i>			
Banks	\$2.49	\$2.16	\$1.89
Broker-dealers	.76	.62	.54
Other depositories	.03	.04	.11
Total	\$3.28	\$2.82	\$2.54
Shares on deposit <i>(In billions)</i>			
Banks	44.6	42.3	32.3
Broker-dealers	61.0	49.3	35.9
Other depositories	1.0	1.0	2.1
Total	106.6	92.6	70.3
Principal amount of corporate debt on deposit <i>(In billions)</i>			
Banks	\$663.0	\$548.5	\$420.5
Broker-dealers	170.4	102.5	88.3
Other depositories	11.4	17.4	43.2
Total	\$844.8	\$668.4	\$552.0
Principal amount of municipal debt on deposit <i>(In billions)</i>			
Banks	\$471.0	\$393.2	\$319.4
Broker-dealers	144.0	101.7	89.7
Other depositories	8.8	11.7	17.2
Total	\$623.8	\$506.6	\$426.3
ID system confirmations <i>(In millions)</i>	16.7	20.1	17.1
Cash dividend and interest payments <i>(In billions)</i>	\$178.2	\$151.2	\$120.7
Underwriting distributions through DTC	19,529	16,590	15,745
 <u>PARTICIPATION*</u>			
DTC Participants	605	604	533
Broker-dealers	413	421	353
Banks	183	177	174
Clearing agencies	9	6	6

* Excludes indirect participation in DTC, including for 1988 more than 3,000 banks and broker-dealers that are correspondents of Participants.

Automating depository operations and communications links with Participants, transfer agents, and other users remains a high priority at DTC. By continuing to upgrade its sophisticated computer systems, the depository reduces operating costs and, more important, Participant processing costs.

DTC has five principal means of automated communications with Participants:

Computer-to-Computer Facility

The Computer-to-Computer Facility (CCF) is used for direct computer-to-computer communication between DTC and user IBM mainframes. CCF provides more than two dozen output functions, with others scheduled to be added. CCF II serves the same purpose and can be used for communication with non-IBM user mainframes, as well. All output files available through CCF are available through CCF II. CCF II also allows for transmission of highly compressed data at greatly reduced transmission time.

Participant Terminal System

The Participant Terminal System (PTS) is a network of nearly 1,200 computer terminals—located in Participant offices in the U.S. and Canada—linked directly to DTC's computers. Participants use PTS to send instructions, inquiries, and other messages to DTC, and to receive depository messages and reports.

PTS Jr.

An alternative to PTS, PTS Jr. is available to low volume users—165 at yearend 1988. It performs all PTS functions at lower cost, though at reduced line speed. PTS Jr. requires only a user's compatible personal computer, DTC-supplied software, a modem, and a telephone connection.

Mainframe Dual Host

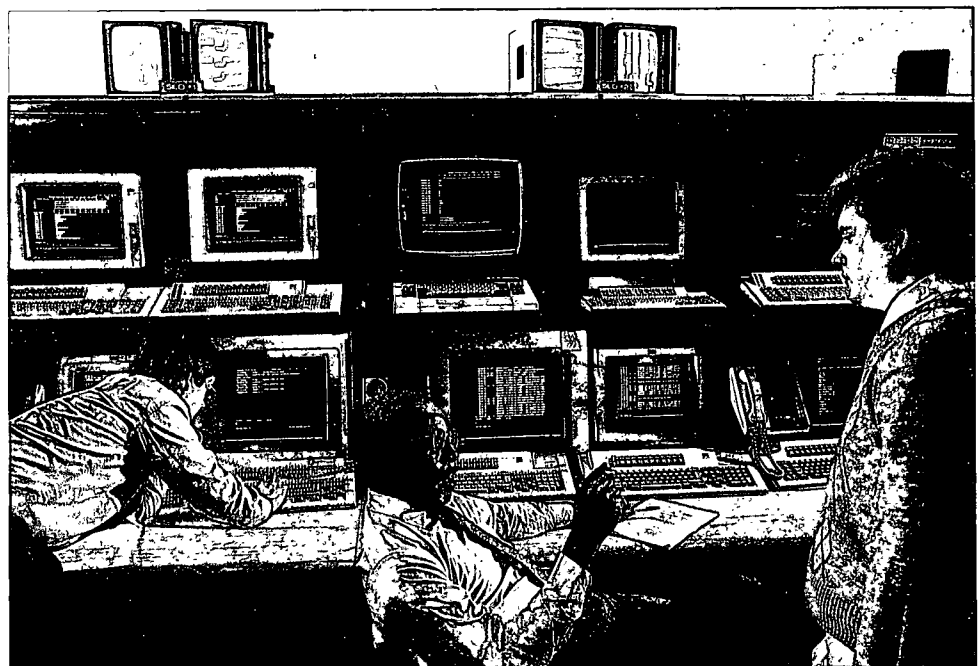
Mainframe Dual Host (MDH), a mainframe-to-mainframe communications system, results in quick turnaround time for users transmitting and receiving deliver order (DO) and payment order instructions.

MDH users can send and receive machine-readable data between their mainframes and DTC's mainframe in a "real-time" environment, eliminating the intermediate minicomputer that Dual Host PTS requires and reducing costs and potential hardware problems. MDH will eventually completely replace Dual Host PTS, which speeds processing of book-entry deliveries for PTS users.

Automated Participant Interface

Many Participants have large volumes of depository activity they cannot yet transmit by CCF but whose input by PTS would be uneconomical. The Automated Participant Interface (API) allows them or their data-processing service bureaus to enter those instructions

The command center at The Depository Trust Company, where computer systems are monitored and controlled. DTC employees observe various systems to ensure that they are always up and running.



directly into DTC's computer system by hand-delivered or electronically transmitted magnetic tape. API capabilities include magnetic tape instructions for routine Withdrawals-by-Transfer, ID trades, and ID affirmations.

Automation in '88

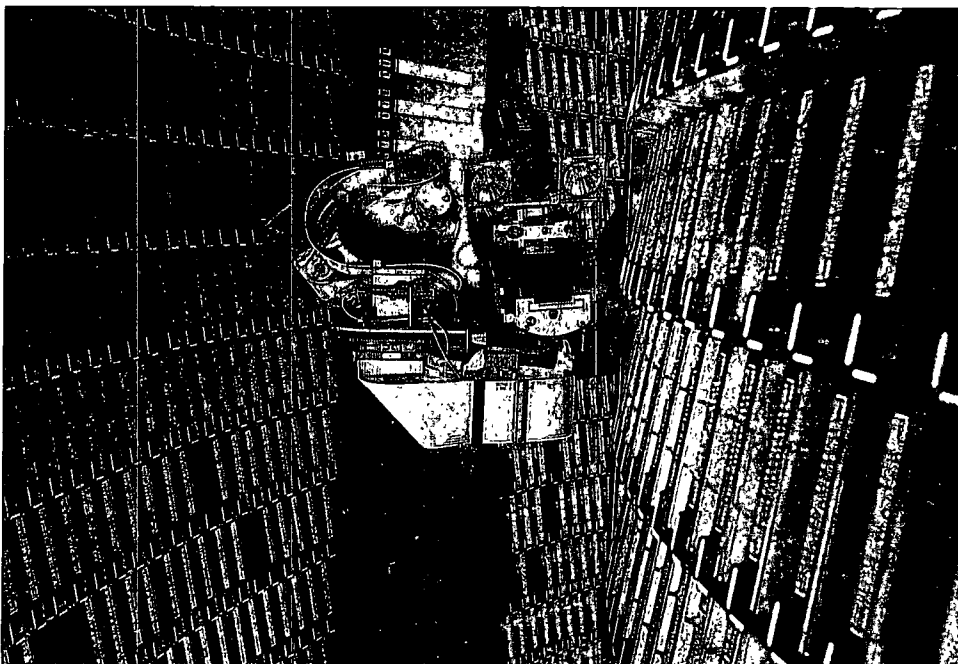
Depository accomplishments in automating services for Participants during the past year include the following:

- DTC expanded its automated security position segregation capability to include Memo Segregation instructions. A Participant may use PTS, CCF, or CCF II to create a "memo" position within its free account, allowing it to protect a security quantity less than, equal to, or greater than its actual free account position in an issue. This aids in preventing unintended delivery of fully-paid customer securities that may be received in that account during the daily processing cycle.
- DTC developed the Participant Activity Reconciliation Tool (PART)—a PTS inquiry capability that lets Participants and internal DTC users review previous daily activity and adjustments. By using PART to research their questions, Participants simplify their research and reduce the number of inquiries to DTC's Reconciliation Department.
- Some 1,200 Participant operations employees attended DTC's nationwide seminars aimed at improving

bank and broker-dealer Participants' PTS usage and introducing new PTS functions.

- The new CCF Monitoring Facility gives Participants on-line access to the results of all CCF transmissions and enables them to verify the completion of their CCF transactions.
- DTC offered the Deposit and WT Billable Rejects Listing—available over PTS—which can be used to pinpoint causes of deposit rejects, as well as ensure that deposit tickets are stamped for record-date deposit.
- DTC's modified legal deposit tickets and the new Legal Deposit Inquiry Function—over PTS—enable Participants to learn if an item cleared DTC and the transfer agent.
- DTC added a warrants system function to PTS, enabling users to exercise and reverse warrant subscriptions.

<i>Automation Statistics:</i>	1988	1987
Number of CCF Users	617	530
Number of CCF II Users	119	80
Number of PTS Terminals	1,183	1,122
Average Daily Number Of PTS Transactions	688,500	644,600
<i>PTS Jr. Users:</i>		
Participants	141	131
Pledgee Banks	24	23
MDH Users	15	4
Dual Host PTS Users	12	14



The depository uses the StorageTek 4400 Automated Cartridge System (ACS), a fully automated information-storage and -retrieval system, to automatically mount and dismount 18-track cartridges containing DTC production data. ACS also accesses and reads the data, enabling DTC to reduce its reliance on manual intervention.



After an arduous voyage across the Atlantic on overcrowded passenger ships, immigrants spent their time on Ellis Island patiently awaiting processing—often with their entire families and all their worldly possessions within arm's reach.

In Mort Künstler's "Ellis Island—Main Hall," the exhausted and haggard arrivals mark time through sleep, simple diversions, and weary contemplation of their unknowable futures.



Fear, courage, uncertainty, hope—are all etched into the faces of the newly arrived immigrants to the United States, as depicted in Mort Künstler's "Ellis Island." Despite diverse backgrounds and languages, the immigrants were united in their desire to exchange their past for a chance at a better life. With the imposing Immigration Center looming behind them, they look ahead to what will be another perilous journey: creating a new life in a new land.

DTC's interfaces with clearing agencies elsewhere in the country are a major part of the national securities clearance and settlement system. They are based on the close working relationship between DTC and the National Securities Clearing Corporation (NSCC) that permits hundreds of broker-dealers that participate in both NSCC and DTC to conveniently use the trade comparison and clearing facilities of NSCC and the trade settlement and securities custody services of DTC. DTC also works closely with NSCC's subsidiary, the International Securities Clearing Corporation (ISCC), to support the clearance and settlement of international transactions. The Central Depository (Pte.) Ltd. (Singapore) and the Japan Securities Clearing Corp., for instance, have ISCC-sponsored accounts at DTC as part of that arrangement.

Through interfaces between clearing corporations and securities depositories, users of any of them can settle with any other user elsewhere, without requiring certificates to be shipped from one geographic region to another.

These interfaces also permit users of more than one depository—DTC, Midwest Securities Trust Company, or Philadelphia Depository Trust Company—to move securities positions between depositories. Additionally, DTC uses its Institutional Delivery system to process the institutional trade data reported to other depositories for clearance and settlement through their systems.

DTC also maintains interfaces with other clearing agencies to serve its Participants. An interface exists between the Boston Stock Exchange Clearing Corp., NSCC, and DTC to assist trade settlement on the Boston Stock Exchange. A similar arrangement exists between The Pacific Stock Exchange, NSCC, and DTC to settle trades on the Pacific Exchange. The Canadian Depository for Securities Limited (CDS), NSCC, and DTC maintain an interface to assist Canadian broker-dealers that participate in DTC.

