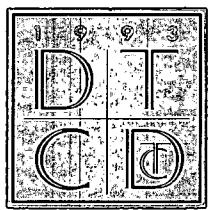


THE DEPOSITORY TRUST COMPANY ANNUAL REPORT 1993





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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 1993, those Participants delivered \$27.8 trillion of securities through the depository's book-entry system, and securities in its custody reached \$7.5 trillion at yearend.

DTC's 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 500 Participants and others, and its relationships with the thousands of firms that serve as transfer agents, paying agents, exchange agents, and redemption agents for securities issuers.

HIGHLIGHTS

TOTAL FOR THE YEAR

	1993	1992
Book-entry deliveries		
Market value (in trillions)	\$27.8	\$19.4
Number (in millions)	98.3	83.3
Cash dividend and interest payments (in billions)	\$401.1	\$328.3
Reorganization, redemption, and maturity payments (in billions)	\$469.5	\$352.8

AT YEAREND

Eligible securities issues	1,154,897	1,025,881
Value of securities on deposit (in trillions)	\$7.54	\$6.37
Number of shares on deposit (in billions)	172.0	148.3
Principal amount of corporate debt on deposit (in trillions)	\$2.3	\$1.9
Principal amount of municipal debt on deposit (in trillions)	\$1.35	\$1.16
Participants	515	532
Broker-dealers	343	352
Banks	163	172
Clearing agencies	9	8

This annual report, like its predecessors, seeks to serve two purposes: to report the extent of activity in the depository's services for its Participants, and to inform non-Participant readers about the nature of DTC. This accounts for the abundance of numbers about transactions in DTC during 1993 and for historical data for those who wish to understand what DTC is and how it has evolved.

Naturally enough, the record-shattering year for the securities industry in 1993 is widely reflected in volumes and dollar values processed by DTC on behalf of its Participants. Some new depository record highs indicate the dimensions of that volume:

- The annual value of book-entry deliveries rose 43% to \$27.8 trillion, due largely to the expansion of the commercial paper program, higher trading volume, and high securities values. During the final quarter, the value of book-entry deliveries averaged \$120 billion daily.
- The final quarter was the first in which "updates" to Participants securities accounts — activities that increase or decrease them — averaged over 1 million daily. This measure of activity excludes inquiries into those accounts or messages about such changes.
- The value of underwritings distributed through the depository increased by 32%, to \$988 billion — \$99 billion in December alone.
- The value of securities in DTC's custody at yearend increased by 17%, to \$7.5 trillion.

These and other volumes reported elsewhere in this report show how far U.S. securities markets have evolved since the late 1960s, when equity trading that was a small fraction of 1993's trading levels caused the paperwork crisis that spawned DTC. They demonstrate also DTC's contribution to making the securities industry's overall processing capability insensitive to such high trading volume and, we believe, to even higher volumes.

Interestingly, the high volumes that Participants send to DTC or that stem from its custodial role have had results beyond the usual benefits: lower processing costs in Participants' offices, faster performance for their clients, reduced loss and error, and improved security. Rising transaction volumes, together with DTC's continuous efforts to automate their processing, made 1993 the fourth consecutive year in which its cost-based fee schedule was reduced.

In the 25 years since the first book-entry delivery in DTC's predecessor organization, Central Certificate Service, and the 20 years of its existence as The

Depository Trust Company, a large part of DTC's role has been as a change agent helping the industry achieve ever greater efficiencies in securities processing. In the depository's effort last year to shape the vehicles for future services, three areas are particularly noteworthy:

1. Programming to expand the Money Market Instrument program to institutional certificates of deposit, municipal commercial paper, and bankers acceptances. The first stage of this expansion — institutional CDs — commenced in April 1994.
2. Plans and programming to help the industry convert from its present settlement cycle of trade date plus five business days (T+5) to T+3 by the Securities and Exchange Commission's June 1995 deadline, and to settlement of all types of securities in same-day funds.
3. Helping build the foundation for cross-border trade settlement in non-U.S. securities by book-entry delivery based on DTC accounts with foreign securities depositories. While a growing number of "global" securities issues can be settled typically in DTC and in the international securities depositories Cedel and Euroclear, few national securities depositories have evolved until recently. Their existence and expanding services increasingly will make it possible to bring about a reduction of the high cross-border trade settlement costs that now exist. DTC's hosting of the Second Conference of Central Securities Depositories in New York last May was a step along the way to realizing this goal.

None of these, or other plans can be realized without the active involvement of key operating officers from Participants in establishing program requirements for DTC and reviewing its proposed plans. For the efforts of the many industry committees and officials involved, the management of DTC expresses its continuing gratitude. Our thanks go out as well to our fellow employees at DTC whose planning, programming, and performance permitted the depository once again to maintain its reputation for quality service to users.

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

William F. Jepke
President and Chief Operating Officer

The Depository Trust Company's mission is to reduce the cost of securities processing by financial intermediaries serving the public, while increasing accuracy, security, and speed. To do this, DTC continually makes more issues eligible for its book-entry and centralized custody services, standardizes and automates the flow of information, and acts as a central "switch" for the flow of data, securities, and funds between its Participants and issuers' agents.

DTC's services begin when participating banks and broker-dealers deposit securities with it, or when an underwriting is distributed through the depository. Participants can then affect their resulting securities positions through instructions to the depository to perform various functions, such as deliver securities to another party by book-entry on DTC's records and collect payment for that delivery.

The depository can best be understood as an agency with three functions:

- A custodian for the securities of Participants—\$7.5 trillion at yearend 1993.
- An accounting system whose books record all activity affecting the securities in DTC's custody; for example, \$27.8 trillion in book-entry deliveries between its users last year.
- A group of communications systems for post-trade processing used by Participants to connect with DTC and through it to other depository users, transfer agents, and other agents acting for securities issuers.

In the early 1970s, DTC concentrated on adding banks to its broker-dealer user base in order to immobi-

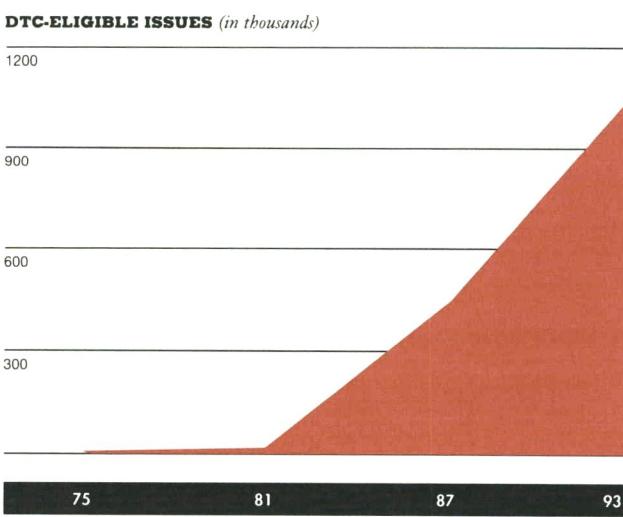
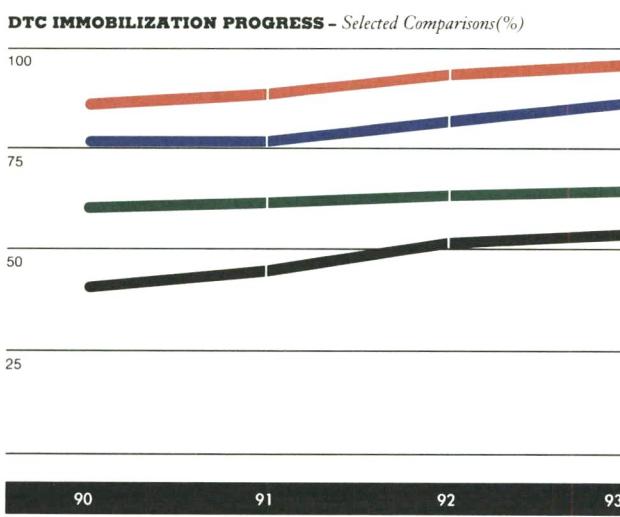
lize stock certificates held by banks and substitute book-entry deliveries for the physical exchange of certificates. At that time, DTC's intermediary role with issuers' agents was similar to a central post office through which users could route paper instructions, seeking newly registered certificates for customers, and receive payments due.

As the depository expanded, it sought ways to make it unnecessary for Participants to withdraw certificates in order to present them for tender offers and other reorganization activity. This meant establishing means for users to reach agents through DTC under procedures that, given the large sums involved, protected all concerned.

In subsequent years, after DTC took on more custody-related processing tasks for Participants, it added to user efficiencies by giving them on-line access to DTC's data base, providing quick answers to their account activity queries.

In order to maximize its usefulness to Participants, DTC has continually sought to make more securities issues, and more types of securities, eligible for its services. Having begun with New York Stock Exchange-listed stocks, the depository added stocks listed on the American Stock Exchange, then over-the-counter and other equity issues, and then listed and unlisted corporate debt.

In 1981, the depository began to make bearer municipal bonds eligible for its services, followed by registered municipal bonds. A number of types of securities that settle only in same-day funds were added, beginning in 1987. That process is continuing, with commercial paper becoming eligible in October 1990. More than



1 million security issues (CUSIPs) are now eligible for DTC services.

A variety of securities generally classified as "asset-backed" has appeared and been made DTC-eligible in recent years. These securities include collateralized mortgage obligations and issues backed by credit card, automobile, and other accounts receivable.

Another continuing DTC effort has been to reduce paper instructions and reports to and from Participants and to replace them with electronic communications. The great bulk of depository services are now accessed and delivered through DTC's Participant Terminal System of almost 1,986 terminals and printers across the country, as well as computer-to-computer interfaces with approximately 290 Participants.

Because Participants' customers want several million newly registered certificates each year, DTC has worked to make the transfer process more efficient. DTC's role, first stated in 1974, is that whenever possible, (1) DTC would place securities held in its custody with transfer agents under its Fast Automated Securities Transfer (*FAST*) program; (2) collect and distribute transfer data to agents in automated form, standardized to meet agent requirements; and (3) encourage agents to mail new certificates to users' clients directly, with safeguards and necessary reporting to Participants.

Progress in achieving transfer efficiencies continues. As 1993 closed, DTC had almost 48% of its \$7.5 trillion of securities holdings with *FAST* agents, received over 99% of Participant transfer instructions in automated form, had 99 transfer agents accepting automated

instructions, representing about 69% of its transfer volume, and helped make 43% of newly registered certificates from agents available to users' clients by direct mail.

At yearend 1993, the market value of DTC Participant bank and broker assets held at DTC, and held for DTC's account by depositories in Chicago and Philadelphia, equaled \$7.5 trillion, more than 98.8% of the total market value of securities held by all three depositories.

More important, the depository's 515 Participants, acting for themselves and approximately 4,300 bank and broker-dealer correspondents and their customers, had immobilized virtually all institutionally owned eligible securities and a rising percentage of retail investor-owned securities in a system that could safely accommodate peak levels of trading volume.

Although data for some types of securities are not available, the depository has in custody for Participants approximately:

- 78% of the shares of companies represented in the Dow Jones Industrial Average;
- 70% of the shares of all NYSE-listed U.S. companies;
- 57% of the shares of issues included in NASDAQ and 50% of American Stock Exchange-listed U.S. companies;
- 86% of the principal amount of outstanding corporate debt listed on the NYSE; and
- 95% of the principal amount of outstanding municipal bonds.

The nature of DTC's growth can be seen in the following table, "DTC Service Growth," which shows activity in selected services at five-year intervals.

D T C S E R V I C E G R O W T H *

TRADING IN SELECTED MARKETS	1978	1983	1988	1993
Average Daily				
NYSE shares traded (in millions)	58.6	85.3	161.5	264.5
NASDAQ shares traded (in millions)	11.0	62.9	122.8	263.3
AMEX shares traded (in millions)	3.9	8.2	9.9	18.1
At Yearend				
Participants	305	474	605	515
Eligible issues	13,028	71,397	608,916	1,154,897
Market value on deposit (in trillions)	\$ 0.20	\$ 1.24	\$ 3.28	\$ 7.54
Total for the Year				
Book-entry deliveries				
Value (in trillions)	\$ 0.50	\$ 3.60	\$ 7.9	\$ 27.8
Number (in millions)	20.5	50.0	67.2	98.3
Cash dividend & all interest payments				
Value (in billions)	\$ 8.7	\$ 54.8	\$ 178.2	\$ 401.1
Payments to DTC (in thousands)	N/A	N/A	997	2,162
Reorganization, redemption, & maturity payment value (in billions)	N/A	N/A	\$ 196.3	\$ 469.5
Underwritings				
Value (in billions)	\$ 15.8	\$ 180.5	\$ 362.2	\$ 987.8
Number	327	3,209	16,559	21,572
Underwritings of book-entry-only issues				
Value (in billions)	\$ 0.0	\$ 4.4	\$ 107.9	\$ 647.1
Number	0	651	9,850	12,955
Institutional Delivery System				
Users (at yearend)	125	4,631	7,252	9,155
Total confirmations (in millions)	0.9	11.3	16.7	36.8
Total affirmations (in millions)	0.3	5.8	10.1	22.4
Deliveries (in millions) **	0.2	4.4	8.2	14.3

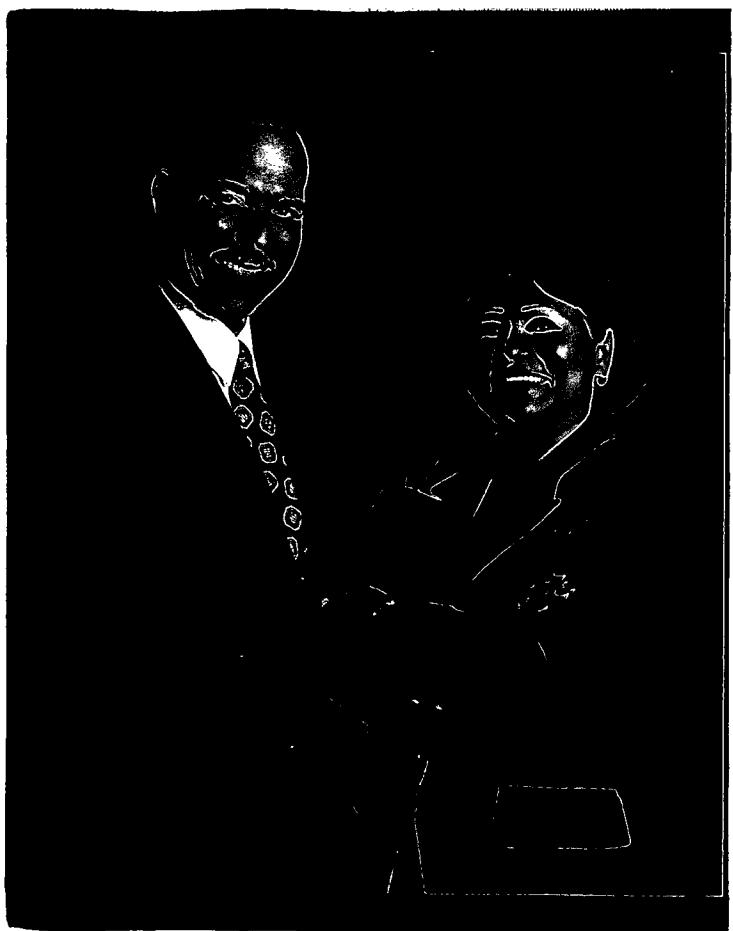
* Some figures rounded. ** Scheduled automatic deliveries in DTC only.

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

The amount of stock each Participant may purchase is recalculated every year to reflect variations in depository use. Participants may purchase some, 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 toward electing the Board of Directors at the meeting. Elections are conducted by cumulative voting so no combination of stockholders controlling a simple majority of stock can elect all Directors.