DTC is linked with The Options Clearing Corporation (OCC) so that banks and brokers may pledge to OCC securities on deposit at DTC. This simplifies processing since there are no repeated paper movements among parties to pledge transactions.

In 1988, Participants avoided the need to reclaim withholding taxes of about \$4.6 million on \$232.8 million of dividends on Canadian shares under the Tax-Exempt Dividend Service (TEDS), operated in cooperation with CDS. Instructions on approximately 207 million shares were presented from April 1, when TEDS began. TEDS accommodates withholding exemptions at source—that is, permits full payment of dividends without withholding—on Canadian dividend and interest payments for U.S. tax-exempt beneficial owners whose securities are deposited with DTC.

DTTC is the world's largest custodian of corporate equity and debt securities and municipal bonds. Its elaborate system of safeguards is widely regarded as the most comprehensive for monitoring securities movement and custody.

Internal Controls

DTC records the movement and location of each certificate in its custody, helping to resolve processing errors and facilitate reconciliation and audits.

- An automated certificate-number control system cross-indexes certificates by issue, number, denomination, date of receipt, and—for bearer bonds—the depositor's identity. This lets DTC control and rapidly reconstruct paper flow, regardless of volume.
- On receipt of registered certificates, quick transfer into DTC's nominee name, Cede & Co., allows for prompt validation of certificates and enhances timely dividend and interest collection and disbursement to Participants.
- "Jumbo" certificates consolidate securities into large denominations, making unauthorized negotiation extremely difficult, as well as conserving vault space.
- Restrictive endorsements on the back of certain jumbo certificates help prevent unauthorized negotiation.
- Registered certificates remain in non-negotiable form while in DTC custody.
- DTC microfilms registered certificates and related data that enter and leave its premises.
- Duplicate computer files of transactions, stored in various locations, permit prompt file reconstruction if processing is interrupted. These and the microfilm records supplement comprehensive files of original documents and production reports.
- Backup computer and communications arrangements help ensure DTC's data-processing functions throughout an emergency. Periodic tests of these contingency facilities are conducted with Participants.

Physical Security

DTC's physical security system combines sophisticated electronic and physical devices with an extensive security force.

- A computerized access-control system restricts entry into sensitive areas to appropriate personnel.
- A closed-circuit television system monitors entry points, vaults, and other securities processing areas.
- Alarm systems, which use such sensors as motion,

vibration, and heat detectors, are monitored locally and at a central station. Line encryption protects individual control panels from compromise.

- DTC's security force monitors the many systems, and screens persons and packages entering and leaving restricted areas.
- Deposited securities are stored in secure locations, with special access requirements and extensive controls.
- Registered securities are in non-negotiable form when delivered to or from transfer agents and other parties.
- Special wastepaper treatment and disposal methods help prevent unauthorized release of certificates.

Recordkeeping Systems

Double-entry recordkeeping systems help ensure that all Participant input is recorded, that the location of underlying certificates is known, and that moneys are properly transferred to and among Participants. DTC uses the recordkeeping systems to report to Participants and to research differences detected by Participants or DTC control mechanisms.

User Verifications

User verification of DTC records (users compare their activity records with depository reports) helps ensure the integrity of the depository's system and encourages maximum operational cooperation. Each morning, Participants and pledgees receive a DTC report that itemizes and summarizes their previous day's account activity. In addition, DTC sends daily reports of cash transactions and a monthly statement showing each Participant's and pledgee's securities positions.

DTC rules require Participants to report differences between their records and DTC statements; Participants and pledgees also must confirm the accuracy of their monthly position statements. DTC's research staff helps reconcile differences.

Internal and External Audits

DTC's internal auditors and its independent accountant, Price Waterhouse, review internal controls.

- The internal audit program reviews and tests controls in key operating areas and in automated systems (including those being developed). Certificates in selected issues are counted every day through random sampling techniques.
- Price Waterhouse examines DTC's financial statements, and performs an annual study and evaluation

of the internal accounting control system. Participants, pledgees, and their accountants may request copies of Price Waterhouse's report on the system.

- The Audit Committee of DTC's Board of Directors oversees the General Auditor and the Auditing Department. It reviews the scope of the Price Waterhouse audits and meets with them periodically to discuss their findings. In addition, the Board of Directors receives results of the New York State Banking Department's and the Federal Reserve Bank of New York's annual regulatory examinations of DTC.

Participants Funds

One Participants Fund exceeding \$200 million deposited by Participants exists to satisfy any uninsured loss or liability of DTC related to its Next-Day Funds Settlement (NDFS) system. DTC rules provide that any such loss may be charged against undivided profits or retained earnings, or to that Participants Fund, at the discretion of the Board of Directors.

Should DTC sustain a loss because of a Participant's failure to satisfy obligations to the depository, it would first charge the loss to that Participant's deposit to the Fund. Should the loss exceed the deposit (or should it be sustained for reasons other than Participant failure), DTC might then charge (pro rata) the excess to other Participant deposits to the Fund. Should DTC make a charge against a Participant's deposit to the Fund (pro rata or otherwise), the Participant must make an additional deposit to the Fund in an amount equal to the charge.

Another Participants Fund supports the Same-Day Funds Settlement (SDFS) system. This Fund, exceeding \$160 million, would be used in the same manner to satisfy any uninsured loss or liability of DTC related to SDFS. The required minimum deposits to the Fund of all SDFS Participants are available for this purpose and, as with the NDFS-related Fund, are subject to increases, if necessary, to meet losses.

There has never been a pro rata charge to the Participants Funds.

Other Protective Procedures

Additional procedures protect Participants by minimizing the possibility of loss arising from a Participant's unexpected insolvency. If DTC learns of a possible operational or financial inadequacy, it carefully monitors that Participant's activity and takes protective steps as events warrant.

INSURANCE COVERAGE

DTC's insurance coverage program for securities—one of the most extensive programs of private institutions in the financial industry—provides coverage in the following amounts:

Losses occurring on premises:

<i>Amount</i>	<i>Coverage</i>
\$100 million	Blanket Bond and All-Risk Securities Policies
\$100 million	Excess All-Risk Securities Policy
\$ 5 million	Lost Instrument Bond Premium Policy (provides up to \$5 million to obtain indemnity bonds to replace securities valued in excess of \$200 million)

Losses occurring in transit by messenger or armored car carrier:

<i>Amount</i>	<i>Primary Coverage</i>
\$500 million	In-Transit (the armored car carrier with which DTC has contracted maintains insurance covering losses up to \$500 million incurred while in its custody)
\$100 million	Blanket Bonds and All-Risk Securities Policies (for securities lost by messenger)
	<i>Excess Coverage</i>
\$100 million	Blanket Bonds and All-Risk Securities Policy (for securities lost when in the custody of an armored car carrier)
\$ 20 million	Excess In-Transit Policy (for losses exceeding \$100 million when securities are in messenger's custody, and in excess of \$600 million when in armored car carrier's custody)
\$ 5 million	Armored Car and Messenger Policy (for losses exceeding \$120 million when securities are in messenger's custody, and in excess of \$620 million when in armored car carrier's custody)
\$ 5 million	Lost Instrument Bond Premium Policy (provides up to \$5 million to obtain indemnity bonds to replace securities valued in excess of \$125 million when in messenger's custody, and in excess of \$625 million when in armored car carrier's custody)

Losses occurring in the mail:

<i>Amount</i>	<i>Coverage</i>
\$ 15 million	Mail Policy (covers non-negotiable securities sent via registered or express mail)
\$ 1 million	Mail Policy (covers non-negotiable securities sent via first-class mail, or negotiable securities sent via registered or express mail)

The Depository Trust Company originated during the securities industry's paperwork crisis of the late 1960s, when stock-certificate-processing problems severely disrupted the financial community.

The New York Stock Exchange (NYSE) began operating its Central Certificate Service (CCS) in 1968 to alleviate these problems by providing a securities depository for member firms. In 1973, following plans developed by the ad hoc Banking and Securities Industry Committee (BASIC), DTC was created to acquire the business of CCS and expand depository benefits to others in the financial-services industry, particularly banks.

As agreed by BASIC, the nature of the depository as a service organization owned by its users or their representatives was established in 1975, when the NYSE first sold DTC stock to depository bank Participants and to other self-regulatory organizations representing broker-dealer Participants. The depository's stockholder base broadened further in 1976, when the NYSE permitted broker-dealers to own DTC stock directly if they desired.

Governance of the Depository

DTC's governance is carefully framed to reflect the need for objectivity in serving diverse users in the financial community. The right to purchase capital stock of the depository is based on a formula that considers each Participant's use of the depository during the preceding calendar year. The calculation of Participant use is based 80% on fees paid to the depository and 20% on the market value of long securities positions in DTC at the end of each month during the year.

The amount of stock each Participant may purchase is recalculated each year to reflect variations in depository usage. Participants may purchase any, all, or none of the stock to which they are entitled, at a price based on the stock's yearend book value.

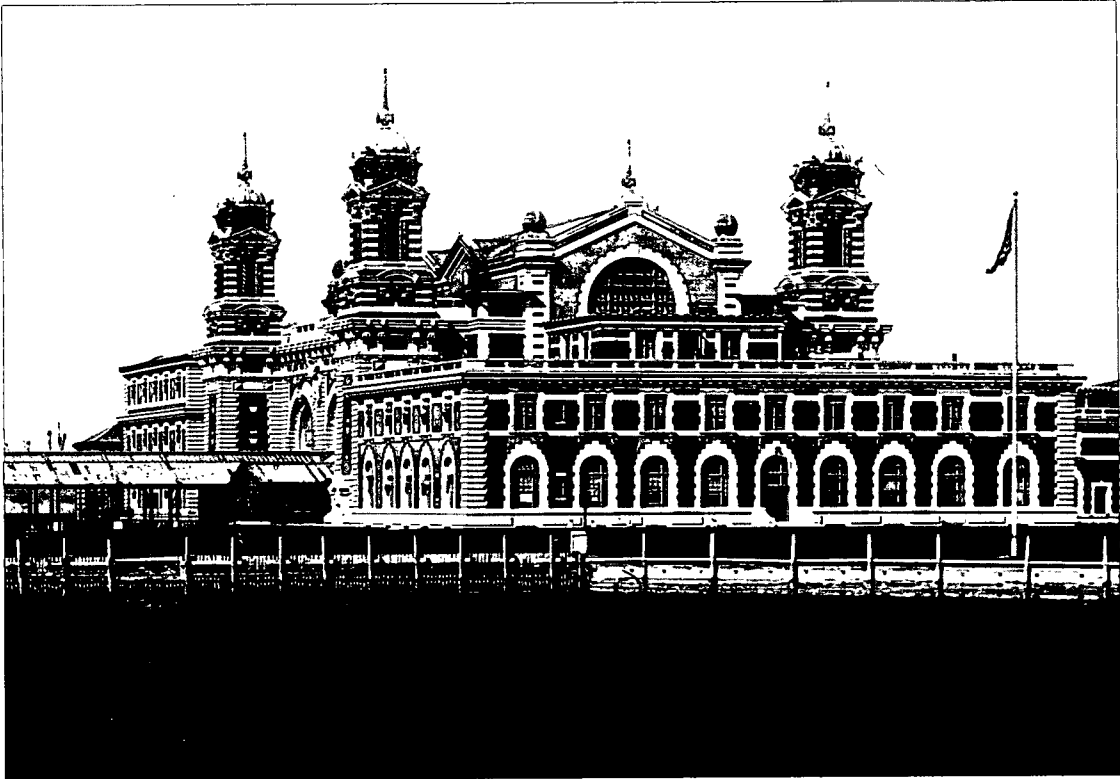
Stock is reallocated before the annual stockholders meeting in late March so that stockholders may vote newly acquired shares in electing the Board of Directors at that meeting. Elections are conducted by cumulative voting so that no combination of stockholders controlling a simple majority of stock can elect all Directors. Board representation is thereby available to users from various sectors of the financial community in proportion to their use of the depository.

After the 1988 reallocation of DTC stock, the depository had 150 stockholders, comprising 51 broker-dealers, 93 banks, and six self-regulatory organizations and clearing agencies. Broker-dealer Participants owned approximately 15.0% of DTC stock, while bank Participants owned 43.0%. Ownership interests of the self-regulatory organizations on behalf of broker-dealer Participants were 33.2% for the NYSE, 4.4% for the American Stock Exchange, and 4.4% for the National Association of Securities Dealers.

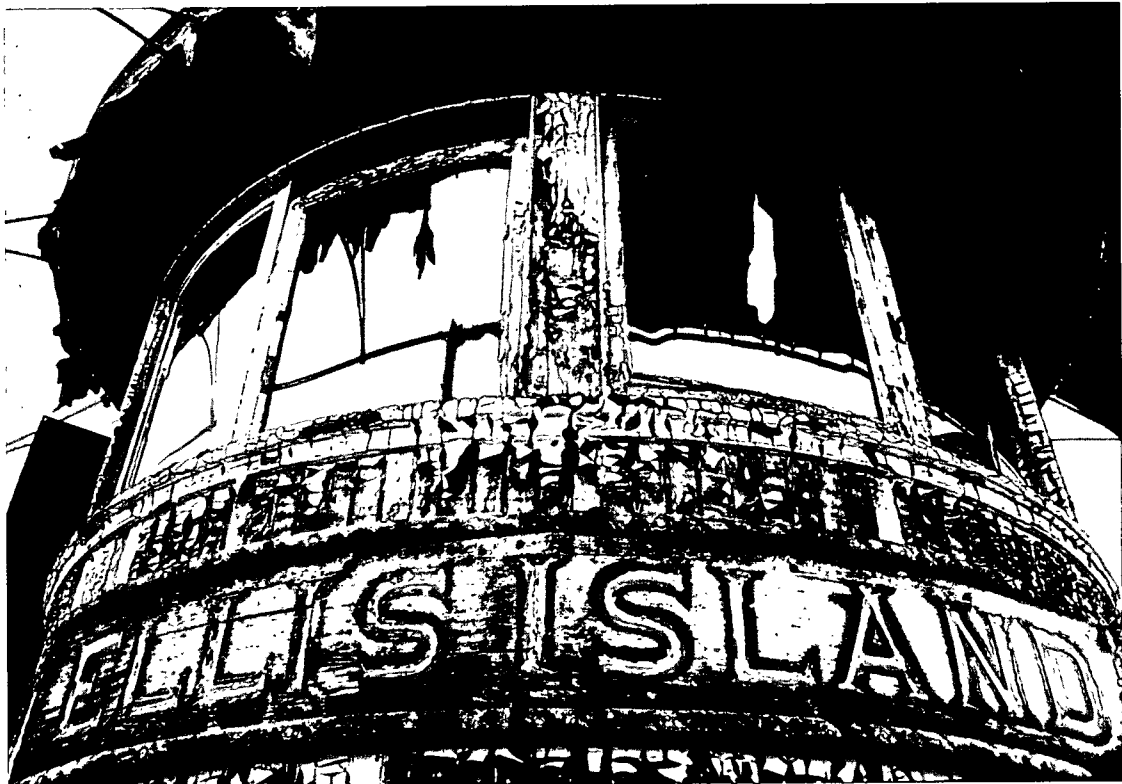
DTC policy prohibits dividend payments to stockholders, since DTC believes that depository ownership is not an investment vehicle, but a means for diverse users to encourage DTC's responsiveness to their needs through exercise of their cumulative voting rights to elect the Board of Directors.

DTTC policy also limits its annual profit, so the depository returns to users revenues that the Board of Directors determines exceed the funds required for the depository's operation.

As a registered clearing agency, DTC is regulated by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended. As a member of the Federal Reserve System and a New York State limited purpose trust company, DTC is also regulated by the Board of Governors of the Federal Reserve System and the New York State Banking Department.



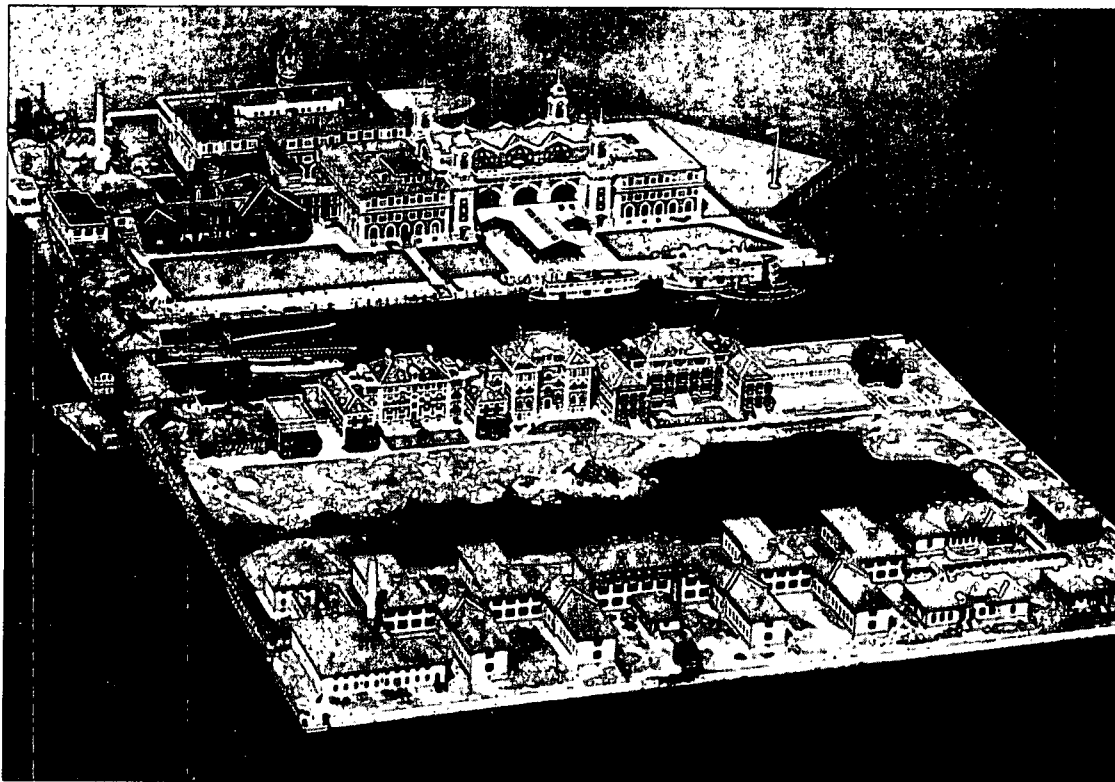
After a fire completely destroyed the original Ellis Island buildings in 1897, Congress immediately appropriated \$600,000 to replace the structures with fireproof buildings. The center was reopened in 1900—an impressive, French Renaissance complex designed to process 5,000 immigrants a day.



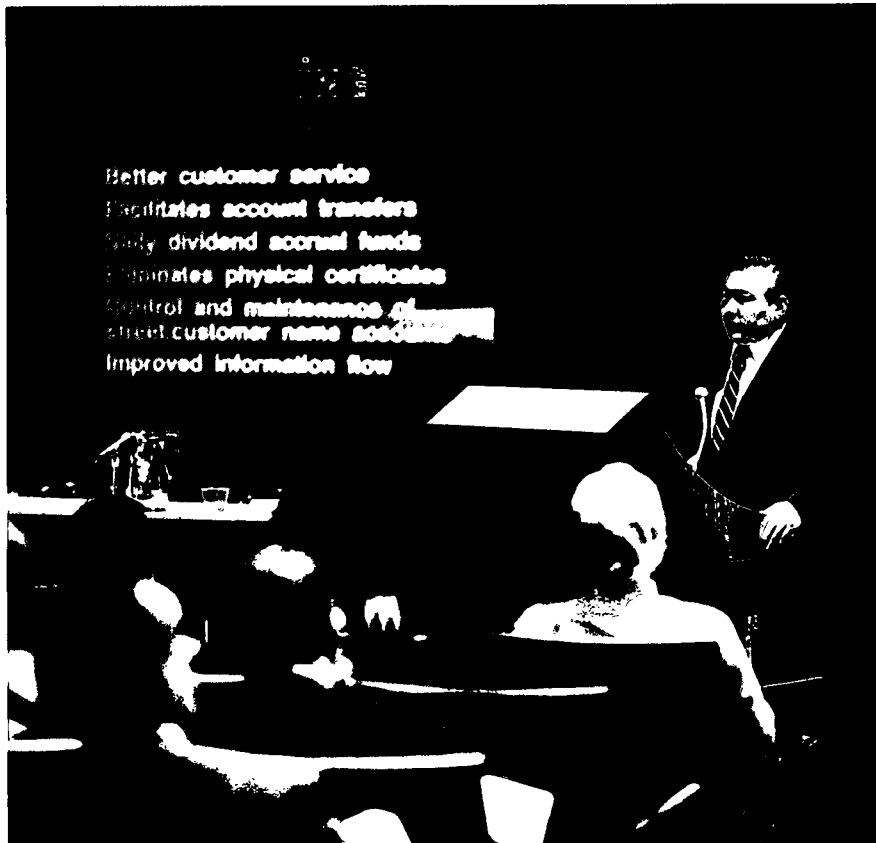
The weather-beaten "Ellis Island" ferryboat fell into disuse and disrepair after the Immigration Center closed in 1954. It was no longer needed to shuttle immigrants from various arrival piers to Ellis Island. In its heyday, it traveled over 1 million nautical miles across New York's harbor.



The gutted registry room in Ellis Island's main building before its restoration seems to reflect the loneliness that earlier immigrants must have felt upon arrival. Here, they faced medical tests, inspections, and—barely understanding English—interviews, which would determine their right to enter the country.



Originally 3.5 acres in size, Ellis Island was enlarged by landfill into three man-made islands, covering 27.5 acres. Its 17 million immigrants came mostly from Europe, and formed about 70% of the 23 million people who entered the country during the Center's six decades of operation.



1.



2.

1. DTC Vice President Frank Petrillo describes the benefits anticipated from the depository's proposed interface with the National Securities Clearing Corporation's (NSCC) Fund/SERV system. The interface will provide full access to Fund/SERV for DTC Participants that do not have a communications link with NSCC or the volume to merit a direct NSCC link.

2. Each year, DTC offers seminars designed to educate its Participants on the best ways to use its services. DTC's Frank Serso, Associate Director, addresses a group at a FOCUS program seminar, aimed at helping Participants maximize their use of the Participant Terminal System.

3. DTC consults industry representatives when planning new product developments. Currently under consideration is the inclusion of commercial paper in DTC's Same-Day Funds Settlement (SDFS) system. Wendy E. Wallis, Vice President, Public Securities Association, and Mark Handsman, Vice President, Goldman, Sachs & Co., meet here with DTC's William M. Hodash, Planning Consultant (right), to consider aspects of such a program.

4. In December, DTC allocated a then-record-setting tender payment totaling almost \$10.4 billion to Participants tendering shares of Kraft, Inc. Involved in the mammoth processing were (clockwise from lower left) John Strain, Vice President, The Chase Manhattan Bank, N.A.; DTC's Raymond Settducati, Director; Raymond DiSanza, Vice President, Smith Barney, Harris Upham & Co. Incorporated; and DTC's Donald F. Donahue, Vice President.

5. DTC regularly tests its back-up facilities, which are used in the event of a sustained systems disruption at the depository's main computer center. The test simulates a processing day, and establishes communications with Participants from DTC's alternate processing site at SunGard Recovery Services, in Philadelphia. Communication lines are routed through DTC's Alternate Control Center, which provides all services normally available to Participants.