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

Because DTC stock ownership offers no financial incentive, and DTC's operation does not distinguish between stockholder and nonstockholder Participants, many Participants have not exercised their annual entitlement to purchase DTC stock. A substantial portion of DTC stock available to broker-dealer Participants therefore remains with the New York Stock Exchange, the original owner of the depository's stock, and other self-regulatory organizations that became owners in 1975. At yearend 1993, after retirement or merger of various stockholders subsequent to the completion of the 1993 stock reallocation, there were 135 DTC stockholders: 52 broker-dealers, 77 banks, and six self-regulatory organizations and clearing agencies. Broker-dealer Participants owned 14.3% of DTC stock, while bank Participants owned 41.9%. Ownership interests of the self-regulatory organizations on behalf of broker-dealer Participants were 34.7% for the New York Stock Exchange, 4.6% for the American Stock Exchange, and 4.6% for the National Association of Securities Dealers. All current

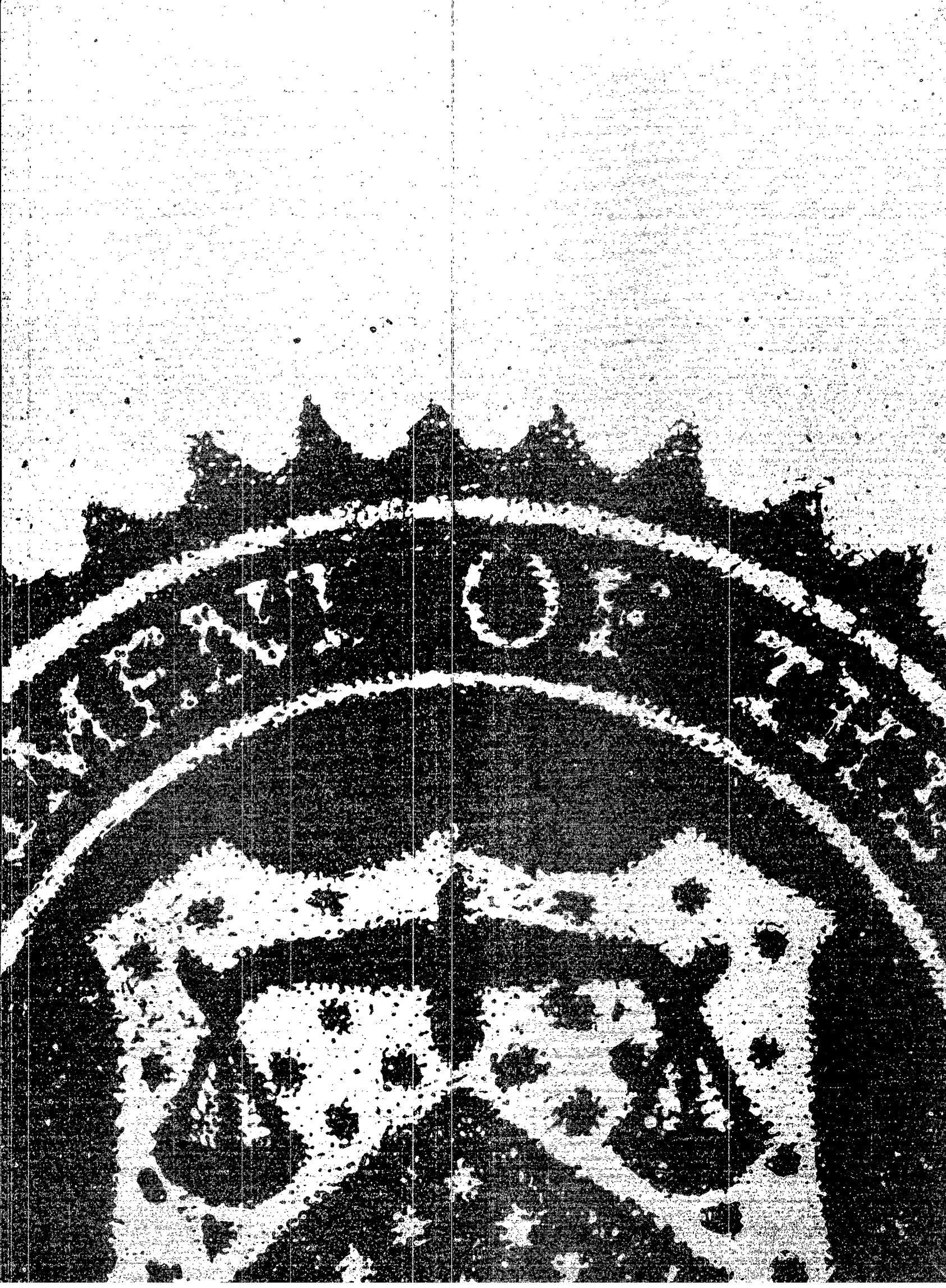


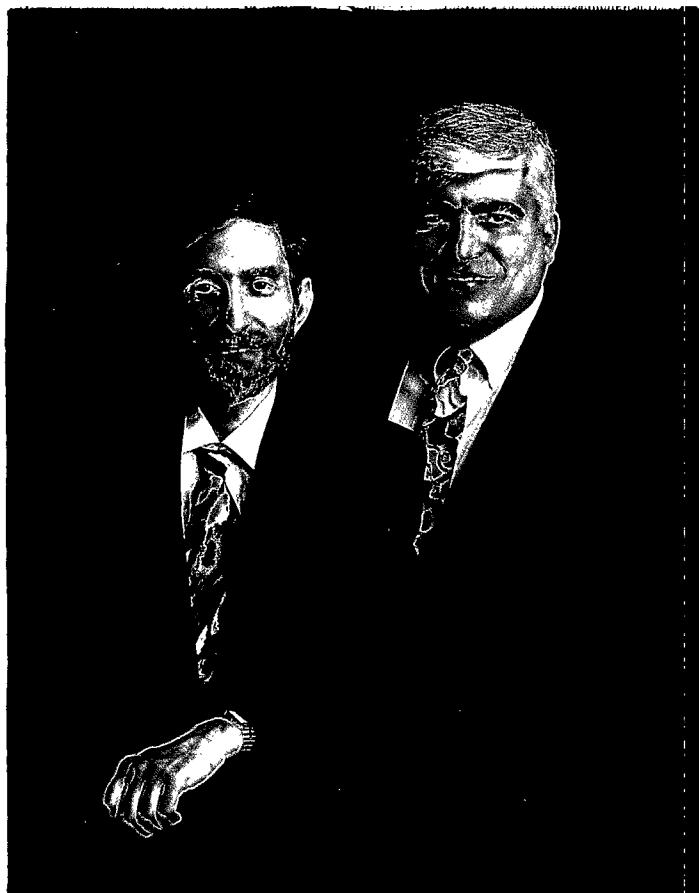
DTC's Charles Esposito, of Aging Transfer, and Margaret P. Mata, of First Interstate Bank of Texas, N.A., also representing The Southwest Securities Transfer Association, Inc., attend one of DTC's useful Corporate Trust Workshops.

stockholders are listed at the end of this report.

Another basic policy of the depository limits its annual profit, so that the depository returns to Participants revenues that the Board determines exceed the funds that are required for the depository's operation. In 1993, \$29.8 million was returned to Participants as general refunds in proportion to the fees paid by them to the depository.

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.





DTC's Jacob Feuchtwanger (left), systems coordinator for the change in how DTC accommodates odd-lot debt securities, and Andy Buovolo of Mabon Securities Corp., a strong supporter of the change.

Securities Clearing Corporation's (NSCC) system.

PLEDGES

Securities can be pledged by book-entry on DTC's records to banks and other entities that agree to accept them as collateral. At yearend, 93 banks were participating in the depository's pledge program. The Federal Reserve Banks of Atlanta, Birmingham, Boston, Chicago, Kansas City, New York, Philadelphia, Richmond, and St. Louis accept pledges to their DTC accounts from member banks. These pledges are 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 were \$60.9 billion.

UNDERWRITING DISTRIBUTIONS

Underwriters of new and secondary issues distribute them by book-entry against payment, whether or not certificates are available to investors. In 1993, lead managers used DTC to distribute 21,572 new corporate and municipal underwritings valued at \$988 billion.

CUSTODY

Participants can reduce their cost of safeguarding securities by placing them with DTC, and gain further savings from other DTC custody-related services. Participant securities valued at \$7.54 trillion were held by DTC at yearend.

DIVIDENDS AND INTEREST

DTC collects dividend and interest payments for securities in its custody. In 1993, DTC received more than 2.1 million payments for Participants from 4,395 paying agents — for example, on a given peak day over 170,000 payments for \$13 billion — with corporate cash dividends and interest rising to \$323.1 billion and municipal bond interest reaching \$78 billion. Timeliness of corporate cash dividends and interest payments is high, with

DTTC's services are described briefly below, with illustrations of transaction volumes. The automated means by which these services are delivered or accessed is also described, as well as important service developments in 1993. Selected depository service volumes for the year are reported on page 12.

DEPOSITS

Certificate deposits in eligible issues can be made at DTC or at certain banks and clearing corporation offices acting as DTC Depository Facilities. In 1993, 19.8 million certificates were deposited with DTC.

DELIVERIES

Changes of securities ownership are made by book-entry delivery on DTC's accounting records. They can be made with or without an accompanying money payment. Some 53.8 million deliveries against payment valued at \$25.5 trillion were made through DTC in 1993, with another 44.5 million deliveries for \$2.3 trillion made through DTC for settlement in the National

99.7% of funds received on payable date and 99.9% of their value in same-day funds. DTC receives virtually all municipal bond payments on payable date.

DIVIDEND REINVESTMENT

When permitted by an issuer's reinvestment plan, the Dividend Reinvestment Service (DRS) allows Participants, on behalf of interested customers, to reinvest dividends on shares without withdrawing them from DTC. In 1993, DRS included 632 plans and facilitated reinvestment of \$1.7 billion in dividend distributions.

VOLUNTARY OFFERINGS

Tender and Exchange Offers: Participants can accept tender and exchange offers for securities in their accounts

Kim Pelosi (left) representing Fidelity Investments Institutional Services Company, Inc., which accepts Participants' mutual funds trades through DTC's interface with the National Securities Clearing Corporation's Fund/SERV, and DTC's Lisa Dougan.



and deliver them to agents through DTC. The value of these acceptances in 1993 was \$27.2 billion.

DTC's Automated Tender Offer Program (ATOP) enables Participants to send electronic acceptance instructions on tender and exchange offers over the Participant Terminal System (PTS) for transmission to agents, replacing hard-copy instructions. ATOP also lets agents review up-to-the-minute information about the receipt of instructions throughout the offering period. Of the 68,184 Participant tender-offer instructions received through DTC last year, 93% were processed through ATOP.

Agents that infrequently act as tender or exchange agents may use ATOP II, a modified, dial-in terminal version of ATOP that provides most of the benefits of the full program without those expenses associated with dedicated communications lines and hardwired equipment.

Conversions: Participants can instruct DTC to surrender convertible debt and preferred securities in their accounts to conversion agents by book-entry for same-day credit in the underlying securities, usually common stock. Nearly 354 million shares resulted from these conversions in 1993.

REDEMPTIONS

When a security in the depository's custody matures or is called by the issuer, DTC presents it for redemption to one of 6,196 agents with which it deals and pays the proceeds to affected Participants. In 1993, DTC processed redemptions in 175,425 issues for a total dollar value of \$434.4 billion. These figures include 95,658 municipal maturities. Daily redemptions ranged as high as 16,307 issues, and for as much as \$21.7 billion. In addition, DTC processed 40,871 partial municipal calls and 2,915 partial corporate calls. The record-breaking call volumes in 1993 had DTC receiving 27,456 notices from 1,077 agents, generating 73,422 redemptions.

PUTS

Put provisions allow holders to obtain payment, on demand, for their securities' principal value on a predetermined number of days' notice. DTC's Repayment Option Procedures let Participants submit put instructions in eligible issues through the depository. Those issues, totaling 10,625 in 1993, include municipal and corporate issues, mortgage-backed bonds, and floating-

rate notes and securities with similar repayment options. Also in 1993, DTC received 18,480 instructions to exercise Participant puts and allocated \$21.2 billion in payments. In addition, DTC processes optional repayments on certificates of deposit (CDs) and rollover instructions on Treasury bills.

UNITS

A unit is a type of investment "package," such as a share and a warrant, or a bond and a put option. Participants can separate units into their components, or combine the components into units, and deliver them through DTC by book-entry. DTC received 16,990 unit-related instructions in 1993.

WARRANTS AND RIGHTS SUBSCRIPTIONS

Warrants for common stock can be exercised by book-entry through DTC. In 1993, 26,404 subscriptions in 217 warrants/rights issues were processed, resulting in the issuance of 337 million shares. The rights portion of the subscriptions was 15,839 instructions in 99 offerings.

OPTIONS

More than 168 banks and broker-dealers used DTC to deposit securities to satisfy OCC margin or clearing fund requirements in 1993. The value of these pledged securities totaled \$9.1 billion at yearend.

Through the Third-Party Pledge System, banks can pledge to OCC securities on deposit at DTC for broker-dealers to satisfy OCC requirements for call option writers. The system also allows a put option writer to instruct its bank to move Treasury bill positions to the depository and pledge them to OCC for the account of the OCC clearing member carrying the writer's short position. This reduces the clearing member's margin requirements.

WITHDRAWALS

Participants can withdraw certificates from the depository in three ways.

Withdrawals-by-Transfer (WTs): When a Participant's customer wants a certificate registered in a particular name, DTC arranges with the transfer agent for the certificate's issuance. In 1993, 4.8 million new certificates were created this way. Depending on the issue, its agent, and the agent's location, newly registered certificates are generally available one to two weeks after DTC has received instructions for these routine transfers.



James Rogers, of DTC's Deposits area (left), and Joseph Armellino of National Financial Services, which uses the new Deposit Automation Management System. DAM employs wand technology to improve processing of securities for deposit at DTC.

Urgent COD Withdrawals: Participants can obtain urgent certificates-on-demand (CODs) in certain issues—full-Fast Automated Securities Transfer (*FAST*) securities and municipal bond issues. Although urgent CODs have been eliminated for fully registered municipal securities that settle in same-day and next-day funds (excluding *FAST* issues), critical withdrawal requests will be accommodated on a case-by-case basis.

Rush Withdrawals-by-Transfer: This service enables DTC to speed the processing of certificate transfers for Participants when certificates are needed soon and CODs are unavailable. Certificates sought by RWT are generally available within one or two days if the transfer agent is located in New York City and within three if it is outside New York City.

SELECTED SERVICES STATISTICS

	1993	1992		1993	1992
Deposits			Redemptions (SDFS and NDFS)		
Daily Average Certificates for Registered Securities	73,200	60,800	Full Calls and Maturities	131,639	106,654
Total Registered Certificates (in millions)	18.5	15.4	Municipal Partial Calls	40,871	36,253
Daily Average Certificates for Bearer Securities	5,200	6,900	Corporate Partial Calls	2,915	2,305
Total Bearer Certificates (in millions)	1.3	1.8			
Deliveries			Puts (SDFS and NDFS)		
Number (in millions)	98.3	83.3	Eligible Issues	10,625	7,663
Value (in \$ trillions)	\$27.8	\$19.4	Instructions to Exercise	18,480	19,129
Pledges (in \$ billions)			Total Value of Allocations (in \$ billions)	\$21.2	\$17.3
To Banks	\$44.2	\$25.7			
To Options Clearing Corporation	\$ 8.7	\$ 7.1	Units		
To Federal Reserve District Banks	\$ 8.0	\$ 7.1	Eligible Issues	514	607
Total	\$60.9	\$39.9	Instructions to Combine	3,130	4,206
Custody			Instructions to Separate	13,860	12,653
Securities on Deposit (in \$ trillions)	\$7.5	\$6.4			
Dividends and Interest			Warrant Subscriptions		
Number of Payments Received (in millions)	2.1	1.9	Eligible Issues	217	107†
Number of Paying Agents	4,395	3,217	Subscriptions Processed	42,243	14,581*
Total Corporate Cash Dividends and Interest (in \$ billions)	\$323.1	\$260.1	Resulting Shares (in millions)	337	217
Total Municipal Bond Interest (in \$ billions)	\$ 78.0	\$ 68.2			
Total Stock Dividends (in billions of shares)	8.3	8.6	Certificate Withdrawals		
Change Mode of Payment Instructions			Daily Average Withdrawals-by-Transfer	17,500	20,600
In UIT Securities	7,257	10,599	Total New Registered Certificates (in millions)	4.8	5.8
In Variable-Mode Preferred Stock Issues	135	239	Daily Average Certificates-on-Demand for Registered Securities	300	470
Tender and Exchange Offers			Total Certificates Withdrawn	90,000	167,000
Offers Processed and Allocated	804	565	for Bearer Securities (in millions)	0.35	0.5
Agents Involved	127	135	Total Certificates Withdrawn through RWT Service	21,000	32,000▲
Value of Acceptances (in \$ billions)	\$27.2	\$16.5			
Conversions			Direct Mail Service		
Eligible Issues	536	540	Number of Participants	149	135
Number of Resulting Shares (in millions)	354	188.9	Participating Transfer Agents	32	27
			Certificates Mailed by Agents (in millions)	1.2	1.1
			Certificates Mailed by DTC (in millions)	.9	1.3
			Total Certificates Mailed (in millions)	2.1	2.4
			% of All WT Certificates Sent by Direct Mail	43	41

† Does not include 42 rights offerings. *Includes 9,174 rights instructions. ▲Use of multiple Cede & Co. certificates to fill RWTs stopped in February 1992.

FAST AUTOMATED SECURITIES TRANSFER

Through *FAST*, DTC reduces certificate movement by maintaining a quantity of securities with transfer agents as balance certificates registered in its nominee name, Cede & Co. Balance certificates are adjusted daily for DTC deposit and withdrawal activity. Agents can choose to use only the WT portion of the program, or they can also handle urgent COD withdrawals through the full-*FAST* program.

DIRECT MAIL SERVICE

For WTs, Participants can speed newly registered certificates to customers or third parties by having transfer agents and DTC mail them directly instead of returning them to Participant offices for mailing. Over 2 million certificates were handled this way in 1993 — 43% of all certificates requested through DTC during the year.

When agents mail certificates, DTC first receives automated registration information from Participants, reformats it if needed, and forwards it to agents in machine-readable form. The agents issue certificates and return transaction details to DTC for its records and for reporting to Participants. When a Participant wants transferred certificates mailed, DTC mails them whenever transfer agents do not provide direct mail service.

FUND/SERV INTERFACE

DTC's Fund/SERV Interface, which permits DTC users to access NSCC's Fund/SERV mutual funds program, processed 78,042 transactions in 1993, translating to more than \$1.3 billion in gross settlement value.

The Interface lets users input purchase, redemption, and registration instructions and receive fund-transmitted confirmations. Users settle purchase and redemption transactions in the depository's daily net settlement system. DTC, in turn, settles with NSCC.

DTC also has an Interface with NSCC's Networking service which complements Fund/SERV, enabling the electronic exchange of standardized nontrade account data between participating mutual funds and Networking users. Subaccount activity records, closing position balances, payment rates, and such dividend allocation information as record, posting, and payable dates are some of the data that can be transmitted. The Interface also provides a centralized distribution facility through which dividend payments are credited to Participants' daily net settlement accounts.



Deposits Service Desk members Donald Pina and Pat Wolf (left), and Bill Webb of the Aged WT Service Desk. Service desks were established in DTC operations areas last year to ensure swift and expert response to urgent processing problems.

During 1993, DTC redesigned its Interface to provide its users with access to the redesigned and enhanced NSCC Fund/SERV program. The enhanced Fund/SERV is designed to provide a single system that can process any type of mutual funds transaction, regardless of its settlement cycle or type of funds settlement.

Usage of the Fund/SERV Interface system increased 56% in 1993. At yearend 1993, there were a total of 181 eligible fund groups in the Fund/SERV program, compared to 146 at yearend 1992.

AUTOMATION OF DEPOSITORY SERVICES

To lower the operating costs of the depository and its users, DTC continues to increase the automation of its operations and communications with Participants, trans-

A U T O M A T I O N S T A T I S T I C S

	1993	1992
CCF Users	672	699
CCF II Users	392	321
Average Daily Number of CCF/CCFII Records*	10.5	10.3
PTS Terminals	1,986	1,480
Average Daily Number of PTS Transactions	986,201	894,000
PTS Jr. Users		
Participants	204	186
Pledgee Banks	17	15
Others	55	40
MDH Users	53	44

* In millions, includes MDH.

fer agents, and others. The depository has four principal vehicles for automated communication with users: the Computer-to-Computer Facility (CCF and CCF II); Mainframe Dual Host (MDH); the Participant Terminal System (PTS); and *PTS Jr.* These systems together routinely carry over 1 million messages daily. Their nature and enhancement during the past year are outlined below.

Computer-to-Computer Facility (CCF and CCF II): CCF is used for direct computer-to-computer communication between DTC and user IBM mainframes, now providing more than 70 input and output functions. CCF II serves the same purpose as CCF, but can also communicate with non-IBM user mainframes and personal computers. All output files available through CCF are available through CCF II. DTC provides CCF users with compression software, which can reduce transmission time for certain files by as much as 80%. Similar compression benefits are also available to CCF II users using certain protocols.

Mainframe Dual Host (MDH): A computer-to-computer telecommunications system, MDH lets users send and receive time-critical data in a real-time environment. Data submitted through MDH are processed immediately, and notification of the activity is instantaneous and continuous. In turn, MDH users can react instantly to satisfy special needs such as quickly redelivering incoming securities.

Participant Terminal System (PTS): Linked directly to DTC's computers, PTS is a network of 1,986 computer

terminals located in Participant offices in the United States and Canada. Participants use PTS to send instructions, inquiries, and other messages to DTC, and receive messages and reports.

PTS Jr.: PTS Jr. is available to low-volume users as an alternative to PTS. It performs all PTS functions at reduced cost, although at reduced speed. PTS Jr. requires only a user's compatible personal computer, DTC-supplied software, a modem, and a telephone connection. For some Participants, PTS Jr. may also be a suitable disaster recovery backup to their regular communications link to DTC.

K E Y D E V E L O P M E N T S I N ' 9 3

- Through DTC's Deposit Automation Management (DAM) System, Participants can reduce their costs and improve the processing of securities for deposit at DTC. DAM employs standard bar-code technology at the Participant site with a bar-code printer to print the new deposit tickets, and, at DTC, wands for scanning the bar code on the ticket. A depositing Participant with large volume uses a CCF transmission to alert DTC that it is preparing to deposit specific securities by CUSIP number and quantity. DTC's system reviews the transmission for record date, eligibility, and other factors, pends the deposit data in the depository's system, and returns an acknowledgment.
- DTC began accepting, at Participants' request, deposits with letters of correction, following a pilot program that tested the procedure. Prior to this, Participants had to send securities with letters of correction directly to transfer agents. Only after the newly transferred securities were returned could Participants deposit them at DTC.
- DTC began testing an expanded deposit service in September 1993 that will allow Participants to deposit certificates of past due matured or fully called issues by using special "Reorg Deposit" procedures. Since the test began, DTC has received nearly 1,500 reorg deposits from three test Participants and collected approximately \$23 million in an average turnaround time of 5.5 business days — a reduction in the normal collection time that Participants experience when dealing directly with redemption agents. This service will free Participants from the burden of presenting, tracking and collecting payments for past due issues for their customers. It will encompass full calls, maturities, partial calls and manda-

tory reorganizations. Following completion of SEC requirements, the service will be implemented in phases, and will include an automated interface with Participants to enable them to identify and report the status of their pending collections on reorg deposits.

- Following the SEC's approval of DTC's request to require agents to use ATOP or ATOP II for all tender and exchange offers in DTC-eligible securities, DTC plans to include a Notice of Guaranteed Delivery feature to the Participant Tenders over *PTS* (PTOP) function to enable Participants to submit "protects" over *PTS*, instead of having to deal directly with agents outside of DTC.
- Effective last September, DTC's Transfer Agent Services and Agent Liaison sections were joined to form the Corporate Trust Services Department to make DTC's relationship with transfer agents, paying agents, redemption agents, and trustees more efficient.

Representatives from this department are discussing with the top 150 U.S. paying agents recommendations of the Principal and Income Task Force, a subcommittee of the U.S. Working Committee of the

Group of Thirty (G-30), that payments associated with dividends, interest, redemptions, and reorganizations be made in same-day funds to coincide with the industry's move towards a same-day funds environment.

- Participants benefited from automated put processing over *PTS* through DTC's centralized data base that automates the processing of DTC-eligible mortgage-backed securities with monthly repayment features. Participants submit put instructions through the PUTS function, while agents satisfy the processing requirements of mortgage-backed puts through the Automated Mortgage-Backed Puts (APUT) function, both over *PTS*. Since DTC began its APUT program as a pilot in 1992, the service has attracted 16 agents who now accept Participant mortgage-backed put instructions over *PTS*, representing 94% of all eligible mortgage-backed issues.

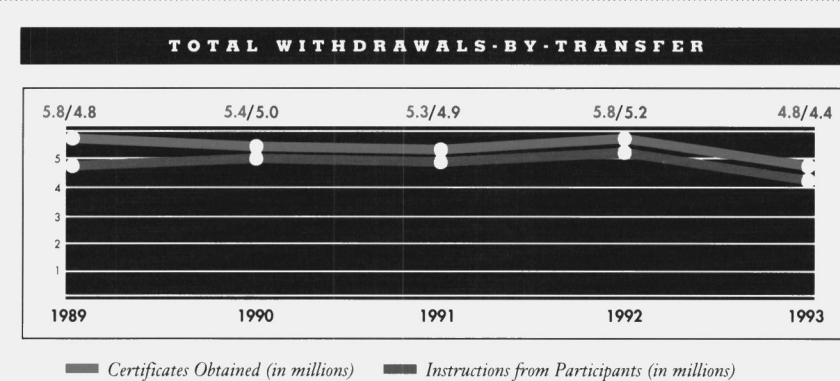
APUT enables agents to send payment instructions over *PTS* to DTC on behalf of Participants for specific mortgage-backed issues. Since instructions can frequently pend for prolonged periods of time, the program eliminates for Participants, agents, and DTC the ongoing, manual balancing of positions that characterize monthly put bond processing.

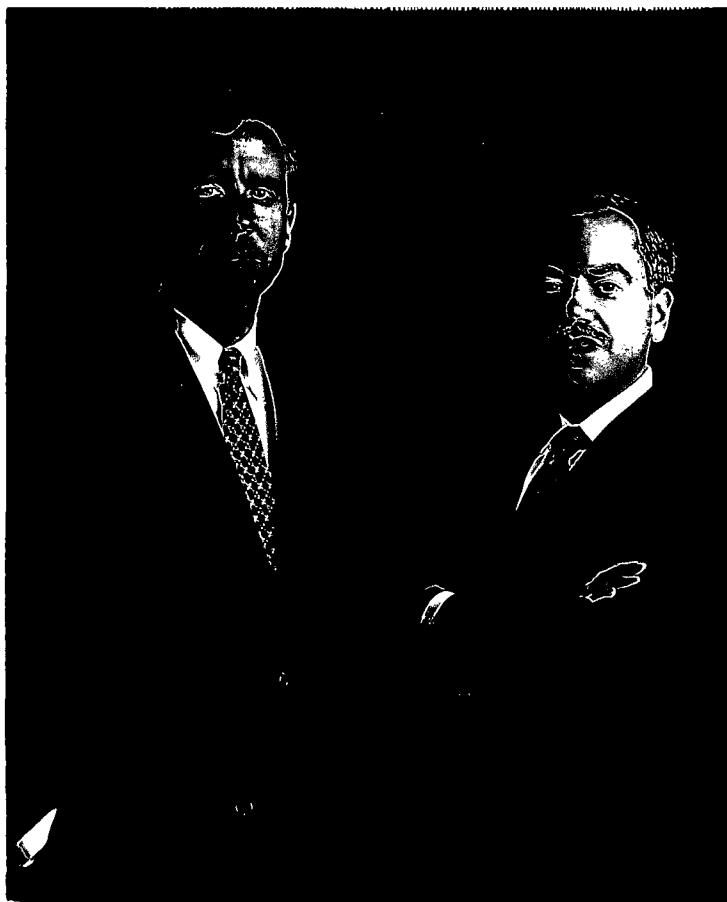
- DTC's Deposit/Withdrawal at Custodian (DWAC) service, which enables Participants to send electronic requests to certain transfer agents or other DTC custodians to deposit and withdraw securities into and out of their DTC accounts, was made available through CCF and CCF II.
- To accommodate Participants that prefer to use their own equipment to communicate with the depository, DTC can either establish *PTS* links connected to Participants Local Area Networks (LANs) and Intelligent Work Stations, or simply replace current *PTS* equipment with similar user-provided devices. In a more

sophisticated environment, DTC can set up direct network-to-network links through which *PTS*, MDH and CCF data are fed into a Participant's mainframe for distribution to

its internal applications and networks. These scenarios provide single-terminal access to DTC and Participant applications, desktop *PTS* accessibility, reduced costs, and a more efficient use of manpower. Currently, 46 Participants have replaced DTC-owned equipment with their own, six of which are making use of Intelligent Work Stations connected to LANs. Moreover, seven Participants have built network-to-network connections providing DTC services through their own equipment.

- A pilot program was begun in which The Northern Trust Company and two investment managers, Capital Guardian Trust Company and J.P. Morgan Investment Management Inc., began using DTC as a communications hub to relay institutional trade settlement information in the Industry Standardization for Institutional Trade Communications (ISITC) format.





DTC's Donald Donahue (left) and Bear Stearns' Edward Almeida participate in the Public Securities Association Task Force on Reducing MBS Industry Costs and Risks, considering private-sector depository services for these securities.

DT C's usefulness to Participants increases as more issues become eligible for depository services.

DTC first made eligible listed equities, followed by over-the-counter equities and listed and unlisted corporate debt. In 1981, DTC launched a full-scale municipal securities program, making first bearer, and then registered, municipal bonds eligible for depository services. And six years later, with the beginning of DTC's Same-Day Funds Settlement (SDFS) system, certain securities settling in same-day funds became eligible.

During 1993, approximately 392,000 issues became DTC-eligible, lifting the total of eligible issues to almost 1.2 million by yearend—resulting in a net gain of 13% over 1992. Of the newly eligible issues, 154,660 were issues (CUSIPs) of municipal bonds distributed through the depository, and 139,000 issues settled in same-day funds.

I S S U E E L I G I B I L I T Y

Recognizing the cost savings to Participants of the widest possible issue eligibility, DTC in 1993 made eligible 99.94% of all issues Participants submitted for review for the purpose of underwriting distribution through the depository.

Because Participants and industry groups had requested that "odd-lot debt" (OLD) securities, including baby bonds, be made DTC-eligible, in 1993 the depository made system changes to enable the processing of debt securities transactions with denominations in increments of \$1. During November, Participant Terminal System input and output, as well as Mainframe Dual Host communications, were converted to reflect principal or maturity value rather than the number of \$1,000 bonds. The Computer-to-Computer Facility is scheduled to be converted early in 1994, with actual processing of odd-lot quantities to begin in the second quarter. Institutional Delivery services will follow late in 1994 or early 1995.

A special project of making older issues eligible began in 1992. Since then, 88,000 older municipal issues were identified and made eligible. In addition, approximately 6,000 older corporate issues have been made eligible as well.

In cooperation with the CUSIP Service Bureau, DTC continued in 1993 to focus on securities already issued and outstanding in an effort to make them eligible. Such issues include: municipal issues without assigned CUSIP numbers, limited partnerships, and issues that, for a variety of reasons, cannot be transferred.

In January, DTC removed restrictions on Participants' ability to deposit nontransferable DTC-eligible issues. Previously accepted for deposit for special purposes only, and whether registered in street or customer name, these issues became available in Participants' accounts for all book-entry services, including book-entry delivery to settle outstanding trades.

DTC's *Operational Arrangements for Issue Eligibility* memorandum outlines the criteria for an issue to become eligible at DTC. The arrangements (or OA), which include observance of municipal bond call notification standards that are endorsed by the Securities and Exchange Commission (SEC), aim to maximize the number of eligible issues while maintaining orderly processing and ensuring timely dividend, interest, principal, and redemption payments.

To this end, DTC was involved in a working group that developed a standard that builds on previously endorsed SEC standards. The new standard, "Called

SDFS-ELIGIBLE ISSUES*		
SECURITY TYPE	ISSUES (CUSIPs)	FACE VALUE ON DEPOSIT**
Asset-Backed Securities	947	\$ 190.1
Auction-Rate and Tender-Rate Preferred Stock & Notes	2,664	\$ 41.7
Collateralized Mortgage Obligations	10,129	\$ 296.1
Commercial Paper	14,619	\$ 408.6
Corporate Bonds	1,616	\$ 239.7
Corporate and Municipal Variable-Mode Obligations	150	\$ 2.7
Discount Notes	7	\$ 0.1
Government Agency Securities	1,194	\$ 22.8
Government Trust Certificates	297	\$ 13.2
Medium-Term & Short-Term Notes	19,051	\$ 225.0
Municipal Bonds	722	\$ 4.5
Municipal Notes	2,265	\$ 30.2
Retail Certificates of Deposit	5,282	\$ 10.5
Unit Investment Trusts	1	\$ 0.1
Variable-Rate Demand Obligations	5,682	\$ 53.8
Zero Coupon Bonds	2,522	\$ 59.8
Total	67,148	\$1,598.9

* As of December 31, 1993 ** In \$ billions.

Securities Processing—Securities Subject to Early Redemption,” was published by the American National Standards Institute (ANSI). It serves as a reference for trustees, agents, and issuers by promoting uniformity in handling notices of redemptions.

DTC often helps issuers, investment bankers, agents, and their legal counsel and operations staffs apply OA standards during the structuring of a new issue (whether certificates are available to investors or the issue is in book-entry-only form) so that DTC eligibility criteria can be met.

SAME-DAY FUNDS SETTLEMENT SYSTEM

DTC's Same-Day Funds Settlement (SDFS) system serves types of securities that settle in same-day, or Federal, funds. Completing its sixth year of operation, the system incorporates certain controls to limit settlement risk. Chief among them are collateralization controls, and net debit caps limiting the extent to which debits can build in a Participant's account.

In 1993, 245 Participants used SDFS directly, and 164 Participants with Next-Day Funds Settlement accounts at DTC used SDFS indirectly through the accounts of direct Participants. At yearend 1993, nearly \$1.6 trillion in face value of securities was on deposit—a 45% increase over yearend 1992. The largest security type on deposit continued to be commercial paper (CP)—with \$409 bil-

SELECTED SDFS STATISTICS		
GROWTH*	1993	1992
Direct Participants	245	228
Total Direct Accounts	529	484
Indirect Participants	164	164
Settling Banks	99	94
Eligible Issues (CUSIPs)	67,148	47,787
Face Value on Deposit (in \$ billions)	\$1,598.9	\$ 1,146.5
Value of Transactions Settled (in \$ billions)	\$ 22,400	\$13,430.2
Underwritings** Principal Amount** (in \$ billions)	6,012	5,497
	\$ 392.3	\$ 277.9

* As of December 31, 1993 ** Does not include medium-term notes, commercial paper, and certain insured municipal and corporate bonds.

DTC-ELIGIBLE SECURITY ISSUES

ISSUES MADE ELIGIBLE IN 1993

Equity	6,500
Corporate debt and certificates of deposit	140,200
Registered Municipal Securities	229,400
Bearer Municipal Bonds	13,900
U.S. Treasury and Federal Agency	2,000
Total	392,000

TOTAL ELIGIBLE ISSUES*

Corporate

NYSE and AMEX Equity Issues	3,545
Other Equity Issues	19,356
Corporate Debt Securities	45,186
Collateralized Mortgage Obligations	11,102
Units	554
Warrants	1,548
American Depository Receipts	1,048
Unit Investment Trusts	28,265
Certificates of Deposit	11,945
Other	2,262
Total Corporate	124,811

Municipal

Registered Bonds	834,036
Bearer or Interchangeable Bonds	186,386
Notes	2,265
Total Municipal	1,022,687

Government

U.S. Treasury and Federal Agency Issues	7,399
Grand Total	1,154,897

* By CUSIP number, as of December 31, 1993.

lion of face value, or 74% of the estimated CP universe (see the “Money Market Instrument Programs” section



CS First Boston Corporation's Peter J. Murray (left) and Fuji Securities Inc.'s Richard Kijewski (far right), members of the Government Operations Committee of the Public Securities Association, with DTC's Lorraine Rocco and Frank Petrillo.

U.S. investors, compared with 112 in 1992. These BEO global securities are also eligible for settlement at both or either of the international depositories Cedel and Euroclear, and at times elsewhere.

VOTING RIGHTS

Registration of deposited securities in DTC's Cede & Co. nominee name lets DTC promptly determine whether certificates are transferable; permit retransfer of certificates quickly and simply, when necessary; and ensure receipt of dividends, distributions, and voting rights to the depository for their allocation to Participants properly and without delay.

Although these reasons require it to be the owner of record, DTC's objective is to avoid obstructing communications between issuers and beneficial owners. Indeed, the existence of the depository in some cases may help a corporate issuer keep up with changes in ownership of its voting stock. DTC's *Omnibus Proxy* lets Participants exercise their voting rights on securities in DTC custody. It is, in effect, an assignment: Cede & Co., the holder of record, assigns each Participant the voting rights on securities in that Participant's DTC account as of record date.

DTC forwards the *Proxy*, with a list of Participants, to the issuer. It also notifies affected Participants that it has sent the *Proxy* and specifies the number of securities the Participant can vote. When these steps are completed (soon after record date), communication between issuers and beneficial owners occurs as if DTC did not exist.

Other reports also serve issuers:

- The *Security Position Listing* shows the total amount of a security issue on deposit at DTC and each Participant's account number(s). Each year, DTC sends the *Listing* to each equity issuer, indicating Participant record-date positions 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 for handling proxies, and the name and phone number of a contact there. The depository updates this list quarterly and sends it annually to issuers.

on commercial paper, page 21). Collateralized mortgage obligations (CMOs) again followed at \$296 billion on deposit, up from \$224 billion in 1992, while corporate bonds jumped 109% into third place at \$240 billion on deposit. Moreover, combined next-day and same-day funds yearend totals for non-CMO asset-backed securities accounted for more than \$200 billion on deposit at DTC.

Medium-term notes (MTNs) also continued to rise, from \$160 billion on deposit in 1992 to \$225 billion at yearend. MTNs are corporate debt securities with maturities ranging from nine months to 40 years, although they usually mature between one and seven years. Shelf-registered and continuously offered, MTNs give issuers the flexibility to match the funding of assets and liabilities. In 1993, 578 MTN issuers distributed 7,135 issues through the depository, valued at \$114.3 billion, compared with 1992's 451 issuers distributing 7,060 issues through DTC, valued at \$80.2 billion.