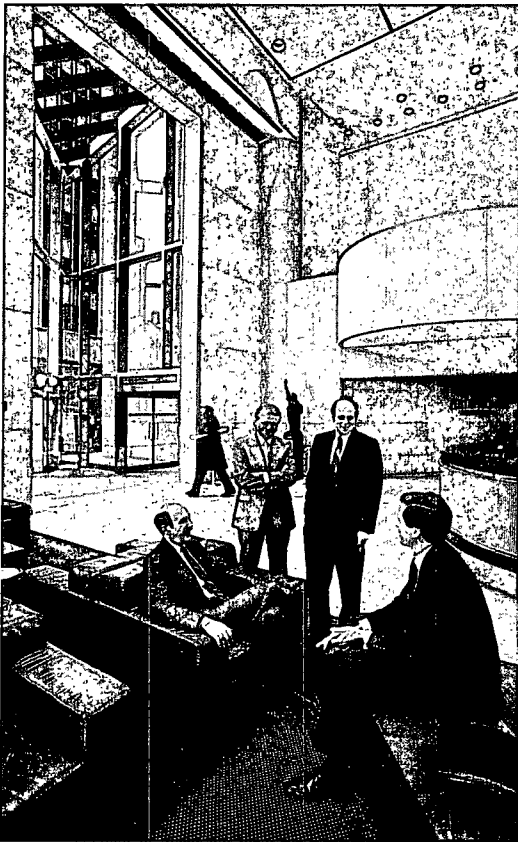
6. DTC's Editorial Services and Graphics Departments produce the depository's many publications—including the Newsletter, educational brochures, and the annual report—as well as various videotapes. Nanette Graziano, Production Assistant (center), works on the design of an ID system publication with Virginia Alfano, Editorial Assistant, and Michael De Mott, Writer/Editor.



3.



5.



4.



6.

OFFICERS OF THE DEPOSITORY TRUST COMPANY



William T. Dentzer, Jr.
Chairman and Chief
Executive Officer



Conrad F. Ahrens
President and Chief
Operating Officer



William F. Jaenike
Executive Vice
President



Thomas J. Lee
Executive Vice
President

Vice Presidents

Michael A. Agnes
Nicholas J. Arrigan
Joseph J. Bellantoni
Neil F. Brander
John J. Colangelo
Raymond R. DeCesare
Donald F. Donahue
Stuart A. Fishbein
Ronald A. Garguilo
Charles J. Horstmann
James Koster
Vincent A. Mauro
Michael T. Mullen
Richard J. O'Brien
Frank Petrillo
James V. Reilly
Martin J. Rizzi
John L. Scheuermann
Kenneth M. Scholl
Clifford A. Vangor



Arnold Fleisig
Senior Vice President



John P. Crowley
Senior Vice President



Dennis J. Dirks
Senior Vice President



Michael Fedorochko
Senior Vice President

Comptroller

Gary J. LaCara

Treasurer

Philip E. Plasencia

Assistant Secretary

Jane C. Klueger

Assistant Treasurer

Leonard A. Miele

**Committees of the Board
of Directors**

Nominating Committee

Thomas C. Schneider,
Chairman
John F. Lee
Richard S. Pechter
H.J. Runnion, Jr.

Audit Committee

James T. Flynn, Chairman
Sandra S. Jaffee
Richard F. Morrison
DuWayne J. Peterson
C. Howell Scott

**Compensation
Committee**

Richard S. Pechter,
Chairman
James T. Flynn
Robert A. Friedman
Thomas C. Schneider



Glenn E. Mangold
Senior Vice President



Thomas C. Cardile
Senior Vice President



Richard B. Nesson
General Counsel



Edward J. McGuire, Jr.
Secretary

THE BOARD OF DIRECTORS



William T. Dentzer, Jr.
Chairman and Chief
Executive Officer,
The Depository
Trust Company



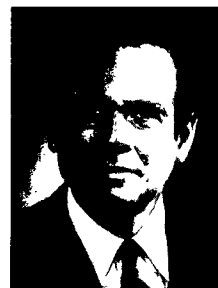
Conrad F. Ahrens
President and Chief
Operating Officer,
The Depository
Trust Company



William F. Aldinger
Executive Vice
President, Wells Fargo
Bank, National
Association



James T. Flynn
Executive Vice
President, Morgan
Guaranty Trust
Company of New York



Robert A. Friedman
Partner, Goldman,
Sachs & Co.



Sandra S. Jaffee
Executive Vice
President, New York
Stock Exchange, Inc.



C. Richard Justice
Executive Vice
President, National
Association of
Securities Dealers, Inc.



John F. Lee
Executive Vice
President, New York
Clearing House
Association



Peter E. Madden
President and Chief
Operating Officer,
State Street Bank
and Trust Company



Richard F. Morrison
Senior Executive
Vice President,
Shearson Lehman
Hutton Inc.



Richard S. Pechter
Chairman, DLJ
Financial Services
Group



DuWayne J. Peterson
Executive Vice
President, Merrill
Lynch & Co., Inc.



H.J. Runnion, Jr.
Senior Executive
Vice President,
Wachovia Bank &
Trust Company, N.A.



Thomas C. Schneider
Executive Vice
President and Chief
Financial Officer,
Dean Witter Financial
Services Group Inc.



C. Howell Scott
Executive Vice
President, Bankers
Trust Company

Retiring from the Board during 1988 at the end of their terms were John J. Evans, Vice Chairman, Manufacturers Hanover Trust Company; and Mario J. Nigro, Senior Vice President, Merrill Lynch & Co., Inc.

TO THE BOARD OF DIRECTORS AND STOCKHOLDERS OF THE DEPOSITORY TRUST COMPANY

In our opinion, the accompanying statement of condition and the related statements of revenues and expenses and undivided profits and of cash flows present fairly, in all material respects, the financial position of The Depository Trust Company at December 31, 1988 and 1987, and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with generally accepted auditing standards which require that

we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

Price Waterhouse

153 East 53rd Street, New York, NY
February 1, 1989



Immigrants often endure great hardship to journey to America. Then they must work hard and wait several years before finally becoming U.S. citizens. No wonder that, as it was at this 1984 mass naturalization ceremony in Miami's Orange Bowl, it's a time of personal triumph and exultation.

Statement of Condition	December 31,	
	1988	1987
	<i>(Dollars in thousands)</i>	
Assets		
Cash and money market accounts (Note 2)	\$ 140,416	\$ 144,980
Repurchase agreements (Note 2)	1,222,938	1,053,871
Receivables:		
Participants:		
For settlements	59,485	4,089
For services	20,997	21,105
Dividends, interest and other (Note 4)	58,247	275,180
Deferred income taxes (Note 6)	6,448	7,796
Prepaid expenses	2,465	2,421
Equipment and leasehold improvements, less accumulated depreciation of \$37,049,000 in 1988 and \$32,994,000 in 1987 (Notes 2 and 7)	55,936	47,274
Leased property under capital leases, less accumulated amortization of \$7,999,000 in 1988 and \$7,494,000 in 1987 (Notes 2 and 8)	321	825
Contributions to Participants Funds, callable on demand (Note 3)	281,254	205,396
	<u>\$1,848,507</u>	<u>\$1,762,937</u>
Liabilities and stockholders' equity		
Liabilities:		
Drafts payable (Note 2)	\$ 875,566	\$ 986,147
Accounts payable and accrued expenses (Note 5)	70,146	54,084
Payable to Participants:		
For refunds	22,826	22,447
On settlements	856	725
On receipt of securities	94,185	101,881
Dividends and interest received (Note 4)	395,468	350,826
Notes payable, including \$3,110,000 in 1988 and \$3,774,000 in 1987 due within one year (Note 7)	11,635	6,105
Obligations under capital leases, including \$370,000 in 1988 and \$1,089,000 in 1987 due within one year (Note 8)	426	1,515
	<u>1,471,108</u>	<u>1,523,730</u>
Participants Funds (Note 3):		
Deposits received	79,941	18,778
Contributions callable on demand	281,254	205,396
	<u>361,195</u>	<u>224,174</u>
Stockholders' equity:		
Capital stock—authorized, issued and outstanding, 18,500 shares of \$100 par value	1,850	1,850
Surplus	950	950
Undivided profits	13,404	12,233
	<u>16,204</u>	<u>15,033</u>
	<u>\$1,848,507</u>	<u>\$1,762,937</u>

The accompanying notes are an integral part of the financial statements.

**Statement of Revenues
And Expenses and
Undivided Profits**

	<i>For the years ended December 31,</i>	
	1988	1987
	<i>(Dollars in thousands)</i>	
Revenues:		
Services to Participants	\$221,746	\$231,013
Interest income	102,990	69,358
	324,736	300,371
 <i>Less</i> —Refunds to Participants (Note 1)	 78,195	 66,534
	246,541	233,837
 Expenses:		
Employee costs (Note 5)	145,041	131,873
Rent, maintenance and utilities	34,766	27,093
Data processing rentals and supplies	15,618	15,175
Professional and other services	14,192	14,530
Depreciation and amortization	10,133	9,154
Interest (Notes 7 and 8)	957	1,061
Other expenses (Note 6)	24,663	34,859
	245,370	233,745
 Excess of revenues over expenses and refunds	 1,171	 92
Undivided profits, beginning of year	12,233	12,141
 Undivided profits, end of year	 \$ 13,404	 \$ 12,233

The accompanying notes are an integral part of the financial statements.

Statement of Cash Flows Increase (Decrease) in Cash and Cash Equivalents	<i>For the years ended December 31,</i>	
	1988	1987
	<i>(Dollars in thousands)</i>	
Cash flows from operating activities:		
Excess of revenues over expenses and refunds	\$ 1,171	\$ 92
Adjustments to reconcile excess of revenues over expenses and refunds to net cash provided by operating activities:		
Depreciation and amortization	10,133	9,154
Pension and deferred compensation	1,370	1,237
Provision for uncollectible dividend receivables	533	5,247
Provision for deferred taxes	1,348	(3,651)
Provision for abandonment costs	(1,280)	2,583
(Increase) decrease in receivables from Participants	(55,288)	39,768
Decrease in dividends, interest and other receivables	215,978	96,347
Increase in accounts payable, accrued expenses and other, net	16,350	18,466
Increase in Participants Funds deposits received	61,163	12,768
Decrease in drafts payable	(110,581)	(1,056,655)
Decrease (increase) in payables to Participants	37,456	(146,380)
Total adjustments	177,182	(1,021,116)
Net cash provided by (used in) operating activities	178,353	(1,021,024)
Cash flows from investing activities:		
Purchase of equipment and leasehold improvements	(18,291)	(19,352)
Cash flows from financing activities:		
Proceeds from borrowing	10,000	—
Principal payments on notes and capital lease obligations	(5,559)	(5,463)
Increase (decrease) in cash and cash equivalents	164,503	(1,045,839)
Cash and cash equivalents at beginning of year	1,198,851	2,244,690
Cash and cash equivalents at end of year	\$1,363,354	\$1,198,851

The accompanying notes are an integral part of the financial statements.

**Notes to
Financial Statements**
December 31, 1988 and 1987

Note 1—Business and Ownership:

The Company is a limited purpose trust company providing central securities depository and related services to the securities, banking and related industries. At December 31, 1988, New York Stock Exchange, Inc. owned approximately 33% of the capital stock of the Company, with the remainder owned by the American Stock Exchange, National Association of Securities Dealers and certain Participants or their representatives. A Stockholders Agreement provides for an annual reallocation of the entitlement to purchase outstanding capital stock by eligible Participants or their representatives based on relative depository activity of Participants during the prior year.

Pursuant to a policy adopted by the Board of Directors, the Company does not pay dividends to stockholders, but refunds to all of its Participants each year revenues in excess of current and anticipated needs. In 1988, this refund amounted to \$4,580,000 (1987—\$27,500,000). The Board of Directors also adopted an additional refund policy to provide for a monthly refund to Participants of income earned from the overnight investment of cash dividend and corporate interest and reorganization payments to the Company for Participants, reduced by certain related expenses. Such net monthly refunds totaled \$73,615,000 in 1988 (1987—\$39,034,000).

Note 2—Summary of Significant Accounting Policies:

A. Securities on deposit:

Securities held by the Company for Participants are not recorded in the accompanying financial statements. Cash dividends and interest received or due on such securities and in process of distribution or awaiting claim are recorded in the statement of condition.

B. Cash, short-term investments and cash flows:

Repurchase agreements represent U.S. Government and U.S. Government Agency securities purchased under agreements to resell at predetermined prices, generally over periods of three days or less. These agreements are recorded at cost and interest is accrued as earned. U.S. Government securities are recorded at amortized cost, which approximates market value.

The Company invests available federal funds in repurchase agreements and money market accounts and at the same time makes disbursements to Participants in clearinghouse funds. The resulting book overdrafts are included in

drafts payable and are eliminated the next business day when the repurchase agreements and money market accounts are converted back to cash.