Participants also continued to either wholly or partially distribute book-entry-only global securities issues through DTC in 1993. Most of these issues settled in same-day funds. DTC processed a total of 373 new global issues in 1993, all with no certificates available to

Less than 13 years after DTC began its full-scale program offering depository services for municipal bonds, over \$1.32 trillion in principal amount of municipal bonds was on deposit at DTC, about 95% of the estimated amount outstanding. Moreover, of the total principal amount of municipal securities issued in the United States during 1993, 93%—\$326.6 billion—was distributed through DTC.

BONDS

Distributed through DTC in 1993 were 11,882 new municipal bond issues (153,959 CUSIPs), with a principal amount of \$273.5 billion. These figures, which exclude variable-rate demand obligation issues, represent 95% of all new long-term bond issues, according to

SELECTED DTC MUNICIPAL STATISTICS

	1993	1992
Daily Average Book-Entry Deliveries	20,000	16,700
Partially Called Issues with Lotteries	40,871	36,253
Resulting Call Proceeds (in \$ billions)	\$11.8	\$9.3
Coupons Presented (in millions)	21.9	29.7
BONDS		
Eligible Issues	1,020,422	907,033
Principal Amount on Deposit (in \$ billions)	\$1,321.7	\$1,135.4
Underwritings Distributed Through DTC	12,462	10,199
% BEO	55	47
Total Principal Amount (in \$ billions)	\$288.0	\$232.1
% BEO	75	70
Variable-Rate Demand Obligations		
Eligible Issues	5,682	3,477
Principal Amount on Deposit (in \$ billions)	\$53.8	\$38.1
Issues Distributed (by CUSIP)	701	501
% BEO	95	91
Total Principal Amount (in \$ billions)	\$14.5	\$10.4
% BEO	92	91
NOTES		
Eligible Issues	2,265	1,350
Principal Amount on Deposit (in \$ billions)	\$30.2	\$27.3
Issues Distributed (by CUSIP)	1,633	1,493
% BEO	96	95
Total Principal Amount (in \$ billions)	\$38.6	\$36.2
% BEO	98	98

Securities Data Company (SDC).

Variable-rate demand obligations, which became eligible in DTC's same-day funds settlement system in 1988, numbered 580 issues distributed, for a total of \$14.5 billion, in 1993.

Full and partial call bond volumes continued to reach record levels. For the year, DTC received 19,446 call notices from 807 agents, generating 64,850 redemptions. DTC promotes active agent adherence to the Securities and Exchange Commission-endorsed municipal bond call-processing standards, and conditions new-issue eligibility on the agent's or trustee's willingness to comply to the extent within its control. To this end, DTC was actively involved in developing a new standard, since published by the American National Standards Institute (ANSI), that promotes uniformity in processing notices of redemptions.

DTC custody service for municipals is of special value regarding bond redemptions, particularly partial calls, because DTC custody reduces or eliminates problems and losses arising from delayed or missed call notifications.

NOTES

In 1993, 1,425 issues with a total par value of \$38.6 billion were distributed through DTC. This represented 84% of the total par value, based on SDC figures. The size of issues ranged from distributions as small as \$61,000 of the County of Nassau, New York, Capital Notes, to as large as \$3 billion of the State of California Revenue Anticipation Notes.

BOOK-ENTRY-ONLY ISSUES

New municipal issues distributed through DTC in BEO form, with no certificates available to investors, reduce underwriting and continuing costs to issuers. These securities are reported in the "Selected DTC Municipal Statistics" table on this page and in the "Securities in Book-Entry-Only Form" section on page 22.

EXCHANGE OF BEARER CERTIFICATES

DTC's municipal bearer bond exchange program continues, with 900,000 certificates exchanged in 1993. Here, DTC generally surrenders batches of bearer interchangeable certificates to exchange agents for conversion into a "jumbo" registered certificate. Over the years, DTC has converted nearly 22.3 million bearer

certificates, at an estimated annual savings in handling, storage, and other costs of 63 cents per certificate. Moreover, registered certificates offer Participants better call notification and interest payment collection, no risk of coupon theft or loss, and reduced risk of theft or loss of easily negotiable certificates.

COLLECTION OF BEARER COUPON INTEREST

DTC saved over \$2 million on the more than 20 million coupons, valued at approximately \$3.5 billion, it processed during 1993 using its new automated method of presenting municipal bearer bond coupons directly to paying agents located outside of New York City.

RECENT DTC GROWTH BY SECTOR IN SELECTED SERVICES

	1993	1992	1991
ELIGIBLE ISSUES			
Equity	22,901	22,420	21,324
Corporate debt	45,186	34,955	28,930
Municipal debt	1,022,687	908,383	830,527
Other	64,123	60,123	58,385
Total	1,154,897	1,025,881	939,166
SELECTED SERVICES			
Value of securities on deposit (in \$ trillions)			
Banks	\$ 5.74	\$ 4.82	\$ 4.13
Broker-dealers	1.74	1.52	1.30
Other depositories	0.06	0.03	0.03
Total	\$ 7.54	\$ 6.37	\$ 5.46
Shares on deposit (in billions)			
Banks	82.8	71.3	60.8
Broker-dealers	88.1	75.9	67.4
Other depositories	1.1	1.1	1.3
Total	172.0	148.3	129.5
Principal amount of corporate debt on deposit (in \$ billions)			
Banks	\$1,907.8	\$1,555.0	\$1,229.3
Broker-dealers	397.2	319.0	298.2
Other depositories	6.0	9.6	17.5
Total	\$2,311.0	\$1,883.6	\$1,545.0
Principal amount of municipal debt on deposit (in \$ billions)			
Banks	\$ 880.4	\$ 758.8	\$ 661.1
Broker-dealers	463.0	395.5	339.9
Other depositories	8.4	8.4	9.8
Total	\$1,351.8	\$1,162.7	\$1,010.8
PARTICIPATION*			
DTC Participants	515	532	548
Broker-dealers	343	352	360
Banks	163	172	180
Clearing agencies	9	8	8

* Excludes indirect participation in DTC, which in 1993 included 1,350 banks and 2,970 broker-dealers that are correspondents of Participants.



DTC's Denise Russo and Mark Barber of GE Capital, the largest issuer of commercial paper, which joined DTC's program last year. The program now serves about 75% of the daily transaction value of the CP market.

accounts on maturity date for inclusion in that day's settlement.

DTC's continued expansion of its CP program proceeded as planned in 1993, and by yearend the program had:

- 976 programs of 913 issuers eligible;
- 26 IPA banks and 42 dealers participating; and
- \$409 billion on deposit at DTC—74% of the estimated CP universe—compared with \$293 billion at yearend 1992, or 53% of the estimated universe.

Moreover, the daily average number of issuances in December 1993 was 2,062, with a face value of \$29.0 billion, compared with December 1992's daily average of 1,363 issuances, with a face value of \$18.9 billion. A list of DTC-eligible CP programs and their IPA banks and dealers appears in DTC's monthly *SDFS Eligible Securities* book.

CORPORATE COMMERCIAL PAPER PROGRAM

Corporate commercial paper (CP) is unsecured short-term promissory notes typically issued by U.S. corporations to reduce their financing costs. CP eligible for DTC's program is issued in book-entry-only form (with no certificates available to investors) and settles in DTC's Same-Day Funds Settlement (SDFS) system.

DTC's CP program is designed for immediate, "hands-off" electronic issuance and settlement. The process begins when an issuer, or dealer on behalf of an issuer, describes by computer to the issuer's issuing/paying agent (IPA), the commercial paper to be issued and delivered. The IPA's computer edits, adds to, and reformats this description and communicates it to DTC's computer. DTC's computer then interacts with the dealer's and custodian bank's computers to arrange delivery and settlement. As an alternative to direct computer-to-computer links, IPAs, dealers, and custodians can communicate with DTC over the Participant Terminal System.

The depository sweeps maturing CP from Participant accounts and initiates book-entry maturity presentment deliveries versus payment to paying agent Participant

OTHER MONEY MARKET INSTRUMENTS

Institutional Certificates of Deposit Program

During 1993, DTC continued to develop plans to expand its services to other money market instruments with the guidance of a task force originally formed in 1988 by the Money Market Committee of the Public Securities Association to help DTC establish its CP program.

The first in the new series of programs contemplated is for institutional certificates of deposit. This program is modeled after DTC's corporate commercial paper program, but adds capabilities to process CD interest and principal payments—whether fixed or floating rate, periodically paying or paying only at maturity—and any reorganization payments. The first programs for issuers of large time-deposit, negotiable certificate of deposits were made eligible during April 1994.

Plans to add another money market instrument—municipal CP, including variable-rate demand obligations in a CP mode—are under way for later in 1994. Eligibility for bankers acceptances must await state law changes, but is possible in 1995.

The issuance of debt securities in book-entry-only (BEO) form continues to increase, as issuers reduce expense and investors grow more comfortable owning securities without certificates. In 1993, BEO securities valued at \$6.9 trillion—virtually all of them debt securities—were distributed through DTC. At yearend, the depository held BEO securities with a face value of approximately \$2 trillion.

With BEO, no certificates are available to investors. Issuers authorize the deposit at DTC of one global certificate for each issue (each maturity of a debt issue), which is issued in DTC's nominee name (Cede & Co.) and held by the depository or its custodian bank for the issue's life. Use of a master note for all issuances of certain security types through the depository under the issuer's program is also possible. Master notes have been used in DTC's commercial paper program since its inception in October 1990, while medium-term-note issuers also now have this option.

DTC records ownership changes by book-entry on its computers and statements, and these ownership changes are reflected in turn on the records of its Participants and their customers. These records of DTC and its Participants are used to allocate income distributions and principal redemptions to investors. Investors also receive transaction confirmations and periodic statements from their bank or broker-dealer custodians reporting activity and balances in their securities accounts.

Many individual investors accept BEO because they can reduce or eliminate the risk, expense, and inconvenience of safekeeping certificates. Because DTC often holds more than 90% of the principal amount of certificated new issue debt securities that are available to investors, BEO also is attractive to municipal and corporate debt issuers, who can completely avoid the continuing cost of certificate issuance and reissuance. BEO is now the method of choice for corporate issuers whose securities, such as commercial paper, are bought almost entirely by institutional investors.

The following corporate security types have been distributed in book-entry-only form through the depository:

- American Depository Receipts Asset-Backed Securities
- Auction-Rate and Tender-Rate Preferred Stock and Notes Certificates of Deposit Commercial Paper Conventional Notes and Bonds Medium-Term Notes Non-Government and Government-Agency Mortgage-Backed Securities Warrants Linked to Currency Exchange Rates Unit Investment Trusts.

BOOK-ENTRY-ONLY IN '93

- DTC's commercial paper program, completing its third full year in 1993, saw 448,379 issuances distributed with a combined principal amount of over \$6.1 trillion (see the "Money Market Instrument Programs" section on commercial paper, page 21).
- The number of issuer programs for continuously offered medium-term notes (MTNs) eligible at DTC grew yearend to 578 from 451. The principal amount of MTNs distributed through the depository in 1993 was \$114.3 billion.
- \$216.3 billion of principal amount in municipal bonds (including variable-rate demand obligations), compared with \$162.5 billion in 1992, was distributed in BEO form through DTC, representing 75% of all municipal bond debt distributed through the depository.
- Municipal notes issued in book-entry-only form amounted to \$37.9 billion in principal amount, compared with \$35.5 billion in 1992, representing 98% of all municipal notes distributed through the depository.

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

BOOK-ENTRY-ONLY ISSUANCE IN DTC

	1993	1992
MUNICIPAL BONDS		
Issues Distributed	6,792	4,813
Their Principal		
Amount (in \$ billions)	\$ 216.3	\$ 162.5
As a % of Total Bond		
Principal Amount		
Distributed Through DTC	75	70
MUNICIPAL NOTES		
Issues Distributed	1,365	1,197
Their Principal		
Amount (in \$ billions)	\$ 37.9	\$ 35.5
As a % of Total Note		
Principal Amount		
Distributed Through DTC	98	98
CORPORATE SECURITIES		
MTN Issuances		
(continuously offered)	7,135	7,060
Their Principal Amount		
(in \$ billions)	\$ 114.3	\$ 80.2
CP Issuances	448,379	279,480
Their Principal Amount		
(in \$ billions)	\$6,136.4	\$3,659.8
Other Issues Distributed	4,798	4,536
Their Principal Amount		
(in \$ billions)	\$ 392.8	\$ 261.5

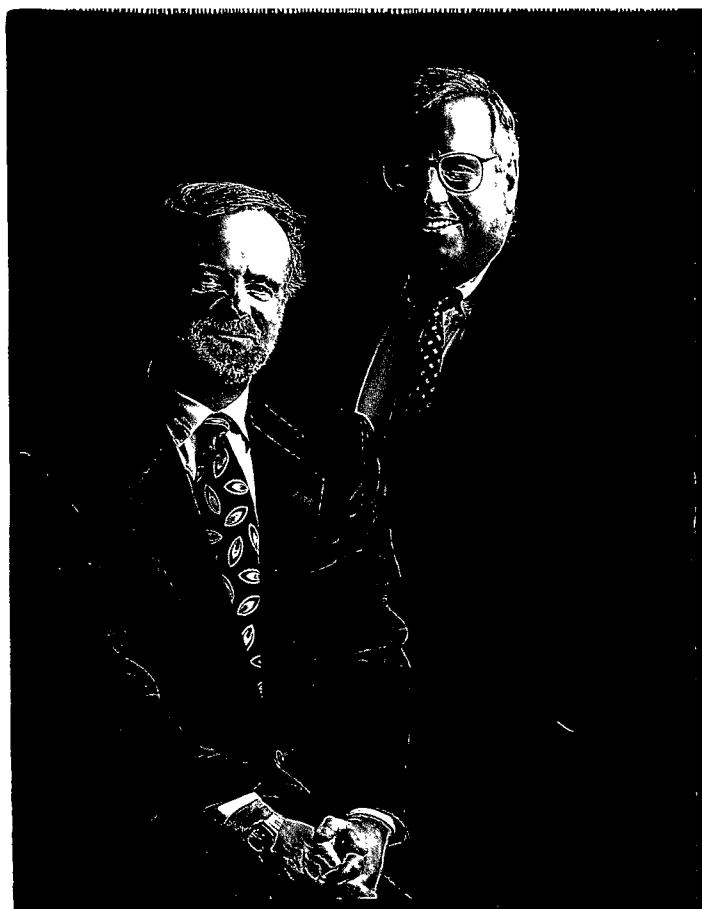
Twenty years after DTC's Institutional Delivery (*ID*) system was introduced for DTC-eligible securities, and after lengthy planning and consultation, the *ID* system underwent initial enhancements in 1993 toward becoming an electronic channel for processing any security, whether DTC-eligible or not. Trades in non-U.S. and other securities not eligible at DTC could be confirmed, affirmed (matched), and scheduled for settlement within 24 hours, or, under optimal conditions, within minutes.

Originally designed as a mechanism for reducing costs and increasing the assurance of timely settlement for institutional trades in DTC-eligible securities, *ID*'s chief benefit is its ability to coordinate through a central entity, DTC, and thereby simplify clearance and settlement functions for institutional trades by broker-dealers, institutions, custodian banks, and other agents.

Briefly, this is how the *ID* system works: A broker-dealer or dealer bank executing an institutional trade transmits to DTC such transaction details as price, quantity, and settlement amount, which DTC passes on as a legal trade confirmation to the institutional customer, the customer's agent, and other designated parties. If the *ID* confirmation accurately reflects the institution's order, the institution sends an affirmation to DTC, which then forwards settlement instructions to the agent and clearing broker-dealer or dealer bank. If the security is DTC-eligible and the deliverer has sufficient securities in its DTC account, the delivery is usually completed automatically by book-entry on the morning of settlement date.

In 1989, at the request of Participants, *ID* users, and industry groups, DTC established the International Institutional Delivery (*IID*) system to improve clearance and settlement by providing intraday confirmation and affirmation services and reports for non-DTC eligible, often international, securities transactions. The *IID* system primarily sought improved cross-border clearance and settlement, with reduced clearance costs for broker-dealers, customers, and investors. Although this service does not provide for DTC book-entry settlement, users also put it to domestic advantage for trade confirmations in DTC-ineligible securities with short settlement cycles.

Subsequently, to prepare for the eventual inception of a three-day U.S. settlement cycle, and to facilitate



James P. Lever, Jr., of Arnhold and S. Bleichroeder, Inc. (left) and DTC's Nick Arrigan serve on the SIA Data Management Division's Industry-Wide Glossary Committee to develop standard security description information.

settlements in even shorter periods, DTC began seeking advice from industry groups on building a single enhanced system with interactive capabilities for both eligible and noneligible securities. When fully available, *ID* users will have the option of using the "new" system's interactive capabilities, the current batch mode of transmission, or both.

Features of the enhanced system being introduced in 1994 include:

- **Interactive Communications Capabilities**, allowing the processing of all input and the distribution of related output, within minutes, if utilized.

- **Standing Instructions Data Base**, a repository of all customer account and settlement information for broker-dealers, institutions, and custodians to facilitate detailed

confirmation and settlement instructions with a minimum of trade data input.

■ **Electronic Messaging**, by which broker-dealers can transmit notifications of block order executions to institutions, eliminating the need for telephone calls.

Institutions can then transmit instructions back to the executing broker-dealer for purposes of allocating the block order.

■ **Enhanced Trade Input and Confirmation Output Format**, which enables users with machine-readable capacity to receive all confirmation-related activity through one medium, eliminating the need for DTC to support *ID* and *IID* as two systems. These formats also permit standardized error reporting.

■ **Improved Cancellation Processing**, which permits

From left are Irving Jacobs, of Brown Brothers Harriman & Co., which plans to use the new interactive *ID* system, and DTC's Dina Curreri-Hamwi, and Louis Piezzo.



the cancellation or correction of trade input by broker confirm number, or the cancellation of institution instructions by institution reference number.

■ **Matching**, which allows for interactive comparison of broker-dealer trade input to institution instructions, eliminating the subsequent need for an institution to affirm a confirmation when the institution is the affirming party.

■ **Authorization and Exception Processing**, to permit authorization of unaffirmed, unmatched trades and authorization or exception of trades up to settlement date + 21.

The new features will be introduced in stages during 1994.