The Company adopted Financial Accounting Standards Board Statement No. 95, "Statement of Cash Flows", in 1988 and restated the 1987 statement of changes in financial position. For cash flow reporting, cash and cash equivalents include cash on hand, money market accounts and repurchase agreements.

C. Equipment and leasehold improvements:

Equipment and leasehold improvements are recorded at cost. Equipment is depreciated over estimated useful lives (generally five to eight years), using principally accelerated methods. Leasehold improvements are amortized on the straight-line method over the lives of the related leases or the useful lives of the improvements, whichever is less.

D. Income taxes:

Provision is made for deferred income taxes applicable to revenues and expenses reported in the financial statements in periods which differ from those in which they are subject to taxation.

Note 3—Participants Funds:

Participants in the depository are required to deposit to one or both of two Participants Funds amounts which relate to their activity in the depository. The Funds are available to satisfy the Participants' obligations to the Company, and to satisfy certain uninsured losses, if such should occur, of the Company. Required deposits are received in cash or are callable on demand and secured by securities of the United States government, its agencies or instrumentalities, states and political subdivisions and certain eligible non-convertible registered corporate debt securities.

Note 4—Dividends and Interest on Securities on Deposit:

The Company receives cash and stock dividends and interest on securities registered in the name of its nominee and interest on bearer securities which it distributes to its Participants for the owners of the securities. Amounts received on registered securities withdrawn before the record date but not transferred from the name of the Company's nominee cannot be distributed unless claimed by the owners of the securities through a Participant or other financial institution. At December 31, 1988, cash dividends and interest payable amounted to \$395,468,000, of

which \$163,223,000 was awaiting distribution to Participants and \$232,245,000 was held pending claim on behalf of the record date owners of the applicable securities. Stock dividends payable and unclaimed are not recorded in the accompanying financial statements. Unclaimed cash and stock dividends and corporate interest received prior to July 1, 1985, have been transferred to New York State in accordance with abandoned property laws.

Cash dividends and interest receivable at December 31, 1988, amounted to \$55,410,000 (1987—\$271,584,000) and have been reduced by allowances of \$1,992,000 (1987—\$4,900,000) for possible losses. Stock dividends receivable are not recorded in the accompanying financial statements.

Note 5—Pension Plan:

The Company has a noncontributory defined benefit pension plan covering substantially all full-time operational, professional, administrative and other employees. Plan benefits are based on a formula percentage of annual earnings for each year of continuous participation. The Company's funding policy is to contribute annually the maximum amount that can be deducted for federal income tax purposes.

Net pension costs for 1988 and 1987 included the following components:

	1988	1987
	<i>(Dollars in thousands)</i>	
Service cost—benefits earned during the year	\$2,715	\$2,517
Interest cost on projected benefit obligation	2,119	1,774
Actual return on assets	(3,910)	(2,025)
Net amortization and deferral	152	(1,338)
Net periodic pension cost	<u>\$1,076</u>	<u>\$ 928</u>

The following table sets forth the plan's funded status and amounts recognized in the Company's statement of condition at December 31:

	1988	1987
	<i>(Dollars in thousands)</i>	
Plan assets at fair value, primarily equity securities and deposits under group annuity contracts	\$32,896	\$27,277
Accumulated benefit obligation for service rendered:		
Vested	18,739	13,745
Non-vested	1,997	1,326
	<u>20,736</u>	<u>15,071</u>
Additional amounts related to projected compensation increases	9,387	7,074
Projected benefit obligation for service rendered	30,123	22,145
Plan assets in excess of projected benefit obligation	2,773	5,132
Unrecognized net asset existing at the date of initial application of FAS No. 87	(10,443)	(11,247)
Unrecognized net loss from past experience different from that assumed and effects of changes in assumptions	2,879	284
Unfunded accrued pension cost included in accounts payable and accrued expenses	<u>(\$ 4,791)</u>	<u>(\$ 5,831)</u>

The discount rate used in determining the actuarial present value of the projected benefit obligation was 8.75% (1987—9.25%). The assumed rate of future compensation levels was based on anticipated inflation and merit increases. The expected long-term rate of return on assets was 10% (1987—10.25%). The unrecognized net asset that existed when Statement of Financial Accounting Standards No. 87 was adopted, as of January 1, 1986, is being amortized over 16 years.

Note 6—Income Taxes:

Income taxes are included in other expenses. The net income tax provision for 1988 and 1987 is summarized as follows:

	1988	1987
	<i>(Dollars in thousands)</i>	
Current provision (benefit):		
Federal	(\$ 546)	\$2,987
State and local	21	1,072
Deferred provision (benefit):		
Federal	1,152	(2,700)
State and local	202	(951)
	<u>\$ 829</u>	<u>\$ 408</u>

The primary differences in 1988 and 1987 between pretax accounting income and taxable income are related to the provision for abandonment costs associated with the closing of two vaults and related office areas and changes in the reserve for possible losses on cash dividends and interest receivables. Income taxes paid during 1988 totaled \$1,601,000 (1987—\$3,075,000).

In December 1987, the Financial Accounting Standards Board issued Statement No. 96, "Accounting for Income Taxes." The adoption of the standard, which is required by 1990, is projected to result in a reduction of the deferred income tax asset of approximately \$4,000,000 and a corresponding reduction of undivided profits.

Note 7—Notes Payable:

The Company has notes payable totaling \$11,635,000, of which \$328,000 is collateralized by leasehold improvements and equipment with comparable book value, and \$11,307,000 is unsecured. The notes are being repaid in monthly installments. The interest rate applicable to \$9,495,000 of such notes is fixed at a weighted annual rate of 9.1% and \$2,140,000 currently bears interest at 9.1%, based upon a periodic election of the Company, of either the prime rate or the London interbank offered rate plus .375%. Interest paid during 1988 totaled \$1,043,000 (1987—\$897,000).

Aggregate maturities of notes payable are summarized as follows:

	<i>(Dollars in thousands)</i>
Year ending December 31:	
1989	\$ 3,110
1990	2,985
1991	2,373
1992	2,000
1993	1,167
Total notes payable	<u>\$11,635</u>

The Company has available with commercial banks two short-term lines of credit of \$5,000,000 each at rates approximating the prime rate, and a revolving credit loan agreement of \$50,000,000 at the Federal funds rate plus .375%. A commitment fee of .125% is required on the \$50,000,000 revolving credit loan agreement which is available to support the Same-Day Funds Settlement system. These lines were not utilized during 1988.

Note 8—Leases and Other Commitments:

The Company has entered into leases for office space and data processing and other equipment. Leases for office space and various data processing and other equipment are classified as operating leases. The leases for office space provide for rent escalations subsequent to 1988. Rent expense in 1988 was \$27,202,000 (1987—\$19,920,000) for office space and \$13,839,000 (1987—\$12,752,000) for data processing and other equipment.

Certain data processing and other equipment leases are classified as capital leases. Assets under capital leases are amortized using primarily accelerated methods over the lease terms or asset lives, as applicable, and interest expense is accrued on the basis of the outstanding lease obligations.

Presented below are the future minimum payments, by year and in the aggregate, under capital leases and under operating leases having noncancelable lease terms in excess of one year as of December 31, 1988:

	Capital Leases	Operating Leases
	<i>(Dollars in thousands)</i>	
1989	\$389	\$ 39,283
1990	60	37,363
1991	—	32,742
1992	—	29,603
1993	—	30,184
Thereafter	—	147,839
Total future minimum lease payments	449	<u>\$317,014</u>
Less—Amount representing interest on capital leases	<u>23</u>	
Present value of net minimum lease payments for capital leases	<u>\$426</u>	

Participants†

Banks

Amalgamated Bank of New York (The)
 American National Bank & Trust Company
 of Chicago
 American Security Bank, N.A.
 AmeriTrust Company
 AmSouth Bank, N.A.
 BancOhio National Bank
 Bankers Trust Company
 Bank of America National Trust
 and Savings Association
 Bank of Bermuda International Limited
 Bank of Boston Connecticut
 Bank of California (The)
 Bank of Montreal, New York Branch
 Bank of New England, N.A.
 Bank of New York (The)
 Bank of Nova Scotia (The), New York Agency
 Bank of Oklahoma, N.A.
 Bank of Tokyo Trust Company (The)
 Bank One Trust Company, N.A.
 Bank IV Wichita, National Association
 Barclays Bank PLC
 Barnett Banks Trust Company, N.A.
 Bessemer Trust Company
 Boston Safe Deposit and Trust Company
 Brown Brothers Harriman & Co.
 California First Bank
 Canadian Imperial Bank of Commerce-
 New York Agency
 Cape Ann Savings Bank†
 Centerre Bank, N.A.
 Central Bank of Denver
 Central Bank of the South
 Central Fidelity Bank, N.A.
 Central Trust Company
 Chase Lincoln First Bank, N.A.
 Chase Manhattan Bank, N.A. (The)
 Chemical Bank
 Citibank, N.A.
 Citizens and Southern National Bank (The)
 Citizens Fidelity Bank and Trust Company
 City National Bank
 Citytrust
 Comerica Bank-Detroit
 Commerce Bank of Kansas City, N.A.
 Commercial National Bank of Peoria
 Connecticut Bank and Trust Company (The)
 Connecticut National Bank (The)
 Continental Illinois National Bank
 and Trust Company of Chicago
 Crestar Bank
 Crestar Bank, N.A.
 Custodial Trust Company
 Dai-Ichi Kangyo Bank (The), Limited,
 New York Branch
 Daiwa Bank, Limited (The), New York Agency
 Denver National Bank
 Dominion Trust Company
 Equitable Bank, National Association
 Exchange National Bank of Chicago (The)
 Fidelity Bank, National Association
 Fiduciary Trust Company International
 Fiduciary Trust Company of Boston
 Fifth Third Bank (The)
 First American Bank, N.A.
 First Bank National Association
 First City National Bank of Houston
 First Fidelity Bank, National Association,
 New Jersey
 First Interstate Bank of Arizona, N.A.
 First Interstate Bank of California
 First Interstate Bank of Denver, N.A.
 First Interstate Bank of Oregon, N.A.
 First Interstate Bank of Washington
 First Kentucky Trust Company (The)
 First National Bank and Trust Company
 of Tulsa (The)
 First National Bank of Boston (The)
 First National Bank of Chicago (The)
 First National Bank of Colorado Springs (The)
 First National Bank of Maryland (The)
 First National Bank of Omaha
 First Republic Bank Dallas, N.A.
 First Tennessee Bank N.A. Memphis
 First Trust Company, Inc.
 First Trust Corporation
 First Union National Bank
 First Union National Bank of Florida
 Fleet National Bank
 Florida National Bank
 Fort Wayne National Bank
 Framingham Trust Company ‡
 French American Banking Corporation
 Frost National Bank
 Fuji Bank & Trust Company
 Harris Trust & Savings Bank
 Hibernia National Bank
 Huntington National Bank (The)
 IBJ Schroder Bank & Trust Company
 IDS Bank & Trust
 Imperial Trust Company
 Indiana National Bank (The)
 Industrial Bank of Japan Trust Company (The)
 Investors Bank and Trust Company
 Irving Trust Company
 Kellogg-Citizens National Bank
 Key Trust Company
 Key Trust Company of the Northwest
 LaSalle National Bank
 Liberty National Bank and Trust Company
 of Louisville
 Liberty Street Trust Company
 Lincoln National Bank & Trust Company
 of Fort Wayne
 Lloyds Bank Plc
 M&I Marshall & Ilsley Bank
 Manufacturers and Traders Trust Company
 Manufacturers Hanover Trust Company
 Manufacturers National Bank of Detroit
 Marine Midland Bank
 Marine Trust Company, N.A.
 Marquette Bank Minneapolis, N.A.
 Mellon Bank, N.A.
 Mercantile Bank National Association
 Mercantile—Safe Deposit and Trust Company
 Merchants National Bank & Trust Company
 of Indianapolis
 Michigan National Bank—Grand Rapids
 Midlantic National Bank
 Morgan Guaranty Trust Company of New York
 Morgan Stanley Trust Company
 NCNB National Bank of North Carolina
 National Bank of Detroit
 National Bank of Washington (The)
 National City Bank
 National Westminster Bank N.J.
 National Westminster Bank PLC
 National Westminster Bank USA
 New Jersey National Bank
 Northern Trust Company (The)
 Norwest Bank Minnesota, National
 Association
 Old Kent Bank and Trust Company
 Philadelphia National Bank (The)
 Provident National Bank
 Rainier National Bank
 Republic National Bank of New York
 Rhode Island Hospital Trust National Bank
 Riggs National Bank of Washington, D.C. (The)
 Rockland Trust Company †
 Royal Bank and Trust Company (The)
 Santa Barbara Bank & Trust
 Sanwa Bank California
 Savings Banks Trust Company
 Seattle-First National Bank
 Security Pacific National Bank
 Seligman (J. & W.) Trust Company
 Shawmut Bank of Boston, N.A.
 Signet Trust Company
 Society National Bank
 Southeast Bank, N.A.
 Sovran Bank, N.A.
 Star Bank, National Association, Cincinnati
 State Street Bank and Trust Company
 Stock Yards Bank and Trust Company
 Sumitomo Bank of California
 Sumitomo Trust & Banking Co. (USA)
 Summit Bank
 Summit Trust Company (The)
 Swiss Bank Corporation—New York Branch
 Texas American Bank/Fort Worth
 National Association
 Texas Commerce Bank National Association
 Toronto Dominion Bank (The)—
 New York Branch
 Trust Company Bank
 Trustcorp Bank, Ohio
 Trust Services of America, Inc.
 U.S. Bank of Washington, N.A.
 Unibanc Trust Company
 Union Bank, Los Angeles
 Union Bank of Switzerland
 Union Planters National Bank
 Union Trust Company
 United Bank of Denver, National Association
 United Missouri Bank of Kansas City, N.A.
 United States National Bank of Oregon
 United States Trust Company of New York
 Valley National Bank of Arizona
 Valley Trust Company
 Wachovia Bank & Trust Company, N.A.
 Wells Fargo Bank, National Association
 Wheeling Dollar Bank
 Wilmington Trust Company
 Wyoming National Bank Casper
 Zions First National Bank

† As of December 31, 1988

‡ Boston Stock Exchange Sponsored Account

Broker-Dealers#

ABD Securities*
 ABD Securities Corporation
 AGF Securities Inc.*
 Adams-Fastnow Company Inc.*
 Adams, Harkness & Hill, Inc.
 Adler, Coleman & Co., Inc.
 Advest, Inc.
 Affina Brokerage Services Inc.
 Agora Securities, Inc.
 Alexander (J.) Securities, Inc.*
 Alger (Fred) & Company, Incorporated
 Allen & Company Incorporated
 Alpine Associates
 American Municipal Securities, Inc.
 American Securities Corporation
 Amster & Co.
 Andras Research Capital, Inc.*
 Arnhold and Bleichroeder (S.), Inc.
 Asiel & Co.
 BHC Securities Inc.
 BHF Securities Corporation
 BSE Specialist Account*
 Baer (Julius) Securities Inc.
 Baird, Patrick & Co., Inc.
 Baird (Robert W.) & Co. Incorporated
 Barr Brothers & Co., Inc.
 Barrett & Co.*
 Bateman Eichler, Hill Richards Inc.*
 Baum (George K.) & Company
 Bear, Stearns & Co. Inc.
 Beckman & Co. Inc.*
 Benton & Company
 Bernstein (Sanford C.) & Co., Inc.
 Bidwell & Company*
 Blackmore & Co., Inc.*
 Blair (Charles M.) & Co., Inc.*
 Blair (William) & Company
 Blinder, Robinson & Co., Inc.*
 Bodell, Overcash Anderson & Co., Inc.*
 Bradford (J.C.) & Co.
 Branch, Cabell & Co.
 Brawley Cathers Limited*
 Brounoff, Claire, & Co., Inc.
 Brown (Alex.) & Sons, Inc.
 Brown & Company Securities Corporation*
 Brown, Lisle/Cummings, Inc.
 Buell Securities Corp.*
 Bunting (Alfred) & Co. Limited*
 Burke (P.R.) & Co.
 Burns Fry Hoare Govett Inc.
 Burns Fry Limited*
 Burns, Pauli & Co., Inc.
 Butler (K.R.), Inc.*
 Cable Howse & Ragen
 Campbell (D.A.) Co., Inc.*
 Campbell, Waterman, Inc.*
 Canarim Investment Corporation*
 Cantella & Company (Retail)*
 Cantor Fitzgerald & Co.
 Cantor Fitzgerald Corporate Brokers, Inc.
 Cantor Fitzgerald Municipal Brokers, Inc.*
 Cantor (S.B.) & Co., Inc.*
 Capital Shares, Inc.*
 Carroll McEntee & McGinley Securities, Inc.
 Carr Securities Corporation
 Carr & Thompson, Inc.*
 Cazenove Incorporated

Cenpac Securities Inc.*
 Challenge Securities Inc.
 Chappdelaine & Co.*
 Charles-Bush (JW) Securities, Inc.
 Chicago Corporation (The)
 Chicago Corp. (The)*
 Childs (S.W.) Management Corporation
 Citicorp Scrimgeour Vickers International Inc.
 Coast Options, Inc.*
 Commerzbank Capital Markets Corporation
 Conklin, Cahill & Co.
 Connor, Clark & Co. Limited*
 Coughlin and Company, Inc.*
 County NatWest Securities Corporation USA
 Cowen & Co.
 Craig-Hallum, Inc.
 Craigie Incorporated
 Cresvale International, Limited
 Crews & Associates, Inc.
 Crowell, Weedon & Co.*
 Dain Bosworth Incorporated
 Daiwa Securities America Inc.
 Darier Canada Inc.*
 Datek Securities Corporation*
 Daugherty, Cole Inc.*
 Davenport & Co. of Virginia, Inc.
 Davidson (D.A.) & Co., Inc.*
 Davis (Shelby Cullom) & Co.
 Deacon, Morgan, McEwen, Easson, Limited*
 de Cordova, Cooper & Co.
 Deltec Securities Corporation*
 Deragon Langlois Ltd.*
 Deutsche Bank Capital Corporation
 Diamant Investment Corp.*
 Dillon, Read & Co. Inc.
 Dillon Securities Inc.*
 Disnat Investment Inc.*
 Doft & Co., Inc.
 Dominick & Dominick, Incorporated
 Dominick & Dominick Securities, Inc.*
 Donaldson, Lufkin & Jenrette Securities Corp.*
 Donaldson, Lufkin & Jenrette
 Securities Corporation
 Doyle (F.W.) & Company*
 Drake (Clifford) & Company, Inc.*
 Drexel Burnham Lambert Incorporated
 Easton & Co.
 Easton & Co.*
 Edwards (A.G.) & Sons, Inc.
 Egan, Marris & Rubano Inc.*
 Einhorn & Co.
 Eppler, Guerin & Turner, Inc.
 Equity Securities Trading Co., Inc.*
 Ernst & Co.
 Essex Company
 Exchange Services, Inc.*
 Execution Services Incorporated
 Fagenson & Co., Inc.
 Fahnestock & Co., Inc.
 Fechter, Detwiler & Co., Inc.*
 Fernandez, Bartsch & Mirra
 Financial Clearing & Services Corporation
 First Alabama Investments, Inc.
 First Albany Corporation
 First Birmingham Securities Corporation*
 First Boston Corporation (The)
 First Canada Securities Corporation*

First Manhattan Co.
 First Marathon Securities Limited*
 First of Michigan Corporation*
 First Options of Chicago, Inc.*
 First Southwest Company
 First Wachovia Brokerage Service Corporation
 Fleming (Robert) Inc.
 Fossett Corporation*
 Frank (Walter N.) & Co.
 Frankel (Wm. V.) & Co., Inc.*
 Freeman Securities Company, Inc.
 Freeman Welwood & Co., Inc.
 Fried (Albert) & Co.
 Fundamental Corporate Bond Brokers, Inc.
 Gage-Wiley & Company, Inc.*
 Gant (J.W.) & Associates, Inc.*
 Garat & Co.*
 Geldermann Securities Inc.
 Geoffrion, Leclerc Inc.*
 Gintelco, Inc.
 Goldberg Securities, Inc.*
 Goldman, Sachs & Co.
 Gordon Capital Corporation
 Gordon & Co.
 Gowell Securities Corporation (Retail)*
 Gradison & Company Incorporated
 Greenfield Partners
 Greenline Investor Services Inc.*
 Greenwich Capital Markets, Inc.
 Gruss (Oscar) & Son Incorporated
 Guardian Trust Company*
 Halcyon Investments
 Hanauer (J.B.) & Co.
 Hanifen, Imhoff, Inc.*
 Hartfield (J.F.) & Co., Inc.*
 Heitner Corporation (The)*
 Henderson Brothers, Inc.
 Herzog, Heine, Geduld, Inc.
 Hilliard (J.J.B.), Lyons (W.L.), Inc.
 Hill, Thompson, Magid & Co., Inc.*
 Hoelscher (Shiels) & Co.*
 Hopkins, Harbach & Co.*
 Hopper Soliday & Co., Inc.
 Hough (William R.) & Co.
 Howard, Weil, Labouisse, Friedrichs
 Incorporated
 Hummer (Wayne) & Co.
 Huntleigh Securities Corporation
 Hutchinson, Shockey, Erley & Co.
 INC Trading Corporation*
 Icahn & Co., Inc.
 Illinois Company Investments, Inc.
 Ingalls & Snyder
 Instant Funds Incorporated*
 Interstate/Johnson Lane Corporation
 InvestNet Corporation
 Investors Discount Corporation*
 Jacobson (Benjamin) & Sons
 Janney Montgomery Scott Inc.
 Jefferies & Company, Inc.
 Jefferies & Company, Inc.*
 Jesup & Lamont Clearing Corp.
 Johnston, Lemon & Co., Inc.*
 Jones (Edward D.) & Co.
 Josephthal & Co. Incorporated
 Judah (S.A.) & Co., Inc.*
 K.K. & Company*

Kalb, Voorhis & Co.
 Kaufmann, Alsberg & Co., Inc.
 Kawano (H.) & Co., Inc.*
 Keeley (K.J.) & Co., Inc.*
 Kellner, DiLeo & Co.
 Kemper Clearing Corp.
 Kemper Financial Services, Inc.
 Kenny (J.J.) Trading, Inc.*
 Kidder, Peabody & Co. Incorporated
 Kimball & Cross*
 King (C.L.) & Associates Inc.
 Knox (W.L.) & Company
 Koonce Securities, Inc.*
 Krieger (Henry) & Co.
 LaBranche & Co.
 Lafferty, Harwood & Partners Ltd.*
 Larkin (Emmet A.) & Co., Inc.*
 Lasker, Stone & Stern
 Laterman & Co.
 Lawrence (C.J.), Morgan Grenfell, Inc.
 Lawrence, O'Donnell, Marcus & Co.
 Lazard Frères & Co.
 Lebenthal & Co., Inc.
 Legg Mason Wood Walker, Inc.
 Lerner (David) Associates, Inc.
 Levesque, Beaubien Inc.*
 Lewco Securities Corp.
 Lewis (S.B.) & Company
 Linsco Corporation*
 Loewen Ondaatje, McCutcheon
 & Company Ltd.*
 MKI Securities Corp.
 Mabon, Nugent & Co.
 MacAllaster Pitfield Mackay, Inc.
 MacDougall, MacDougall & MacTier, Inc.*
 Madoff (Bernard L.)
 Manufacturers Hanover Securities Corporation
 Marcus Schloss & Co., Inc.
 Mayer & Schweitzer, Inc.
 McCarthy Securities Ltd.*
 McCourtney-Breckenridge & Company*
 McDaniel Lewis & Co.
 McDonald & Company Securities, Inc.
 McKinney (C.L.) & Co., Inc.*
 McNeil Mantha Inc.*
 Meehan (M.J.) & Company
 Melville (Ronald E.) Inc.*
 Mercator Partners
 Mericka & Co., Inc.*
 Merit Investment Corporation*
 Merrill Lynch, Pierce, Fenner & Smith
 Incorporated
 Merrill Lynch Specialists Inc.*
 Merrimack Valley Investment Inc.*
 Meuse, Rinker, Chapman, Endres & Brooks
 Midland Doherty Inc.
 Midland Doherty Limited*
 Mitchum, Jones & Templeton, Inc.*
 Montgomery Securities
 Morgan (J.P.) Securities Inc.
 Morgan, Keegan & Company, Inc.
 Morgan, Olmstead, Kennedy & Gardner,
 Incorporated*
 Morgan Stanley & Co. Incorporated
 Municicorp. of California*
 Murphey Favre, Inc.*
 Murphey, Marseilles, Smith & Nammack