ID IN '93

■ By yearend, the *ID* system included 9,155 institutions, broker-dealers, custodian banks, and other agents. Average monthly *ID* confirmation volume processed through the system was 3.3 million for the fourth quarter, up 36% from the year-ago period. For the year, 73.4 million confirmations, affirmations, and prescheduled deliveries were processed through *ID*, a 26% increase over 1992.

■ The yearend industry affirmation rates of trade confirmations in DTC-eligible securities reported by broker-dealers through the *ID* system were 95% for corporate debt and equity securities, and 82% for municipals, up from 80% at yearend 1992.

■ Goldman, Sachs & Co., D.A. Campbell Co., Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, and Bear, Stearns Securities Corp. began using the *IID* system to receive standard format confirmations of trades in Mexican securities executed in their behalf, and to affirm these confirmations back to the executing Mexican broker for trade settlement there. Twenty-three out of 26 Mexican brokers are using a DTC-developed PC work station to send confirmations to the *IID* system.

■ DTC representatives made numerous presentations in the United States and Canada beginning last May to institutions, broker-dealers, and banks to explain the coming features of the "new" *ID* system.

■ In June, a new *ID* System User Manual was made available to replace the existing procedures, and in August, a 30-minute video became available to help *ID* users understand the added and optional features that will be implemented in 1994.



United States Trust Company of New York's Gus Kourkoulis (right) is among the many U.S. paying agents with which Robert Olivari and others from DTC's Corporate Trust Services have discussed G-30 Principal & Income Task Force recommendations.

THE OPTIONS CLEARING CORPORATION

A DTC account for The Options Clearing Corporation (OCC) enables banks and brokers to pledge securities to satisfy segregation and margin requirements for put and call option contracts, as well as their obligations to OCC's clearing fund. This eliminates repeated paper movements between parties to pledge transactions and is an alternative to issuing escrow receipts.

Under the DTC Participant Terminal System (*PTS*) pledge/release program, Participants can input OCC-related pledges of securities and release requests over their *PTS* terminals. Participants can also input pledges of securities and release requests over DTC's Computer-to-Computer Facility (CCF and CCF II) and Mainframe Dual Host (MDH).

U.S. CONVERSION TO SAME-DAY FUNDS SETTLEMENT

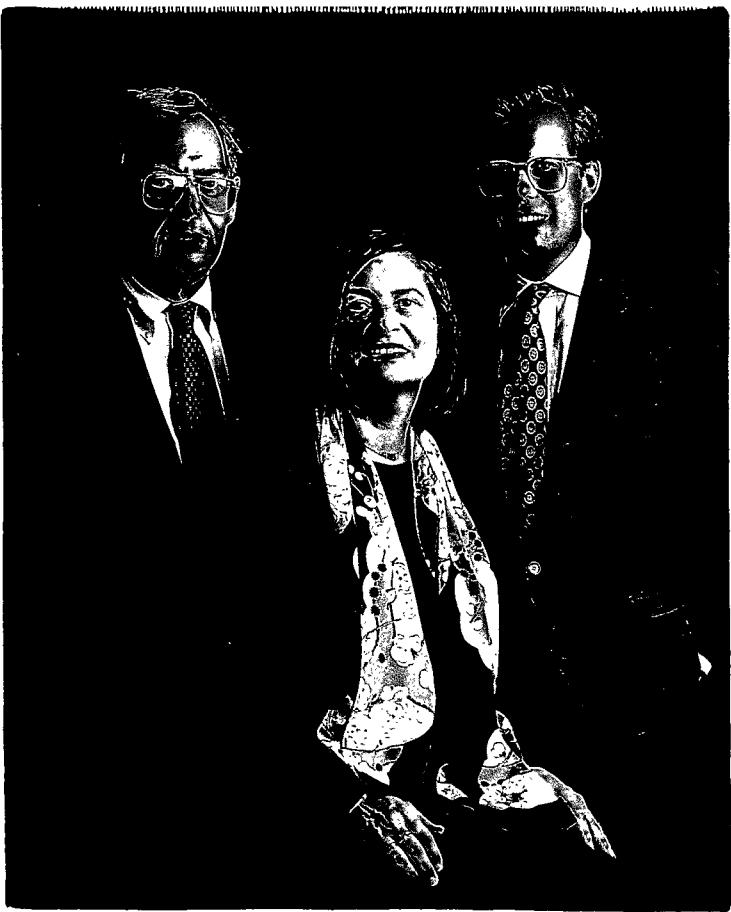
In 1989, the Group of Thirty (G-30) made nine recommendations aimed at providing greater uniformity in clearance and settlement practices in national securities markets. Two of these recommendations meant for the U.S. moving to a T+3 standard (which the Securities and Exchange Commission has since mandated effective June 1995) and the converting to same-day funds settlement for certain securities now settling in next-day funds. For the latter, the U.S. Working Committee for G-30 encouraged DTC and the NSCC to develop a conversion plan together with other clearing agencies, and that work is continuing.

Conscious of the impact this conversion will have on principal and income payments and their remittance to Participants, the U.S. Working Committee formed a Principal and Income Task Force to consider how principal and income payments to depositories could be remitted to Participants in same-day funds on payment date. A synopsis of key Task Force recommendations follows:

DTc's interfaces with other U.S. clearing agencies are a major part of the national securities clearance and settlement system.

A close working relationship between DTC and the National Securities Clearing Corporation (NSCC) permits hundreds of broker-dealers that participate in both NSCC and DTC to conveniently use NSCC's trade comparison and clearing facilities and DTC's trade settlement and securities custody services. DTC interfaces with NSCC's mutual fund services—Fund/SERV and Networking—also provide Participants easy access to those services.

Interfaces between clearing corporations and securities depositories enable users of any of them to settle with users of others. These links also permit users of more than one depository—DTC, Midwest Securities Trust Company, or Philadelphia Depository Trust Company—to move securities positions between depositories. Moreover, DTC's Institutional Delivery system is used to process the institutional trade data reported to other depositories for clearance and settlement through their systems.



EFFECTIVE JANUARY 1, 1995:

- All new issues must be depository-eligible and structured so that principal and income payments to depositories will be in same-day funds on payment date;
- Principal and income payments on securities outstanding before January 1, 1995, must be paid in same-day funds on payment date within the schedule set by each depository;

As members of DTC's Foreign Taxes Legal Working Group, Bureau Francis Lefebvre's Denis J. Streiff (right), DTC's Patricia H. Trainor, and Milbank, Tweed, Hadley & McCloy's Harry E. White, Jr., negotiated with French tax authorities to consider favorable rate payments at source on French ADR dividends through DTC.

- Each depository must receive all payments due from paying agents before the depository's cut-off time, to be able to pay its Participants in same-day funds on payment date; and,
- By the morning of payment date, paying agents must provide the receiving depository with the CUSIP number identification and the dollar amount being sent for each issue. Automated communications should be used unless 10 or fewer issues are involved.

An educational effort has begun to prepare the industry to adjust its payment practices.

JOINT STUDY ON MORTGAGE-BACKED SECURITIES SERVICES

At the request of the Public Securities Association Task Force on Reducing Mortgage-Backed Securities (MBS) Industry Costs and Risks, DTC and the Participants Trust Company began to collaborate in a joint study about providing private-sector depository services for mortgage-backed securities, including those of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation. The goal of the study is to report during 1994 on how best to provide more cost-efficient processing services for mortgage-backed securities, including those that are presently eligible only in the Federal Reserve Book-Entry System.

A growing number of large corporate issuers in foreign countries arrange for the sale of their shares in the U.S. market in the form of American Depository Receipts (ADRs), including ADRs as a portion of Global Depository Receipts (GDRs). Long eligible for DTC services, ADRs saw great growth in 1993, with 98 new issues made eligible.

ADRs experienced a nearly 20% increase in the value of underwritings distributed through DTC in 1993, \$10.3 billion, up from \$8.6 billion the previous year. Included in this figure are Rule 144A private placements in ADR form, which represented \$2.3 billion. Such issues amounted to 43% of the 81 total ADR issues distributed through DTC last year.

Through DTC's Elective Dividend Service (EDS), Participants can use the Participant Terminal System (PTS) to convey instructions for dividend payments on DTC-eligible foreign issues and ADRs. EDS includes a tax-withholding service for dividend and interest payments on Canadian securities and dividends on United Kingdom ADRs.

Begun in 1987, the Canadian Dividend Service affords U.S. tax-exempt beneficial owners a withholding exemption at source on Canadian dividends and interest, and accommodates various other levels of withholding as appropriate for Participants' customers. Participants now certify through EDS which portion of their position in Canadian securities is tax-exempt and which is entitled to the favorable withholding rate. EDS also permits Participants to make automated certifications for stock dividends.

United Kingdom ADRs can also be certified through EDS to receive the favorable treaty tax rate. By making such certifications over EDS, Participants receive payments with the appropriate taxes withheld at source, avoiding a costly manual tax reclaim process.

In 1993, EDS was used to facilitate elections for a global reclaim on certain French ADR dividends and to provide dividends on several Swiss ADRs at the favorable rate. DTC's long-term goal is to expand its EDS service to DTC-eligible issues of issuers based in other countries that have tax treaties with the United States.

To help achieve this goal, DTC established in 1993 a Foreign Taxes Legal Working Group. The group, which comprises tax attorneys and other specialists from various Participants, met with the French tax authorities in October. This meeting advanced the process of con-

sidering favorable rate payments at source on French ADR dividends through DTC, "avoir fiscal" claim procedures, and the global reclaim procedure through EDS for certain French ADR dividends.

The Foreign Taxes Legal Working Group is advising DTC on priorities for seeking improved access to treaty benefits among other tax treaty countries. In addition, DTC has joined a group of approximately 30 other custodians to work toward better treaty benefit procedures in all countries of the European Union and Switzerland.

Global securities, with settlement possible in the United States and other markets using interdepositary links, were first distributed through DTC in 1990. In 1993, 373 global equity and debt issues with a total value of \$95.4 billion at issuance were made eligible for DTC services. Of these, 307 were eligible for resale as restricted securities to qualified institutional buyers within the United States under SEC Rule 144A. Issuers in the United States and more than two dozen other countries were represented, with settlement possible at DTC, Cedel, and Euroclear; certain issues could be settled also in the Canadian Depository for Securities (CDS), the Deutscher Kassenverein (DKV) in Germany, or Sicovam in France. The remaining 66 global issues were asset-backed and other debt issues, which can settle in DTC, Cedel, Euroclear, and elsewhere as provided.

Global securities eligible for DTC services are usually in BEO form, with no certificates available to U.S. investors. DTC or one of its custodian banks holds a single global certificate representing all or DTC's portion of each issue. Delivery by a DTC Participant to a participant in the foreign depositories Cedel or Euroclear is made by book-entry to the DTC account of Cedel's and Euroclear's U.S. depositary banks, or by use of the withdrawal portion of DTC's Deposit/Withdrawal at Custodian (DWAC) service. Cross-border deliveries into DTC reverse this procedure.

INTERNATIONAL LINKS

DTC's longstanding links with Cedel and Euroclear, through the DTC accounts of Cedel's and Euroclear's depositary banks in the United States, accommodate interdepositary deliveries of Yankee bonds as well as certain global and Rule 144A issues mentioned earlier.

To support the long-standing participation of Canadian investors in U.S. securities markets and the settlement of trades involving Canadian broker-dealers,

National Securities Clearing Corporation (NSCC) sponsors DTC accounts for CDS and a number of Canadian broker-dealer members of CDS. This arrangement permits Canadian and counterparty broker-dealers to enjoy the benefits of NSCC's Continuous Net Settlement and Correspondent Clearing services and book-entry delivery in DTC and CDS. During 1993, CDS began arrangements leading to direct sponsorship of some of its members into DTC's Same-Day Funds Settlement System.

An NSCC subsidiary, the International Securities Clearing Corporation, sponsors DTC accounts for the Japan Securities Clearing Corp. and for the Central Depository (Pte.) Ltd. of Singapore to support trade settlement of U.S. securities in Tokyo and Singapore.

The Deutscher Kassenverein, the German central securities depository, in 1993 became DTC's first international direct Participant, permitting free delivery of DTC-eligible securities for its participants from its DTC account to the accounts of other DTC Participants over the Participant Terminal System installed in its Frankfurt offices.

U.S. LAW CHANGES

To allow it to have securities in the custody of securities depositories outside the United States, DTC is seeking to change existing U.S. state laws. When relevant provisions of those laws were enacted, they did not contemplate that Participants in a U.S. "clearing corporation" such as DTC would make book-entry deliveries of securities in the custody of a foreign securities depository. At the depository's initiative, the State of New York amended its law in 1992. DTC hopes that other necessary action will be completed by the end of 1994 to provide a clear legal basis for its participation in recognized foreign securities depositories. This would make possible book-entry deliveries among DTC Participants, and between those Participants and users of a foreign securities depository, with the securities concerned held in the custody of the foreign depository.

CSD II

In keeping with its role to foster the growth of an international infrastructure that will make cross-border trade

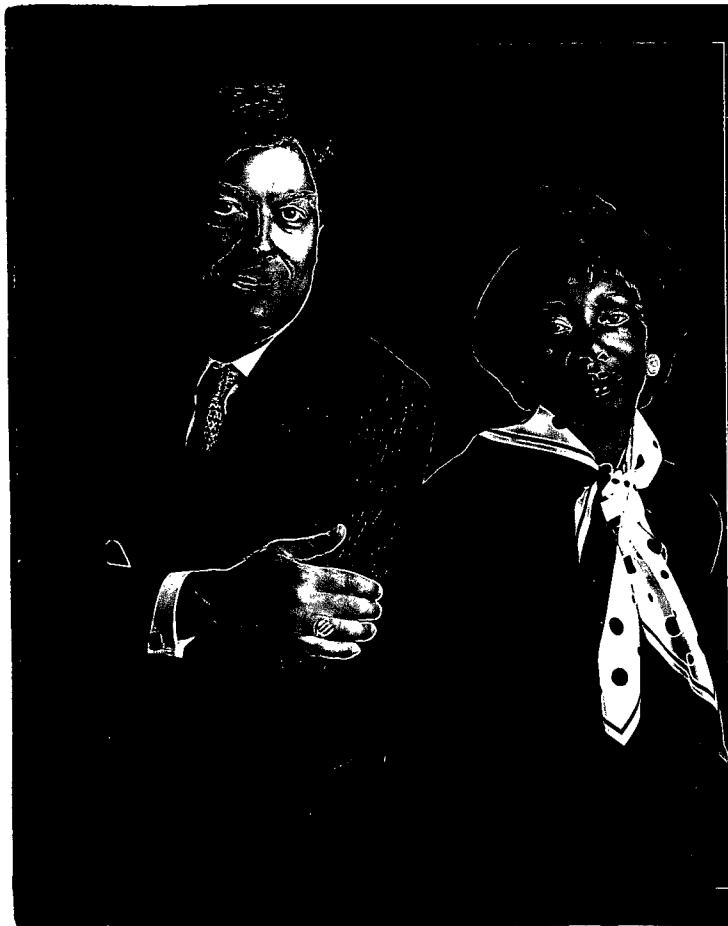
settlement more efficient, DTC during May hosted the Second Conference of Central Securities Depositories (CSDs), in New York City.

Representatives of national organizations from 30 countries and the two international CSDs, Cedel and Euroclear, considered a wide range of issues and procedures to address them during this biennial event. Their number was double the attendance at CSD I, reflecting efforts to develop CSDs in a number of countries and appreciation of their contribution to national markets seeking to attract domestic and foreign capital.

CROSS-BORDER TRADE CONFIRMATIONS

Usage of DTC's International Institutional Delivery (*IID*) system gateway to non-U.S.-based broker-dealers, investment managers, and custodian banks increased modestly during the year. Several U.S. broker-dealers also began to use *IID* capabilities to receive and affirm confirmations from broker-dealers in Mexico. This system offers a single electronic channel through which cross-border trades in non-U.S. securities can be confirmed, affirmed (matched), and scheduled for settlement outside DTC at foreign custodian or subcustodian banks—all within as little as 24 hours. An offshoot of DTC's much larger Institutional Delivery (*ID*) system, its intraday functionality was designed to reach U.S. and non-U.S. firms involved in cross-border trade execution and settlement with any *ID* system users.

The intraday functionality of *IID* is being integrated into the "new" *ID* system during 1994 (see page 23), in preparation for T+3 settlement in the U.S. in June 1995. *IID* will no longer exist as a separate system. With the enhanced *ID* system, investment managers will have a single, close to real-time channel for confirmations of all securities, whether DTC-eligible, other U.S. securities, or international. DTC, however, anticipates continued slow growth of the new system's usage in relation to cross-border trades until several conditions change, among them, wider agreement on cross-border trade confirmation standards and greater willingness to automate communications. As such advances occur and the need for electronic trade confirmations grows, DTC hopes to link its *ID* system with other networks abroad serving the same function.



Harry Aris of Janney Montgomery Scott Inc., a firm that supports DTC's Disaster Recovery Awareness Program, and DTC's Clarice Brown-Sanders, program coordinator.

As the world's largest custodian of corporate and municipal securities, DTC maintains an elaborate system of protection, highly regarded for its comprehensiveness in monitoring the movement of securities and safeguarding their custody.

INTERNAL CONTROLS

DTC records the movement and location of each certificate in its custody, which helps resolve processing errors and facilitates 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 are used to consolidate securities into large denominations, making unauthorized negotia-

tion extremely difficult, and to conserve 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.
- Representatives of eligible Participants and transfer agents are required to provide proper identification to obtain securities.
- DTC microfilms registered and related data that enter and leave its premises; bearer certificates are microfilmed only when they leave the depository.
- 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 during an emergency. Periodic tests of these contingency facilities are conducted.

PHYSICAL SECURITY

DTC's physical security program combines an extensive electronic security system with a thoroughly trained uniformed guard force.

- The Controlled Access System restricts entry into sensitive areas to authorized personnel, and is actively monitored by control room operators.
- A closed-circuit television system operates throughout DTC, monitoring all securities handling areas, vaults, entry points, and common hallways.
- A new, proprietary, alarm-monitoring system uses two DTC locations for simultaneous, real-time monitoring of surveillance devices and sensors. Additional backup protection is provided by a contract Central Station alarm company.
- A trained security force monitors the many systems as well as screens persons and packages moving through restricted areas.