Murphy & Durieu
 NB Clearing Corporation
 National Financial Services Corporation
 Nesbitt Thomson Deacon Inc.*
 Neuberger & Berman
 Newbridge Securities Inc.
 Newhard, Cook & Co. Incorporated
 New Japan Securities International Inc.
 New Windsor Associates, L.P.
 Nikko Securities Co. International, Inc. (The)
 Nippon Kangyo Kakumaru International Inc.
 Nomura Securities International, Inc.
 Nuveen (John) & Co. Incorporated
 O'Connor & Associates
 O'Connor Securities
 Odium Brown Limited*
 Offerman & Co., Inc.*
 Olde Discount Corporation
 Oppenheimer & Co., Inc.
 Outwater & Wells, Inc.*
 Pacific Brokerage Services, Inc.
 Paine Webber Incorporated
 Paine Webber Specialists Inc.*
 Parker (S.C.) & Co., Inc.*
 Payson (H.M.) & Co.*
 Pemberton Securities Inc.*
 Pembroke Clearing Corporation
 Pflueger & Baerwald Inc.*
 Pforzheimer (Carl H.) & Co.
 Pictet (Canada) and Company, Limited*
 Piper, Jaffray & Hopwood Incorporated
 Porter, White & Yardley, Inc.
 Preferred Technology, Inc.*
 Prescott, Ball & Turben, Inc.
 Prudential Bache Securities Canada Ltd.*
 Prudential-Bache Securities Inc.
 Purcell, Graham & Co.
 Q&R Clearing Corporation
 Quinn (E.J.) & Co., Inc.*
 Quinn (F.P.) & Co.*
 RAF Financial Corporation*
 RBC Dominion Securities Corporation
 RBC Dominion Securities, Inc.*
 RFG Company*
 RSF Partners
 Raney (T.J.) & Sons, Inc.
 Rauscher Pierce Refsnes, Inc.
 Raymond, James & Associates, Inc.
 Reaves (W.H.) & Co., Inc.
 Refco Securities, Inc.
 Regional Clearing Corp.
 Reich & Co., Inc.
 Richardson Greenshields of Canada, Ltd.*
 Richardson Greenshields Securities, Inc.
 Rimson (M.) & Co., Inc.
 Robb, Peck, McCooley Clearing Corporation
 Robertson, Colman & Stephens
 Rodman & Renshaw, Inc.
 Roney & Co.
 Roosevelt & Cross Inc.
 Rose & Company Investment Brokers, Inc.*
 Rothschild (L.F.) & Co. Incorporated
 Roulston Research Corp.
 Ryan Beck & Co.*
 SBCI Swiss Bank Corporation Investment
 Banking Inc.
 Sage Clearing Corporation*

Sage, Ruttly & Co., Inc.
 Salomon Brothers Inc
 Schapiro (M.A.) & Co., Inc.
 Schwab (Charles) & Co., Inc.*
 ScotiaMcLeod Inc.*
 ScotiaMcLeod (USA) Inc.
 Scott & Stringfellow, Inc.
 Seasongood & Mayer*
 Seattle-Northwest Securities Corporation
 Securities Settlement Corporation
 Seidel (Morton) & Co. Inc.*
 Seidler Amdec Securities Inc.*
 Seligman Securities, Inc.
 Shatkin Investment Corp.*
 Shatkin-Lee Securities Co.
 Shearson Lehman Hutton Inc.
 Shearson Lehman Hutton Special
 Securities Inc.
 Shelter Rock Securities Corporation*
 Smith Barney, Harris Upham & Co.
 Incorporated
 Smith, Moore & Co.*
 Smith, New Court Carl Marks Inc.
 Southwest Securities, Inc.
 Spear, Leeds & Kellogg
 Spear Securities, Inc.*
 Steichen (R.J.) & Company*
 Stephens, Inc.
 Stern & Kennedy
 Stern (M.L.) & Co., Inc.*
 Sterne, Agee & Leach, Inc.
 Stifel, Nicolaus & Company Incorporated
 StockCross, Inc.*
 Stoever, Glass & Co., Inc.
 Stokes, Hoyt & Co.
 Stone & Youngberg*
 Streicher (J.) & Co.
 Stuart-James Company Inc.*
 Swift (Henry F.) & Co.*
 Swiss American Securities Inc.
 TCW Inc.*
 Thomson Kernaghan & Co., Ltd.*
 Thomson McKinnon Securities Inc.
 Timber Hill Inc.
 Titus & Donnelly Inc.*
 Transatlantic Securities Company
 Tucker, Anthony & Day (R.L.), Inc.
 UBS Securities Inc.
 Underwood, Neuhaus & Co., Incorporated
 Universal Securities Corporation
 Vail Securities Investment, Inc.
 Van Kampen Merritt Inc.
 W&D Securities
 WSI Stock Loan*
 Wachtel & Co., Inc.
 Wagner Stott Clearing Corp.
 Wagner Stott & Co.
 Wall Street Clearing Company
 Wall Street Equities Incorporated*
 Walsh, Greenwood & Co.
 Walwyn Stodgell Cochran Murray Limited*
 Warburg (S.G.) & Co. Inc.
 Waterhouse Securities Inc.
 Weber, Hall, Sale & Associates, Inc.
 Wechsler & Krumholz, Inc.
 Wedbush Securities, Inc.*
 Weeden & Co.*

Weiss, Peck & Greer
 Wellington (H.G.) & Co. Inc.
 Wheat, First Securities, Inc.
 Whitaker (Don C.) Inc.*
 White (Thomas F.) & Co., Inc.*
 Williams Securities Group, Inc.*
 Wilshire Associates*
 Wilson (L.W.) & Co., Inc.*
 Witter (Dean) Reynolds (Canada) Inc.*
 Witter (Dean) Reynolds Inc.
 Wolfe & Hurst Bond Brokers, Inc.
 Wolfe & Hurst Bond Brokers, Inc.*
 Wood (Arthur W.) Company*
 Wood Gundy Corp.
 Wood Gundy Inc.*
 Yamaichi International (America), Inc.
 Yamaichi International (America), Inc.*
 Yorkton Securities Inc.*
 Ziegler Thrift Trading, Inc.*

Clearing Agencies

Boston Stock Exchange Clearing Corp.
 Canadian Depository for Securities Limited (The)*
 Central Depository (Pte.) Ltd. (Singapore)**
 International Securities Clearing Corporation
 Japan Securities Clearing Corp.**
 Midwest Securities Trust Company
 National Securities Clearing Corporation
 Options Clearing Corporation (The)
 Philadelphia Depository Trust Company

Excludes some firms with limited activity

* National Securities Clearing Corporation Sponsored Account

** International Securities Clearing Corporation Sponsored Account

Participants in the Same-Day Funds Settlement Systems

Adams, Harkness & Hill, Inc.
 Advest, Inc.
 Amalgamated Bank of New York (The)
 Asiel & Co.
 Baird, Patrick & Co., Inc.
 Baird (Robert W.) & Co. Incorporated
 Bankers Trust Company
 Bank of America National Trust and Savings Association
 Bank of New England, N.A.
 Bank of New York (The)
 Bank of Tokyo Trust Company (The)
 Baum (George K.) & Company
 Bear, Stearns & Co. Inc.
 Blair (William) & Company
 Boston Safe Deposit and Trust Company
 Bradford (J.C.) & Co.
 Brown (Alex.) & Sons, Inc.
 Brown Brothers Harriman & Co.
 Chase Manhattan Bank, N.A. (The)
 Chemical Bank
 Chicago Corporation (The)
 Citibank, N.A.
 Citizens Fidelity Bank and Trust Company
 City National Bank
 Connecticut Bank and Trust Company (The)
 Connecticut National Bank (The)
 Continental Illinois National Bank and Trust Company of Chicago
 Cowen & Co.
 Craigie Incorporated
 Crestar Bank
 Dain Bosworth Incorporated
 Daiwa Securities America Inc.
 Davenport & Co. of Virginia, Inc.
 Deutsche Bank Capital Corporation
 Dillon, Read & Co. Inc.
 Dominick & Dominick, Incorporated
 Donaldson, Lufkin & Jenrette Securities Corporation
 Drexel Burnham Lambert Incorporated
 Edwards (A.G.) & Sons, Inc.
 Eppler, Guerin & Turner, Inc.
 Exchange National Bank of Chicago (The)
 Fahnestock & Co., Inc.
 Fiduciary Trust Company International
 Financial Clearing & Services Corporation
 First Albany Corporation
 First Bank National Association
 First Boston Corporation (The)
 First Interstate Bank of California
 First Interstate Bank of Denver, N.A.
 First National Bank of Boston (The)
 First National Bank of Chicago (The)
 First Tennessee Bank N.A. Memphis
 First Trust Company, Inc.
 Freeman Welwood & Co., Inc.
 Fried (Albert) & Co.
 Gintelco, Inc.
 Goldman, Sachs & Co.
 Gradison & Company Incorporated
 Greenwich Capital Markets, Inc.
 Harris Trust & Savings Bank

Herzog, Heine, Geduld, Inc.
 Hilliard (J.J.B.), Lyons (W.L.), Inc.
 Hough (William R.) & Co.
 Howard, Weil, Labouisse, Friedrichs Incorporated
 Hummer (Wayne) & Co.
 Hutchinson, Shockey, Erley & Co.
 IBJ Schroder Bank & Trust Company
 IDS Bank & Trust
 Interstate/Johnson Lane Corporation
 Irving Trust Company
 Janney Montgomery Scott Inc.
 Jesup & Lamont Clearing Corp.
 Jones (Edward D.) & Co.
 Kemper Clearing Corp.
 Kidder, Peabody & Co. Incorporated
 LaSalle National Bank
 Lazard Frères & Co.
 Lerner (David) Associates, Inc.
 Lewco Securities Corp.
 MKI Securities Corp.
 Mabon, Nugent & Co.
 Manufacturers and Traders Trust Company
 Manufacturers Hanover Securities Corporation
 Manufacturers Hanover Trust Company
 Manufacturers National Bank of Detroit
 Marine Midland Bank
 McDonald & Company Securities, Inc.
 Mellon Bank, N.A.
 Merchants National Bank & Trust Company of Indianapolis
 Merrill Lynch, Pierce, Fenner & Smith Incorporated
 Meuse, Rinker, Chapman, Endres & Brooks
 Morgan Guaranty Trust Company of New York
 Morgan (J.P.) Securities Inc.
 Morgan, Keegan & Company, Inc.
 Morgan Stanley & Co. Incorporated
 NCB National Bank of North Carolina
 National Bank of Detroit
 National Financial Services Corporation
 National Westminster Bank N.J.
 National Westminster Bank USA
 Neuberger & Berman
 Newbridge Securities Inc.
 Newhard, Cook & Co. Incorporated
 New Japan Securities International Inc.
 Northern Trust Company (The)
 Norwest Bank Minnesota, National Association
 Nuveen (John) & Co. Incorporated
 O'Connor Securities
 Olde Discount Corporation
 Oppenheimer & Co., Inc.
 Paine Webber Incorporated
 Pembroke Clearing Corporation
 Philadelphia Depository Trust Company
 Philadelphia National Bank (The)
 Piper, Jaffray & Hopwood Incorporated
 Prescott, Ball & Turben, Inc.
 Provident National Bank
 Prudential-Bache Securities Inc.
 Purcell, Graham & Co.
 Rainier National Bank
 Raney (T.J.) & Sons, Inc.
 Rauscher Pierce Refsnes, Inc.