- Special wastepaper treatment and disposal methods help prevent unauthorized release or accidental disposal of certificates.
- Deposited securities are stored in secured locations, where special access requirements and extensive controls are maintained.
- Registered securities are in non-negotiable form when delivered to or from transfer agents and other parties.

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 between Participants. DTC uses the recordkeeping systems to report to Participants and to research differences detected by Participants or by DTC control mechanisms.

USER VERIFICATION

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 help reconcile differences.

INTERNAL AND EXTERNAL AUDITS

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

- The internal audit program is used to review and test controls in key operating areas and in automated systems (including those being developed). Certificates in selected issues are counted daily through random sampling techniques.
- Price Waterhouse audits 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 from the Secretary's Office at DTC.

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

PARTICIPANTS FUND

The Participants Fund was created initially to be applied to any uninsured loss or liability suffered by DTC. DTC's Rules provide that any such loss may be charged against undivided profits or retained earnings, or to the Participants Fund, at the discretion of the Board of Directors. For DTC's Same-Day Funds Settlement (SDFS) system, however, the Fund serves primarily as a source of liquidity, if needed, to complete settlement when a Participant is delayed in settling a net debit with DTC for operational reasons.

Should DTC sustain a loss because of a Participant's failure to satisfy obligations to it related to the Next-Day Funds Settlement (NDFS) system or the SDFS system, DTC would first charge the loss to that Participant's deposit to the Fund. If the loss exceeded the deposit (or if it occurred for reasons other than Participant failure), DTC might then charge (pro rata) the excess to all other Participants' 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.

The Participants Fund has two components. One, which currently exceeds \$200 million, is allocated to DTC's NDFS system. The other component, which currently exceeds \$400 million, is allocated to the SDFS system, with a further allocation for money market instruments and activity of all other issues settling in same-day funds.

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

OTHER PROTECTIVE PROCEDURES

Additional procedures protect Participants by minimizing the possibility of loss from a Participant's unexpected insolvency. If DTC learns of a possible operational or

DTC's physical security program combines an electronic security system with a trained uniformed guard force, which monitors the many systems, as well as screens persons and packages moving through restricted areas.

financial inadequacy, it monitors that Participant's activity and takes protective steps as events warrant.

INSURANCE COVERAGE

DTC's insurance coverage program for securities is one of the most extensive programs for private institutions in the financial industry. Through a combination of interlocking blanket bonds and all-risk insurance policies involving the London and United States domestic insurance markets, DTC's coverage provides:

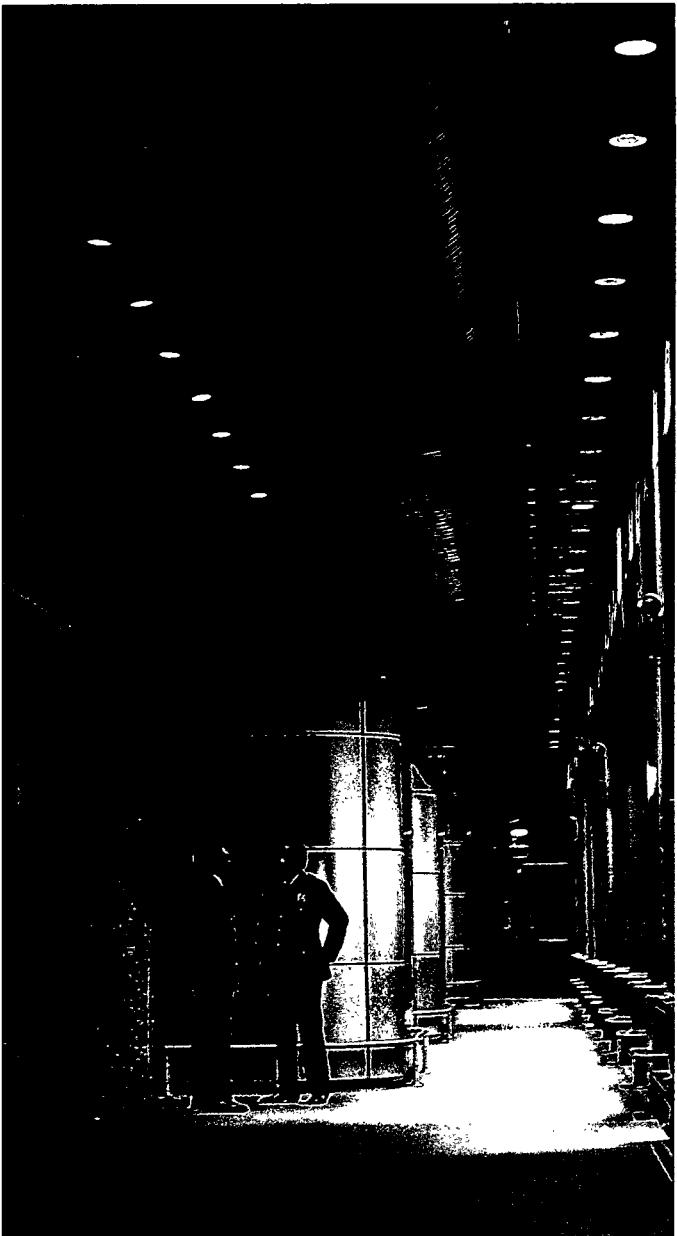
- \$250 million for loss of securities in transit;
- \$200 million for loss of securities on premises.

In addition:

- For any loss of non-negotiable securities being moved by certain modes of transportation, additional coverages are provided by DTC's insurers.
- For any loss of securities moving by armored car carrier service, \$600 million is provided by the armored car carrier's insurance.

For any loss occurring in the mail, DTC's mail policy provides:

- \$25 million in coverage for non-negotiable securities sent by registered mail, express mail, or express courier;
- \$1 million for non-negotiable securities sent by first-class mail;
- \$1 million for negotiable securities sent by registered mail, express mail, or express courier.



OFFICERS OF THE DEPOSITORY TRUST COMPANY



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



William F. Jaenike
President and Chief Operating Officer



Dennis J. Dirks
Executive Vice President



Thomas J. Lee
Executive Vice President



Richard B. Nesson
Executive Vice President and General Counsel



Michael A. Agnes
Senior Vice President



Joseph J. Bellantoni
Senior Vice President



Thomas C. Cardile
Senior Vice President



Donald F. Donahue
Senior Vice President



Michael Fedorochko
Senior Vice President

VICE PRESIDENTS

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Nicholas J. Arrigan
Neil F. Brander
Ronald J. Burns
John J. Colangelo
Raymond R. DeCesare
Stuart A. Fishbein
Ronald A. Garguilo
Bruce S. Garland
Vincent P. Hilly
Charles J. Horstmann
James Koster
Vincent A. Mauro
Michael T. Mullen
Richard J. O'Brien
Frank Petrillo
Lawrence W. Postel
Joseph F. Reale
James V. Reilly
John L. Scheuermann
Kenneth M. Scholl
Carl H. Urist

Comptroller
Gary J. LaCara

Treasurer
Philip E. Plasencia

Assistant Secretary
Jane C. Klueger

Assistant Treasurer
Leonard A. Miele

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Chairman
Jill M. Considine
Richard S. Pechter
H.J. Runnion, Jr.

Audit Committee*
Edward L. Goldberg,
Chairman
Richard J. Matteis
Michael Urkowitz

Compensation Committee
Richard S. Pechter,
Chairman
Timothy A. Hultquist
Michael Minikes
Thomas C. Schneider
Michael Urkowitz



Glenn E. Mangold
Senior Vice President



Larry E. Thompson
Senior Vice President and Deputy General Counsel



Edward J. McGuire, Jr.
Secretary

*Retiring from the Nominating Committee in July 1993 was John F. Lee, and from the Audit Committee in July 1993, David L. Domijan.

THE BOARD OF DIRECTORS



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*Chairman and Chief
Executive Officer*
The Depository
Trust Company

William F. Jaenike
*President and Chief
Operating Officer*
The Depository
Trust Company

Jill M. Considine
President
New York Clearing
House Association

Steven G. Elliott
Vice Chairman
Mellon Bank, N.A.

Edward L. Goldberg
Executive Vice President
Merrill Lynch
& Co. Inc.



Timothy A. Hultquist
*Managing Director
and a Director of*
Morgan Stanley
& Co. Incorporated

Richard G. Ketchum
*Executive Vice
President and Chief
Operating Officer*
National Association of
Securities Dealers, Inc.

Edward A. Kwalwasser
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New York Stock
Exchange, Inc.

Richard J. Matteis
Group Executive
Chemical Bank

Michael Minikes
*Senior Managing
Director and
Treasurer*
The Bear Stearns
Companies Inc.



Richard S. Pechter
Chairman
DLJ Financial
Services Group

H. J. Runnion, Jr.
Consultant to the
Wachovia Bank
of North Carolina

Thomas C. Schneider
*Executive Vice
President and Chief
Financial Officer*
Dean Witter,
Discover & Co.

Michael Urkowitz
*Executive Vice
President*
The Chase
Manhattan Bank,
N.A.

Jonathan T. Walton
*Executive Vice
President*
NBD Bancorp

Retiring from the board in March 1993, at the end of his term, was Richard A. Grasso, Executive Vice Chairman, President, and Chief Operating Officer of the New York Stock Exchange, Inc.; in July, David L. Domijan, Executive Vice President of the New York Stock Exchange, Inc. and John F. Lee, President of the New York Clearing House Association; and in December, Richard V. Fulp, former Executive Vice President of the Bank of America.

REPORT OF INDEPENDENT ACCOUNTANTS

**TO THE BOARD OF DIRECTORS AND
SHAREHOLDERS 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, 1993 and 1992, 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.

Pricewaterhouse

1177 Avenue of the Americas
New York, NY
February 4, 1994

FINANCIAL INFORMATION

STATEMENT OF CONDITION

Dollars in thousands at December 31,

1993

1992

ASSETS

Cash and money market accounts	\$ 5,499	\$ 5,524
Repurchase agreements	3,558,139	3,970,251
Receivables:		
Participants:		
For settlements	3,909	10,625
For services	28,083	27,969
Dividends, interest and other	457,539	455,852
Deferred income taxes	26,182	21,071
Prepaid expenses, deferred charges and other assets	25,295	6,083
Equipment and leasehold improvements, less accumulated depreciation of \$85,046 in 1993 and \$77,344 in 1992	38,332	41,591
Leased property under capital leases, less accumulated depreciation of \$613 in 1993	1,822	-
Deposits to Participants Fund, callable on demand	478,337	475,234
	\$ 4,623,137	\$ 5,014,200

LIABILITIES, PARTICIPANTS FUND AND STOCKHOLDERS' EQUITY

Liabilities:

Drafts payable	\$ 3,196,848	\$ 2,581,968
Accounts payable and accrued expenses	144,143	114,365
Payable to Participants:		
For refunds	19,284	8,992
For settlements	191,037	77,989
On receipt of securities	60,067	55,492
Dividends, interest and other	320,217	1,495,676
Notes payable	3,829	8,222
Obligations under capital leases	2,052	-
	3,937,477	4,342,704

Participants Fund:

Deposits received	187,943	177,168
Deposits callable on demand	478,337	475,234
	666,280	652,402

Stockholders' Equity:

Capital stock—authorized, issued and outstanding 18,500 shares of \$100 par value	1,850	1,850
Surplus	950	950
Undivided profits	16,580	16,294
	19,380	19,094
	\$ 4,623,137	\$ 5,014,200

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

STATEMENT OF REVENUES AND EXPENSES AND UNDIVIDED PROFITS

<i>Dollars in thousands for the years ended December 31,</i>	1993	1992
REVENUES		
Services to Participants	\$ 321,785	\$ 312,735
Interest income	46,063	42,839
	367,848	355,574
Less—Refunds to Participants	69,903	57,369
	297,945	298,205
EXPENSES		
Employee costs	172,155	176,436
Rent, maintenance and utilities	47,773	47,560
Data processing rentals and supplies	22,630	25,961
Professional and other services	27,528	23,477
Depreciation and amortization	11,292	8,936
Stationery, supplies and postage	4,544	4,693
Other expenses	11,737	10,874
	297,659	297,937
Excess of revenues over expenses and refunds	286	268
Undivided profits, beginning of year	16,294	16,026
Undivided profits, end of year	\$ 16,580	\$ 16,294

STATEMENT OF CASH FLOWS

<i>Dollars in thousands for the years ended December 31,</i>	1993	1992
CASH FLOWS FROM OPERATING ACTIVITIES		
Excess of revenues over expenses and refunds	\$ 286	\$ 268
Adjustments to reconcile excess of revenues over expenses and refunds to net cash provided by (used in) operating activities:		
Depreciation and amortization	11,292	8,936
Pension and deferred compensation	6,765	8,063
Provision for uncollectible dividends and interest receivables	459	383
Provision for deferred taxes	(5,111)	(6,274)
Decrease in receivables from Participants	6,602	13,911
Increase in dividends, interest and other receivables	(2,146)	(326,008)
Increase (decrease) in accounts payable, accrued expenses and other, net	3,801	(5,973)
Increase (decrease) in Participants Fund deposits	10,775	(9,818)
Increase in drafts payable	614,880	1,374,341
Increase (decrease) in payable to Participants	(1,047,544)	1,046,081
Total adjustments	(400,227)	2,103,642
Net cash provided by (used in) operating activities	(399,941)	2,103,910
CASH FLOWS FROM INVESTING ACTIVITIES		
Purchases of equipment and leasehold improvements	(7,420)	(6,222)
CASH FLOWS FROM FINANCING ACTIVITIES		
Principal payments on capital leases	(383)	—
Principal payments on notes	(4,393)	(4,955)
Increase (decrease) in cash and cash equivalents	(412,137)	2,092,733
Cash and cash equivalents, beginning of year	3,975,775	1,883,042
Cash and cash equivalents, end of year	\$ 3,563,638	\$ 3,975,775

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

NOTE 1—BUSINESS AND OWNERSHIP:

The Depository Trust Company ("DTC") is a limited purpose trust company providing central securities depository and related services to the securities, banking and related industries. At December 31, 1993, the New York Stock Exchange, Inc. owned approximately 35% of the capital stock of DTC, with the remainder owned by the American Stock Exchange, Inc., the National Association of Securities Dealers, Inc. and a number of DTC 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.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:*A. Refunds:*

Pursuant to a policy adopted by the Board of Directors, DTC does not pay dividends to stockholders, but refunds to its Participants each year all revenues in excess of current and anticipated needs. In 1993, this refund amounted to \$29,800 (1992—\$21,517). 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 DTC for Participants. Such net monthly refunds totaled \$40,103 in 1993 (1992—\$35,852).

B. Securities on deposit:

Securities held by DTC for Participants are not reported in the financial statements. Cash dividends and interest received by DTC or due on such securities and in process of distribution or awaiting claim are included in the Statement of Condition.

C. Cash, money market accounts, repurchase agreements 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, primarily with certain money center banks and broker-dealers, are recorded at cost and interest is accrued as earned.

DTC 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.

For cash flow reporting, cash and cash equivalents include cash, money market accounts and repurchase agreements. The carrying amounts of money market accounts, repurchase agreements and drafts payable reported in the Statement of Condition are not materially different from their fair values.

D. Equipment and leasehold improvements:

Equipment and leasehold improvements are reported at cost less accumulated depreciation and amortization. Equipment is depreciated over estimated useful lives ranging from five to eight years, using principally accelerated methods. Leasehold improvements are amortized using the straight-line method over the lives of the related leases or the useful lives of the improvements, whichever is less.

E. Income taxes:

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

F. Reclassification of revenues and expenses:

Certain revenue and expense categories were reclassified in 1993. Revenues and expenses for 1992 were restated to conform with the 1993 presentation.

NOTE 3—PARTICIPANTS FUND:

Participants in DTC are required to deposit to the Participants Fund amounts which relate to their activity in the depository. The Fund is available to be applied to the Participants' obligations to DTC, and to be applied to certain uninsured losses incurred by DTC, if such should occur. Required deposits are received in cash or in securities of the United States Government, its agencies or instrumentalities, states and political subdivisions or certain eligible nonconvertible registered corporate debt securities, that are held by DTC, or pledged to DTC and callable on demand.

NOTE 4—DIVIDENDS, INTEREST, REORGANIZATION AND REDEMPTION BALANCES:

DTC receives cash and stock dividends, interest and reorganization and redemption proceeds on securities registered in the name of its nominee and interest and redemption proceeds 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 DTC's nominee cannot be distributed unless claimed by the owners of the securities through a Participant or other financial institution. At December 31, 1993, cash dividends, interest, reorganization and redemption payables amounted to \$320,217, of which \$238,361 was awaiting distribution to Participants and \$81,856 was held pending claims on behalf of the record date owners of the applicable securities. Unclaimed balances are transferred when required by abandoned property laws. Stock dividends payable and unclaimed are not reported in the financial statements.

Cash dividends, interest and other receivable balances at December 31, 1993 amounted to \$458,124 (1992—\$456,327) before reduction by an allowance of \$585 (1992—\$475) for possible losses. Stock dividends receivable are not reported in the financial statements.

NOTE 5—PENSION BENEFITS:

DTC has a noncontributory defined benefit pension plan covering substantially all full-time employees. The pension plan is qualified under section 401(a) of the Internal Revenue Code. Pension benefits are based on a formula percentage of annual earnings for each year of continuous participation with vesting after five years. DTC's funding policy is to contribute annually the maximum amount that can be deducted for federal income tax purposes.

Retirement benefits are also provided under supplemental non-qualified pension plans for certain officers. The cost of these benefits is determined based on substantially the same actuarial methods and economic assumptions as those for the qualified pension plan.