Raymond, James & Associates, Inc.
 Regional Clearing Corp.
 Rodman & Renshaw, Inc.
 Roney & Co.
 Salomon Brothers Inc
 Sanwa Bank California
 Scott & Stringfellow, Inc.
 Seattle-First National Bank
 Securities Settlement Corporation
 Security Pacific National Bank
 Shawmut Bank of Boston, N.A.
 Shearson Lehman Hutton Inc.
 Shearson Lehman Hutton Special
 Securities Inc.
 Smith Barney, Harris Upham & Co.
 Incorporated
 Society National Bank
 Southwest Securities, Inc.
 Sovran Bank, N.A.
 State Street Bank and Trust Company
 Stephens, Inc.
 Sterne, Agee & Leach, Inc.
 Swiss American Securities Inc.
 Swiss Bank Corporation—New York Branch
 Thomson McKinnon Securities Inc.
 Tucker, Anthony & Day (R.L.), Inc.
 Underwood, Neuhaus & Co., Incorporated
 Union Planters National Bank
 United Bank of Denver, National Association
 United Missouri Bank of Kansas City, N.A.
 United States National Bank of Oregon
 United States Trust Company of New York
 Van Kampen Merritt Inc.
 Wachovia Bank & Trust Company, N.A.
 Wagner Stott Clearing Corp.
 Wall Street Clearing Company
 Weber, Hall, Sale & Associates, Inc.
 Weiss, Peck & Greer
 Wells Fargo Bank, National Association
 Wilmington Trust Company
 Witter (Dean) Reynolds Inc.

Indirect SDFS Participation ***

ABD Securities Corporation
 American Securities Corporation
 American Security Bank, N.A.
 AmSouth Bank, N.A.
 Bank of Bermuda International Limited
 Bank of Boston Connecticut
 Bank of California (The)
 Bank of Montreal, New York Branch
 Bank of Oklahoma, N.A.
 Bank One Trust Company, N.A.
 Bank IV Wichita, National Association
 Barnett Banks Trust Company, N.A.
 Bernstein (Sanford C.) & Co., Inc.
 Branch, Cabell & Co.
 Buell Securities Corp.
 California First Bank
 Cantor Fitzgerald Corporate Brokers, Inc.
 Centerre Bank, N.A.
 Central Bank of Denver
 Central Bank of the South
 Central Fidelity Bank, N.A.
 Central Trust Company
 Charles-Bush (JW) Securities, Inc.
 Chase Lincoln First Bank, N.A.
 Citizens & Southern National Bank (The)
 Citytrust
 Commerce Bank of Kansas City, N.A.
 Commerzbank Capital Markets Corporation
 Craig-Hallum, Inc.
 Crestar Bank, N.A.
 Crews & Associates, Inc.
 Custodial Trust Company
 Davidson (D.A.) & Co., Inc.
 Denver National Bank
 Doft & Co., Inc.
 Dominion Trust Company
 Easton & Co.
 Equitable Bank, National Association
 Equity Securities Trading Co., Inc.
 Ernst & Co.
 Essex Company
 Fidelity Bank, National Association
 Fiduciary Trust Company of Boston
 Fifth Third Bank (The)
 First American Bank, N.A.
 First City National Bank of Houston
 First Interstate Bank of Oregon, N.A.
 First Interstate Bank of Washington
 First Kentucky Trust Company (The)
 First Manhattan Co.
 First National Bank and Trust Company
 of Tulsa (The)
 First National Bank of Colorado Springs (The)
 First National Bank of Maryland (The)
 First National Bank of Omaha
 First Republic Bank Dallas, N.A.
 First Southwest Company
 First Trust Corporation
 First Union National Bank
 First Union National Bank of Florida
 First Wachovia Brokerage Service Corporation
 Fleet National Bank
 Florida National Bank
 Fort Wayne National Bank
 Freeman Securities Company, Inc.
 Frost National Bank
 Fundamental Corporate Bond Brokers, Inc.
 Gruss (Oscar) & Son Incorporated
 Hibernia National Bank

Huntington National Bank (The)
 Imperial Trust Company
 Indiana National Bank (The)
 Investors Bank and Trust Company
 Josephthal & Co. Incorporated
 Kellogg-Citizens National Bank
 Key Trust Company
 King (C.L.) & Associates Inc.
 Larkin (Emmet A.) & Co., Inc.
 Lawrence (C.J.), Morgan Grenfell, Inc.
 Liberty National Bank and Trust Company
 of Louisville
 Lloyds Bank Plc
 M&I Marshall & Ilsley Bank
 Marine Trust Company, N.A.
 Mercantile—Safe Deposit and Trust Company
 Michigan National Bank—Grand Rapids
 Morgan, Olmstead, Kennedy & Gardner,
 Incorporated
 Municicorp. of California
 Murphey Favre, Inc.
 National Bank of Washington (The)
 National City Bank
 New Jersey National Bank
 Old Kent Bank and Trust Company
 Q&R Clearing Corporation
 RAF Financial Corporation
 Reich & Co., Inc.
 Republic National Bank of New York
 Rhode Island Hospital Trust National Bank
 Riggs National Bank of Washington, D.C. (The)
 Robb, Peck, McCooley Clearing Corporation
 Rothschild (L.F.) & Co. Incorporated
 Savings Banks Trust Company
 Schwab (Charles) & Co., Inc.
 Seligman Securities, Inc.
 Shatkin-Lee Securities Co.
 Signet Trust Company
 Star Bank, National Association, Cincinnati
 Steichen (R.J.) & Company
 Stern (M.L.) & Co., Inc.
 Stifel, Nicolaus & Company Incorporated
 Stuart-James Company Inc.
 Summit Bank
 Texas American Bank/Fort Worth
 National Association
 Texas Commerce Bank National Association
 Toronto Dominion Bank (The)—
 New York Branch
 Trust Company Bank
 Trustcorp Bank, Ohio
 Trust Services of America, Inc.
 U.S. Bank of Washington, N.A.
 Union Bank, Los Angeles
 Union Trust Company
 Valley National Bank of Arizona
 Wedbush Securities, Inc.
 Wellington (H.G.) & Co. Inc.
 Wheat, First Securities, Inc.
 Wheeling Dollar Bank
 Williams Securities Group, Inc.
 Wyoming National Bank Casper
 Ziegler Thrift Trading, Inc.
 Zions First National Bank

§ As of December 31, 1988

* These firms are also direct Participants in
 DTC's Next-Day Funds Settlement system
 ** As of December 31, 1988

DTC Stockholders †

American Security Bank, N.A.
 American Stock Exchange Clearing Corporation
 American Stock Exchange, Inc.
 AmeriTrust Company
 AmSouth Bank, N.A.
 Amster & Co.
 Arnhold and S. Bleichroeder, Inc.
 Baer (Julius) Securities Inc.
 Bankers Trust Company
 Bank of America National Trust
 and Savings Association
 Bank of Boston Connecticut
 Bank of California (The)
 Bank of Montreal, New York Branch
 Bank of New England, N.A.
 Bank of New York (The)
 Bank of Tokyo Trust Company (The)
 Bank One Trust Company, N.A.
 Barclays Bank PLC
 Barnett Banks Trust Company, N.A.
 Bear, Stearns & Co. Inc.
 Boston Safe Deposit and Trust Company
 Brounoff, Claire, & Co., Inc.
 Brown (Alex.) & Sons, Inc.
 Brown Brothers Harriman & Co.
 Cazenove Incorporated
 Centerre Bank, N.A.
 Central Bank of the South
 Chase Lincoln First Bank, N.A.
 Chase Manhattan Bank, N.A. (The)
 Chemical Bank
 Cincinnati Stock Exchange (The)
 Citibank, N.A.
 Citizens and Southern National Bank (The)
 City National Bank
 Connecticut Bank and Trust Company (The)
 Connecticut National Bank (The)
 Continental Illinois National Bank
 and Trust Company of Chicago
 County NatWest Securities Corporation USA
 Craigie Incorporated
 Crews & Associates, Inc.
 Denver National Bank
 Dominion Trust Company
 Donaldson, Lufkin & Jenrette Securities Corp.
 Drexel Burnham Lambert Incorporated
 Edwards (A.G.) & Sons, Inc.
 Equitable Bank, National Association
 Execution Services Incorporated
 Fagenson & Co., Inc.
 Fahnestock & Co., Inc.
 Fidelity Bank, National Association
 Fiduciary Trust Company International

Fiduciary Trust Company of Boston
 First Albany Corporation
 First Bank National Association
 First Boston Corporation (The)
 First City National Bank of Houston
 First Fidelity Bank, National Association,
 New Jersey
 First Interstate Bank of California
 First Interstate Bank of Denver, N.A.
 First Interstate Bank of Oregon, N.A.
 First National Bank and Trust Company
 of Tulsa (The)
 First National Bank of Boston (The)
 First National Bank of Chicago (The)
 First National Bank of Colorado Springs (The)
 First National Bank of Maryland (The)
 First Republic Bank Dallas, N.A.
 First Tennessee Bank N.A. Memphis
 First Trust Company, Inc.
 Fleet National Bank
 Fleming (Robert) Inc.
 Fort Wayne National Bank
 Frost National Bank
 Goldman, Sachs & Co.
 Gradison & Company Incorporated
 Gruss (Oscar) & Son Incorporated
 Hough (William R.) & Co.
 Huntington National Bank
 IDS Bank & Trust
 Imperial Trust Company
 Investors Bank and Trust Company
 Irving Trust Company
 Jesup & Lamont Clearing Corp.
 Josephthal & Co. Incorporated
 Key Trust Company
 LaBranche & Co.
 Lewco Securities Corp.
 MacAllaster Pitfield Mackay, Inc.
 Manufacturers and Traders Trust Company
 Manufacturers Hanover Trust Company
 Marcus Schloss & Co., Inc.
 Marine Midland Bank
 Mayer & Schweitzer, Inc.
 Mellon Bank, N.A.
 Merchants National Bank & Trust Company
 of Indianapolis
 Merrill Lynch & Co., Inc.
 Michigan National Bank—Grand Rapids
 Midlantic National Bank
 Morgan Guaranty Trust Company of New York
 Morgan Stanley & Co. Incorporated
 NCNB National Bank of North Carolina
 National Association of Securities Dealers, Inc.

National Bank of Washington (The)
 National City Bank
 National Westminster Bank N.J.
 National Westminster Bank PLC
 National Westminster Bank USA
 New Jersey National Bank
 New York Stock Exchange, Inc.
 Northern Trust Company (The)
 Norwest Bank Minnesota, National
 Association
 Oppenheimer & Co., Inc.
 Pforzheimer (Carl H.) & Co.
 Philadelphia National Bank (The)
 Prescott, Ball & Turben, Inc.
 Reaves (W.H.) & Co., Inc.
 Rhode Island Hospital Trust National Bank
 SBCI Swiss Bank Corporation Investment
 Banking Inc.
 Salomon Brothers Inc
 Santa Barbara Bank & Trust
 Sanwa Bank California
 Scott & Stringfellow, Inc.
 Seattle-Northwest Securities Corporation
 Securities Settlement Corporation
 Security Pacific National Bank
 Shawmut Bank of Boston, N.A.
 Shearson Lehman Hutton Special
 Securities Inc.
 Smith, New Court Carl Marks Inc.
 Sovran Bank, N.A.
 Star Bank, National Association, Cincinnati
 State Street Bank and Trust Company
 Stock Clearing Corporation
 Stock Yards Bank and Trust Company
 Swiss American Securities Inc.
 Swiss Bank Corporation—New York Branch
 Texas American Bank/Fort Worth
 National Association
 Texas Commerce Bank National Association
 Thomson McKinnon Securities Inc.
 Trust Company Bank
 United States Trust Company of New York
 Valley National Bank of Arizona
 Van Kampen Merritt Inc.
 Wachovia Bank & Trust Company, N.A.
 Wechsler & Krumholz, Inc.
 Wells Fargo Bank, National Association
 Wilmington Trust Company
 Wood Gundy Corp.
 Zions First National Bank

† As of December 31, 1988



The Depository Trust Company
 55 Water Street, New York, NY 10041
 (212) 898-1200

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