Net pension costs for 1993 and 1992 included the following components:

	1993	1992
Service cost—benefits earned during the year	\$5,154	\$5,254
Interest cost on projected benefit obligation	5,375	4,448
Actual return on assets	(5,186)	(4,598)
Net amortization and deferral	332	(249)
Net pension cost	\$5,675	\$4,855

The following table reflects the plans' funded status as recognized in DTC's financial statements at December 31:

	1993	1992
Plan assets at fair value, primarily equity securities and deposits under group annuity contracts	\$52,773	\$49,268
Accumulated benefit obligation for service rendered:		
Vested	64,437	51,275
Non-vested	2,699	2,958
	67,136	54,233
Additional amounts related to projected compensation increases	15,249	15,443
Projected benefit obligation for service rendered	82,385	69,676
Projected benefit obligation in excess of plan assets	(29,612)	(20,408)
Unrecognized net asset remaining from the initial application of FAS No. 87	(6,427)	(7,199)
Unrecognized net loss from past experience different from that assumed and the effects of changes in assumptions	8,076	4,544
Unfunded defined benefit pension cost included in accounts payable and accrued expenses	(\$27,963)	(\$23,063)

The discount rate used in determining the actuarial present value of the projected benefit obligation was 7.25% for 1993 (1992—7.75%). 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 9.75% in 1993 and 1992. 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—OTHER POSTEMPLOYMENT BENEFITS:

DTC provides certain unfunded health care and life insurance benefits for retired employees. The cost of these benefits is recognized using the accrual method under Statement of Financial Accounting Standards No. 106, "Employers' Accounting for Postretirement Benefits Other Than Pensions," which was adopted as of January 1, 1993. The unrecognized transition obligation of \$16,532 that existed when Statement of Financial Accounting Standards No. 106 was adopted is being amortized over 20 years.

Net periodic postretirement benefit cost for 1993 included the following components:

	1993
Service cost—benefits attributed to service during the period	\$1,158
Interest cost on accumulated benefit obligation	1,497
Amortization of transition obligation	827
Net postretirement benefit cost	\$3,482

Accounts payable and accrued expenses includes \$20,240 for these benefits. The actuarial present value of DTC's accumulated postretirement benefit obligation was \$23,241 as of December 31, 1993 using a discount rate of 7.5%. The unrecognized component of \$3,001 reflects a reduction in the discount rate at yearend. The assumed health care cost trend used to measure the expected cost of benefits reflects rates decreasing from 13.5% initially to an ultimate rate of 6% beyond 15 years. A one-percentage-point increase in the health care cost trend rates assumed would increase the 1993 cost by \$553 and the accumulated postretirement benefit obligation by \$3,314.

The Financial Accounting Standards Board requires the recognition of the cost of postemployment benefits, such as disability payments, provided to former or inactive employees who have not yet retired to be accrued under Statement of Financial Accounting Standards No. 112, "Employers' Accounting for Postemployment Benefits," beginning in 1994. The adoption of this new standard is not expected to have a material effect on DTC's financial condition.

NOTE 7—INCOME TAXES:

Income taxes are included in other expenses. The income tax provisions for 1993 and 1992 are summarized as follows:

	1993	1992
Current provision:		
Federal	\$3,083	\$4,951
State and local	1,942	1,555
Deferred (benefit):		
Federal	(1,376)	(4,779)
State and local	(3,735)	(1,495)
Net income tax (benefit) expense	(\$86)	\$232

The primary difference between pretax accounting income and taxable income relates to unfunded pension and health care benefits for covered active and retired employees.

Income taxes paid during 1993 totaled \$5,185 (1992—\$6,012).

Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes," was adopted, as of January 1, 1993, resulting in a cumulative credit adjustment to deferred income taxes of \$664. The adoption of this new standard increased deferred state and local income tax benefits by \$2,364 and reduced deferred federal income tax benefits by \$1,700.

NOTE 8—NOTES PAYABLE:

DTC has a note payable totaling \$3,829, at an annual rate of 8.8% which is being repaid in monthly installments. Maturities of the note payable as of December 31, 1993 are \$3,521 in 1994 and \$308 in 1995. The carrying value of the note is not materially different from fair value. Interest paid during 1993 totaled \$724 (1992—\$1,068).

DTC has a short-term line of credit of \$10 million available with a commercial bank at a rate approximating the prime rate and a revolving credit loan agreement totaling \$250 million at the federal funds rate plus 3/8%. A commitment fee is required on the \$250 million revolving credit loan agreement which is available to support the Same-Day Funds Settlement system. These facilities were not utilized during 1993.

NOTE 9—LEASES AND OTHER COMMITMENTS:

DTC has entered into leases for office space and data processing and other equipment. The leases for office space provide for rent escalations subsequent to 1993. Rent expense in 1993 was \$34,811 (1992—\$33,868) for office space and \$16,140 (1992—\$17,580) for data processing and other equipment.

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, 1993:

	Capital Leases	Operating Leases
1994	\$791	\$47,934
1995	770	43,638
1996	407	41,482
1997	244	22,200
1998	61	8,486
Thereafter	—	43,499
Total future minimum lease payments	2,273	\$207,239
Less—Amount representing interest on capital leases	221	
Present value of net minimum lease payments under capital leases	\$2,052	

P A R T I C I P A N T S †

BANKS

Amalgamated Bank of New York (The)
 Associated Bank Greenbay, National Association
 American National Bank & Trust Company of Chicago
 AmSouth Bank, N.A.
 Bank IV Kansas, National Association
 Bank of America NT & SA
 Bank of America Nevada
 Bank of Bermuda International Limited
 Bank of California (The)
 Bank of Cherry Creek, N.A. (The)
 Bank of New York (The)
 Bank of Nova Scotia (The), New York Agency
 Bank of Tokyo Trust Company (The)
 Bank One, Arizona, N.A.
 Bank One, Denver, N.A.
 Bank One, Indianapolis, N.A.
 Bank One Ohio Trust Company, N.A.
 Bank One, Texas, N.A.
 Bank One Wisconsin Trust Company, N.A.
 Bank South, N.A.
 Bankers Trust Company
 Barclays Bank PLC, New York Branch
 Barnett Banks Trust Company, N.A.
 Bessemer Trust Company
 Boatmen's National Bank of St. Louis (The)
 Boston Safe Deposit and Trust Company
 Brown Brothers Harriman & Co.
 Central Bank of the South
 Central Fidelity Bank, N.A.
 Central Trust Bank (The)
 Charles Schwab Trust Company (The)
 Chase Manhattan Bank, N.A. (The)
 Chemical Bank
 Citibank, N.A.
 City National Bank
 Comerica Bank
 Commerce Bank of Kansas City, N.A.
 Continental Bank, National Association
 CoreStates Bank, N.A.
 Crestar Bank
 Custodial Trust Company
 Dai-Ichi Kangyo Bank, Limited (The), New York Branch
 Daiwa Bank, Limited (The), New York Agency
 Eagle Trust Company
 Fiduciary Trust Company International
 Fiduciary Trust Company of Boston

Fifth Third Bank (The)
 Firstar Trust Company
 First Fidelity Bank, National Association, New Jersey
 First Fidelity Bank, N.A. Pennsylvania
 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 National Bank of Boston (The)
 First National Bank of Chicago (The)
 First National Bank of Maryland (The)
 First National Bank of Ohio
 First National Bank of Omaha
 First of America Bank-Illinois, N.A.
 First Tennessee Bank N.A. Memphis
 First Trust Corporation
 First Trust National Association
 First Union National Bank
 Fleet Bank of Massachusetts, N.A.
 Fort Wayne National Bank
 French American Banking Corporation
 Frost National Bank
 Fuji Bank & Trust Company (The)
 Guardian Trust Company
 Goldman Sachs Trust Company (The)
 Harris Trust & Savings Bank
 Hibernia National Bank
 Huntington National Bank
 IBJ Schroder Bank & Trust Company
 IDS Bank & Trust
 Imperial Trust Company
 Industrial Bank of Japan Trust Company (The)
 Investors Bank and Trust Company
 Investors Fiduciary Trust Company
 Key Trust Company
 LTCB Trust Company
 Lake Shore National Bank
 LaSalle National Bank
 Liberty Bank & Trust Company of Tulsa, National Association
 Liberty National Bank and Trust Company of Louisville
 Liberty Street Trust Company
 Lloyds Bank Plc
 M&I Marshall & Ilsley Bank
 Manufacturers and Traders Trust Company
 Marine Midland Bank, N.A.
 Mark Twain Bank
 Mellon Bank, N.A.
 Mercantile Bank of St. Louis National Association
 Mercantile-Safe Deposit and Trust Company

Meridian Asset Management, Inc.
 Michigan National Bank-Grand Rapids
 Midlantic National Bank
 Mitsubishi Bank Trust Company of New York
 Mitsubishi Trust & Banking Corporation (U.S.A.)
 Mitsui Trust Bank (USA)
 Morgan Guaranty Trust Company of New York
 Morgan Stanley Trust Company
 NBD Bank, N.A.
 NationsBank of Georgia, N.A.
 NationsBank of Texas, National Association
 National City Bank
 National Westminster Bank N.J.
 National Westminster Bank PLC
 National Westminster Bank USA
 Nationar
 Nomura International Trust Company
 Northern Trust Company (The)
 Norwest Bank Denver, National Association
 Norwest Bank Fort Wayne, National Association
 Norwest Bank Minnesota, National Association
 Old Kent Bank and Trust Company
 Old Kent Bank
 PNC Bank, Kentucky, Inc.
 PNC Bank, National Association
 Provident Bank (The)
 Republic National Bank of New York
 Riggs National Bank of Washington, D.C. (The)
 Royal Bank of Canada, New York Branch
 Sakura Trust Company
 Santa Barbara Bank & Trust
 Sanwa Bank California
 Sanwa Bank Limited-N.Y. Branch
 Seattle-First National Bank
 Security Trust Company, N.A.
 Seligman (J. & W.) Trust Company
 Shawmut Bank Connecticut, N.A.
 Shawmut Bank, National Association
 Signet Trust Company
 Societe Generale-New York Branch
 Society Bank
 Society National Bank
 SouthTrust Bank of Alabama, N.A.
 Star Bank, National Association, Cincinnati
 State Street Bank and Trust Company
 Sterling National Bank & Trust Company of New York
 Sumitomo Bank of California
 Sumitomo Trust & Banking Co. (USA)

Swiss Bank Corporation
 New York Branch
 Texas Commerce Bank
 National Association
 Toronto Dominion Bank (The)-New York Branch
 Toyo Trust Company of New York
 Trust Company Bank
 Trustmark National Bank
 Union Bank
 Union Planters National Bank
 United Jersey Bank
 United Missouri Bank, N.A.
 United States National Bank of Oregon
 United States Trust Company of New York
 Valley Trust Company
 Wachovia Bank of Georgia, N.A.
 Wachovia Bank of North Carolina, N.A.
 Wells Fargo Bank, National Association
 Wells Fargo Institutional Trust Company
 Wesbanco Bank Wheeling
 Wilmington Trust Company
 Yasuda Bank and Trust Company (U.S.A.)
 Zions First National Bank

BROKER-DEALERS #

ABD Securities Corporation
 ABN AMRO Securities (USA) Inc.
 Adams-Fastnow Company Inc.*
 Adams, Harkness & Hill, Inc.
 Adler, Coleman Clearing Corp.
 Advest, Inc.
 Affina Brokerage Services Inc.
 Alexander (J.) Securities, Inc.*
 Alger (Fred) & Company, Incorporated
 Allen & Company Incorporated
 Alpine Associates
 American Enterprise Investment Services Inc.
 Arnhold and Bleichroeder (S.), Inc.
 Asiel & Co.
 BA Investment Services, Inc.
 BBN James Capel Inc.*
 BHC Securities Inc.
 BHF Securities Corporation
 BSE Specialist Account*
 BT Brokerage Corporation
 BT Securities Corporation
 Baer (Julius) Securities Inc.
 Baird (Robert W.) & Co. Incorporated
 Banc One Capital Corporation
 Baring Securities Inc.
 Barr Brothers & Co., Inc.
 Baum (George K.) & Company
 Bear, Stearns Securities Corp.
 Bernstein (Sanford C.) & Co., Inc.

† As of December 31, 1993

Bidwell & Company*
 Blair (C.M.), Foster (W.O.) & Co.*
 Blair (William) & Company
 Bradford (J.C.) & Co.
 Brawley Cathers Limited*
 Brown (Alex.) & Sons, Inc.
 Brown & Company Securities Corporation
 Bunting Warburg Incorporated*
 Burke (P.R.) & Co., Inc.
 Burns Fry Inc.
 Burns Fry Limited*
 Burns, Pauli & Co., Inc.
 Butler (K.R.), Inc.*
 Butler, Wick & Co., Inc.
 Campbell (D.A.) Co., Inc.*
 Canaccord Capital Corporation/CDS*
 Cantella & Co., Inc.
 Cantor Fitzgerald & Co.
 Cantor Fitzgerald Partners
 Cantor (S.B.) & Co., Inc.*
 Capital Shares, Inc.*
 Carr Securities Corporation
 Carroll McEntee & McGinley Securities, Inc.
 Carty & Company, Inc.
 Cassels Blaikie & Co., Inc.*
 Cazenove Incorporated
 Chapdelaine & Co.*
 Charles (J.W.) Securities, Inc.
 Charles Schwab & Co., Inc.
 Chase Securities, Inc.
 Chemical Securities, Inc.
 Chicago Corporation (The)
 Chicago Corporation (The)*
 Childs (S.W.) Management Corporation
 Citicorp Securities Inc.
 Clayton Brown & Associates, Inc.
 Coast Options, Inc.*
 Commerzbank Capital Markets Corporation
 Connor, Clark & Co. Limited*
 Coughlin and Company, Inc.*
 Cowen & Co.
 Craigie Incorporated
 Cresvalle International, Limited
 Crews & Associates, Inc.
 Crowell, Weedon & Co.*
 Daiwa Securities America Inc.
 Darier, Hentsch (Canada) Inc.*
 Datek Securities Corporation
 Daugherty, Cole Inc.*
 Davenport & Co. of Virginia, Inc.
 Davidson (D.A.) & Co., Inc.*
 Davis (Shelby Cullom) & Co.
 Deacon, Barclays, Dezoete, Wedd Limited*
 Dean Witter Reynolds, Inc.
 Dean Witter Reynolds, Inc.*
 Deltec Asset Management Corporation*
 Desjardins Securities Inc.*
 Deutsche Bank Securities Corporation
 Diamant Investment Corp.*
 Dillon, Read & Co. Inc.

Doft & Co., Inc.
 Dominick & Dominick, Incorporated
 Donaldson, Lufkin & Jenrette Securities Corp.*
 Donaldson, Lufkin & Jenrette Securities Corporation
 Edwards (A.G.) & Sons, Inc.
 Egan, Marrin & Rubano Inc.*
 Einhorn & Co.
 Elwood (R.W.) & Co., Inc.
 Emmet & Co. Inc.
 Equity Securities Trading Co., Inc.*
 Ernst & Co.
 ESI Securities Company
 Fagenson & Co., Inc.
 Fahnestock & Co., Inc.
 Fechtor, Detwiler & Co., Inc.*
 Fernandez, Bartsch & Mirra
 First Alabama Investments, Inc.
 First Albany Corporation
 First Boston Canada Limited*
 First Boston Corporation (The)
 First Investors Corporation
 First Manhattan Co.
 First Marathon Securities Limited*
 First Miami Securities, Inc.
 First of Michigan Corporation*
 First Options of Chicago, Inc.
 First Southwest Company
 Fleet Clearing Corporation
 Frank (Walter N.) & Co.
 Frankel (Wm. V.) & Co., Inc.*
 Fred Kolber & Co.
 Freeman Securities Company, Inc.
 Freeman Welwood & Co., Inc.
 Fried (Albert) & Co.
 G.B. Securities, Inc.*
 G & C Trading Limited Partnership, C.L.P.*
 Garat & Co.*
 Geldermann Securities Inc.
 Gill Trading L.P.*
 Glickenhaus & Co.
 Goldman Sachs Canada*
 Goldman, Sachs & Co.
 Goldman Sachs Money Markets, L.P.
 Gordon & Co.
 Gordon Capital Corporation*
 Gordon Capital Inc.
 Greenline Investor Services Inc.*
 Gruntal & Co. Incorporated
 Gruss (Oscar) & Son Incorporated
 Hamilton Investments, Inc.
 Hanauer (J.B.) & Co.
 Hancock (John) Clearing Corporation
 Hanifan, Imhoff Inc.
 Hartfield (J.F.) & Co., Inc.*
 Henderson Brothers, Inc.
 Herzog, Heine, Geduld, Inc.
 Hibbard Brown & Co., Inc.
 Hill, Thompson, Magid & Co., Inc.*
 Hilliard (J.J.B.), Lyons (W.L.), Inc.
 Hopkins, Harbach & Co.*
 Hough (William R.) & Co.

Howard, Weil, Labouisse, Friedrichs Incorporated
 Howe Barnes Investments Inc.
 Hull Trading Co.
 Hummer (Wayne) & Co.
 Huntleigh Securities Corporation
 Hutchinson, Shockey, Erley & Co.
 Icahn & Co., Inc.
 Ingalls & Snyder
 Instinet Corporation
 Interstate/Johnson Lane Corporation
 InvestNet Corporation
 Jacobson (Benjamin) & Sons
 Janney Montgomery Scott Inc.
 Jefferies & Company, Inc.
 Jefferies & Company, Inc.*
 Jones (Edward D.) & Co.
 K.K. & Company*
 Kalb, Voorhis & Co.
 Kankaku Securities (America) Inc.
 Kawano (H.) & Co., Inc.*
 Keeley (K.J.) & Co., Inc.*
 Kellner, DiLeo & Co.
 Kemper Clearing Corp.
 Kemper Securities, Inc.*
 Kenny (J.J.) Drake, Inc.*
 Kessler Asher Clearing, L.P.
 Kidder, Peabody & Co. Incorporated
 King (C.L.) & Associates Inc.
 Koonce Securities, Inc.*
 LIT Clearing Services Inc.
 LIT Clearing Services Inc.*
 LaBranche & Co.
 Lafferty, Harwood & Partners Ltd.*
 Larkin (Emmett A.) & Co., Inc.*
 Lawrence, O'Donnell, Marcus & Co.
 Lazard Frères & Co.
 Legg Mason Wood Walker, Inc.
 Lehman Special Securities Inc.
 Lerner (David) Associates, Inc.
 Levesque, Beaubien Inc.*
 Lewco Securities Corp.
 MKI Securities Corp.
 Mabon Securities Corp.
 MacAllaster Pitfield Mackay, Inc.
 MacDougall, MacDougall & MacTier, Inc.*
 Madoff (Bernard L.)
 Marcus Schloss & Co., Inc.
 Marketing One Securities, Inc.
 Marleau Lemire Inc.*
 Martin Nelson & Co. Inc.
 May Financial Corporation
 Mayer & Schweitzer, Inc.
 McCourtney-Breckenridge & Company*
 McDonald & Company Securities, Inc.
 McLean McCarthy Inc.*
 Meehan (M.J.) & Company
 Melville (Ronald E.) Inc.*
 Mercator Partners
 Mericka & Co., Inc.*
 Meridian Securities International Ltd.*
 Merit Investment Corporation*
 Merrill Lynch Government Securities Inc.

Merrill Lynch, Pierce, Fenner & Smith Incorporated
 Merrill Lynch Specialists Inc.*
 Merrimack Valley Investment Inc.*
 Mesirow Financial, Inc.
 Midland Walwyn Capital Inc.*
 Mitchum Securities, Inc.
 Montgomery Securities
 Morgan (J.P.) Securities Inc.
 Morgan, Keegan & Company, Inc.
 Morgan Stanley & Co. Incorporated
 Murphey, Marselles, Smith & Nammack
 Murphy & Durieu
 Nathan & Lewis Securities, Inc.
 National Financial Services Corp.*
 National Financial Services Corporation
 NatWest Securities Corporation
 Nesbitt Thomson Deacon Inc.*
 Neuberger & Berman
 New Japan Securities International, Inc.
 New Windsor Associates, L.P.
 Newbridge Securities Inc.
 Nikko Securities Co.
 International, Inc. (The)
 Nomura Securities International, Inc.
 Nuveen (John) & Co. Incorporated
 O'Connor & Associates
 Odlum Brown Limited*
 Olde Discount Corporation*
 Olde Discount Corporation
 Oppenheimer & Co., Inc.
 Pacific Brokerage Services, Inc.
 Pacific Post Partners, Ltd.*
 PaineWebber Incorporated
 PaineWebber Specialists Inc.*
 Paloma Securities L.P.
 Paribas Corporation
 Payson (H.M.) & Co.*
 Pflueger & Baerwald Inc.*
 Pictet (Canada) and Company, Limited*
 Piper Jaffray Inc.
 Preferred Technology, Inc.*
 Primevest Financial Services, Inc.
 Principal/Eppler, Guerin & Turner, Inc. (The)
 Prudential Securities Incorporated
 Quantum Securities, Inc.
 RAF Financial Corporation*
 RBC Dominion Securities Corporation
 RBC Dominion Securities, Inc.*
 RSF Partners
 Ragen MacKenzie Incorporated
 Raymond, James & Associates, Inc.
 Reaves (W.H.) & Co., Inc.
 Redwood Trading Inc.*
 Refco Securities, Inc.
 Regional Clearing Corp.
 Regional Operations Group, Inc.
 Republic New York Securities Corporation

Research Capital Corporation*	Weiss, Peck & Greer	Bank One Ohio Trust Company, N.A.	First Fidelity Bank, National Association, New Jersey
Rickel & Associates Inc.	Wellington (H.G.) & Co. Inc.	Bank of America NT & SA	First Fidelity Bank, N.A. Pennsylvania
Rimson (M.) & Co., Inc.	WG Trading Company, L.P.	Bank of California, N.A. (The)	First Interstate Bank of Arizona, N.A.
Robb, Peck, McCooey Clearing Corporation	Wheat, First Securities, Inc.	Bank of Cherry Creek, N.A. (The)	First Interstate Bank of California
Robertson, Stephens & Company, L.P.	Whitaker (Don C.) Inc.*	Bank of New York (The)	First Interstate Bank of Denver, N.A.
Rodman & Renshaw, Inc.	Wilshire Associates Incorporated*	Bank of Nova Scotia (The), New York Agency	First Interstate Bank of Oregon, N.A.
Roney & Co.	Wilson (L.W.) & Co., Inc.*	Bank of Tokyo Trust Company (The)	First National Bank of Boston (The)
Roosevelt & Cross Inc.	Wolfe & Hurst Bond Brokers, Inc.	Bankers Trust Company	First National Bank of Chicago (The)
Roulston Research Corp.	Wolfe & Hurst Bond Brokers, Inc.*	Barclays Bank PLC, New York Branch	First National Bank of Maryland (The)
SBCI Swiss Bank Corporation	Wood Gundy Corp.	Baum (George K.) & Company	First Southwest Company
Investment Banking Inc.	Wood Gundy Inc.*	Bear, Stearns Securities Corp.	First Tennessee Bank N.A. Memphis
Sage Clearing Corporation*	WSI Stock Loan*	Bernstein (Sanford C.) & Co., Inc.	First Trust National Association
Salomon Brothers Inc	Wulff, Hansen & Co.	Blair (William) & Company	First Union National Bank
Sanwa McCarthy Securities Limited*	Yamaichi International (America), Inc.	Boatmen's National Bank of St. Louis (The)	Firststar Trust Company
Schapiro (M.A.) & Co., Inc.	Yamaichi International (America), Inc.*	Boston Safe Deposit and Trust Company	Fleet Bank of Massachusetts, N.A.
ScotiaMcLeod Inc.*	Yorkton Securities Inc.*	Bradford (J.C.) & Co.	Fleet Clearing Corporation
ScotiaMcLeod (USA) Inc.	Ziegler (B.C.) and Company	Brown (Alex.) & Sons, Inc.	Freeman Welwood & Co., Inc.
Scott & Stringfellow Investment Corporation	Ziegler Thrift Trading, Inc.*	Brown Brothers Harriman & Co.	French American Banking Corporation
Scottsdale Securities, Inc.		Butler, Wick & Co., Inc.	Fried (Albert) & Co.
Seasongood & Mayer		Central Bank of the South	Fuji Bank & Trust Company (The)
Seattle-Northwest Securities Corporation		Central Fidelity Bank, N.A.	Goldman, Sachs & Co.
Seidel (Morton) & Co. Inc.*		Central Trust Bank (The)	Goldman Sachs Money Markets, L.P.
Seidler Companies, Incorporated (The)*		Charles Schwab & Co., Inc.	Goldman Sachs Trust Company
Smith Barney Shearson, Inc.*		Chase Manhattan Bank, N.A. (The)	Grunthal & Co. Incorporated
Smith Barney Shearson, Inc.		Chase Securities, Inc.	Hamilton Investments, Inc.
Smith, Moore & Co.*		Chemical Bank	Hancock (John) Clearing Corporation
Smith New Court, Carl Marks Inc.		Chemical Securities, Inc.	Hanifen, Imhoff Inc.
Societe Generale Securities Corporation		Chicago Corporation (The)	Harris Trust & Savings Bank
Southwest Securities, Inc.		Citibank, N.A.	Herzog, Heine, Geduld, Inc.
Spear, Leeds & Kellogg		Citicorp Securities Inc.	Hibernia National Bank
Spectrum Trading Partners, L.P.		City National Bank	Hilliard (J.J.B.), Lyons (W.L.), Inc.
Steichen (R.J.) & Company*		Comerica Bank	Hough (William R.) & Co.
Stephens, Inc.		Continental Bank, National Association	Howard, Weil, Labouisse, Friedrichs Incorporated
Stern & Kennedy		CoreStates Bank, N.A.	Howe Barnes Investments Inc.
Stern (M.L.) & Co., Inc.*	# Excludes some firms with limited activity	Cowen & Co.	Hummer (Wayne) & Co.
Sterne, Agee & Leach, Inc.	* National Securities Clearing Corporation Sponsored Account	Craigie Incorporated	Huntington National Bank
Stifel, Nicolaus & Company Incorporated	** International Securities Clearing Corporation Sponsored Account	Crestar Bank	Hutchinson, Shockey, Erley & Co.
StockCross, Inc.*		Custodial Trust Company	IBJ Schroder Bank & Trust Company
Stoever, Glass & Co., Inc.		Dai-Ichi Kangyo Bank, Limited (The), New York Branch	IDS Bank & Trust
Stone & Youngberg*		Daiwa Bank, Limited (The), New York Agency	Interstate/Johnson Lane Corporation
Streicher (J.) & Co.		Daiwa Securities America Inc.	Investors Bank & Trust Company
Swiss American Securities Inc.		Davenport & Co. of Virginia, Inc.	Investors Fiduciary Trust Company
TCW Inc.*		Davis (Shelby Cullom) & Co.	Janney Montgomery Scott Inc.
Thomson Kernaghan & Co., Ltd.*		Deutsche Bank Securities Corporation	Jefferies & Company, Inc.
Timber Hill Inc.		Dillon, Read & Co. Inc.	Jones (Edward D.) & Co.
Titus & Donnelly Inc.*		Dominick & Dominick, Incorporated	Kemper Clearing Corp.
Transatlantic Securities Company		Donaldson, Lufkin & Jenrette	Key Trust Company
UBS Securities Inc.		Securities Corporation	Kidder, Peabody & Co.
U.S. Clearing Corp.		Edwards (A.G.) & Sons, Inc.	Incorporated
Universal Securities Corporation		Fahnestock & Co., Inc.	LaSalle National Bank
Van Kampen Merritt Inc.		Fiduciary Trust Company	Lazard Frères & Co.
Wachovia Securities, Inc.		National	Legg Mason Wood Walker, Inc.
Wachtel & Co., Inc.		BA Investment Services, Inc.	Lehman Special Securities Inc.
Wagner Stott Clearing Corp.		BT Securities Corporation	Lerner (David) Associates, Inc.
Wall Street Equities Incorporated*		Baird (Robert W.) & Co. Incorporated	Lewco Securities Corp.
Warburg (S.G.) & Co. Inc.		Banc One Capital Corporation	Liberty National Bank and Trust Company of Louisville
Waterhouse Securities Inc.			LTCB Trust Company
W&D Securities			MKI Securities Corp.
Wedbush Morgan Securities Inc.*			Mabon Securities Corp.

Manufacturers and Traders	Provident Bank (The)	Wachovia Bank of North Carolina, N.A.	First Trust Corporation
Trust Company	Prudential Securities Incorporated	Wagner Stott Clearing Corp.	Fort Wayne National Bank
Marine Midland Bank, N.A.	RBC Dominion Securities Corporation	Warburg (S.G.) & Co. Inc.	Freeman Securities Company, Inc.
McDonald & Company	Ragen MacKenzie Incorporated	Weiss, Peck & Greer	Frost National Bank
Securities, Inc.	Raymond, James & Associates, Inc.	Wells Fargo Bank, National Association	Gruss (Oscar) & Son Incorporated
Mellon Bank, N.A.	Refeo Securities, Inc.	Wells Fargo Institutional Trust Company	Guardian Trust Company
Mercantile Bank of St. Louis	Regional Operations Group, Inc.	Wesbanco Bank Wheeling	Imperial Trust Company
National Association	Republic National Bank	Wheat, First Securities, Inc.	Industrial Bank of Japan
Mercantile-Safe Deposit & Trust Company	of New York	Wilmington Trust Company	Trust Company (The)
Merrill Lynch Government Securities Inc.	Republic New York Securities Corporation	Witter (Dean) Reynolds Inc.	Kalb, Voorhis & Co.
Merrill Lynch, Pierce, Fenner & Smith Incorporated	Rickel & Associates Inc.	Wood Gundy Corp.	Kenny (J.J.) Drake, Inc.†
Mesirow Financial Inc.	Rodman & Renshaw, Inc.	Yamaichi International (America), Inc.	King (C.L.) & Associates Inc.
Midatlantic National Bank	Roney & Co.	Yasuda Bank and Trust Company (U.S.A.)	Larkin (Emmett A.) & Co., Inc.†
Mitsubishi Bank Trust Company of New York	SBCI Swiss Bank Corporation	Ziegler (B.C.) and Company	Liberty Bank & Trust Company of Tulsa National Association
Mitsubishi Trust & Banking Corporation (U.S.A.)	Investment Banking Inc.	Zions First National Bank	Lloyd's Bank Plc
Montgomery Securities	Sakura Trust Company	.....	M&I Marshall & Ilsley Bank
Morgan Guaranty Trust Company of New York	Salomon Brothers Inc	.....	Mark Twain Bank
Morgan (J.P.) Securities Inc.	Sanwa Bank California	.....	Mercantile Trust Co.
Morgan, Keegan & Company, Inc.	Sanwa Bank Limited-N.Y. Branch	.....	Michigan National Bank
Morgan Stanley & Co. Incorporated	Scotia McLeod (USA) Inc.	.....	Mitsui Trust Bank
NBD Bank, N.A.	Scott & Stringfellow Investment Corporation	.....	Morgan Stanley Trust Company
National City Bank	Seattle-First National Bank	.....	Murphy, Marseilles, Smith & Nammack, Inc.
National Financial Services Corporation	Shawmut Bank Connecticut, N.A.	.....	Norwest Bank & Trust
National Westminster Bank N.J.	Shawmut Bank, National Association	.....	Company of Fort Wayne
National Westminster Bank USA	Signet Trust Company	.....	Payson (H.M.) & Co.†
NationsBank of Georgia, N.A.	Smith Barney Shearson Inc.	.....	RAF Financial Corporation†
NationsBank of Texas, National Association	Societe Generale-New York Branch	.....	Ragen MacKenzie Incorporated
Nationar	Societe Generale Securities Corporation	.....	Riggs National Bank of Washington, D.C. (The)
NatWest Securities Corporation	Society National Bank	.....	Robb, Peck, McCooey Clearing Corporation
Neuberger & Berman	South Trust Bank of Alabama, N.A.	.....	Roosevelt & Cross Incorporated
New Japan Securities International, Inc.	Southwest Securities, Inc.	.....	Royal Bank of Canada, New York Branch
Newbridge Securities Inc.	Spear Leeds & Kellogg	.....	Santa Barbara Bank & Trust
Nikko Securities Co. International, Inc. (The)	Star Bank, National Association, Cincinnati	.....	Seattle-Northwest Securities Corporation
Nomura International Trust Company	State Street Bank and Trust Company	.....	Seligman (J. & W.) Trust Company
Nomura Securities International, Inc.	Stephens, Inc.	.....	Steichen (R.J.) & Company†
Northern Trust Company (The)	Sterling National Bank & Trust Company of New York	.....	Stern (M.L.) & Co., Inc.†
Norwest Bank Denver, National Association	Sterne, Agee & Leach, Inc.	.....	Sumitomo Bank of California
Norwest Bank Minnesota, National Association	Stifel, Nicolaus & Company Incorporated	.....	Sumitomo Trust & Banking Co. (U.S.A.)
Nuveen (John) & Co. Incorporated	Swiss American Securities Inc.	.....	Toyo Trust Company of New York
Old Kent Bank	Swiss Bank Corporation New York Branch	.....	Trustmark National Bank
Old Kent Bank & Trust Company	Texas Commerce Bank	.....	Trustcorp Bank, Ohio
Olde Discount Corporation	National Association	.....	U.S. Bank of Washington, N.A.
Oppenheimer & Co., Inc.	Toronto-Dominion Bank (The)	.....	Union Bank
Pacific Brokerage Services, Inc.	Trust Company Bank	.....	Union Trust Company
PaineWebber Incorporated	Trustmark National Bank	.....	United Jersey Bank
Paribas Corporation	UBS Securities Inc.	.....	Valley Trust Company
Philadelphia Depository Trust Company	U.S. Clearing Corp.	.....	Wachovia Securities, Inc.
Piper Jaffray Inc.	Union Planters National Bank	.....	Wedbush Morgan Securities, Inc.†
PNC Bank, National Association	United Missouri Bank, N.A.	.....	Wellington (H.G.) & Co. Inc.
PNC Bank, Kentucky, Inc.	United States National Bank of Oregon	.....	Ziegler Thrift Trading, Inc.†
Principal/Epple, Guerin & Turner, Inc. (The)	United States Trust Company of New York	.....	* These firms are also direct Participants in DTC's Next-Day Funds Settlement system.
	Van Kampen Merritt Inc.	.....	** As of December 31, 1993
	Wachovia Bank of Georgia, N.A.	.....	† National Securities Clearing Corporation Sponsored Account

D T C S T O C K H O L D E R S *

American Stock Exchange Clearing Corporation	Craigie Incorporated	Key Trust Company	PaineWebber Incorporated
American Stock Exchange Inc.	Crews & Associates, Inc.	LaBranche & Co.	Paribas Corporation
AmSouth Bank, N.A.	Custodial Trust Company	Lehman Special Securities Inc.	Reaves (W.H.) & Co., Inc.
Arnhold and Bleichroeder (S.), Inc.	Daiwa Securities America, Inc.	Lewco Securities Corp.	Roosevelt & Cross Inc.
BT Securities Corporation	Davenport & Co. of Virginia, Inc.	Liberty Bank and Trust Company	Roulston Research Corp.
Baer (Julius) Securities Inc.	Donaldson, Lufkin & Jenrette Securities Corporation	of Tulsa, National Association	SBCI Swiss Bank Corporation
Bank of America NT & SA	Edward D. Jones & Co.	MacAllaster Pitfield Mackay, Inc.	Investment Banking Inc.
Bank of America Nevada	Edwards (A.G.) & Sons, Inc.	Manufacturers and Traders	Salomon Brothers Inc
Bank of California (The)	ESI Securities Company	Trust Company	Santa Barbara Bank & Trust
Bank of New York (The)	Fagenson & Co., Inc.	Marcus Schloss & Co., Inc.	Sanwa Bank California
Bank of Tokyo Trust Company (The)	Fahnestock & Co., Inc.	Marine Midland Bank, N.A.	Scott & Stringfellow, Inc.
Bank One, Arizona, N.A.	Fiduciary Trust Company International	Marketing One Securities, Inc.	Seattle-Northwest Securities Corporation
Bank One, Denver, N.A.	Fiduciary Trust Company of Boston	Mayer & Schweitzer, Inc.	Security Trust Company, N.A.
Bank One Ohio Trust Company, N.A.	First Alabama Investments, Inc.	May Financial Corporation	Shawmut Bank Connecticut, N.A.
Bank One, Texas, N.A.	First Albany Corporation	Mellon Bank, N.A.	Shawmut Bank, National Association
Bankers Trust Company	First Boston Corporation (The)	Merrill Lynch, Pierce, Fenner & Smith Incorporated	Smith New Court, Carl Marks Inc.
Barclays Bank PLC, New York Branch	First Fidelity Bank, N.A., Pennsylvania	Michigan National Bank	Society National Bank
Barnett Banks Trust Company, N.A.	First Fidelity Bank, National Association, New Jersey	Midlantic National Bank	Star Bank, National Association, Cincinnati
Bear, Stearns Securities Corp.	First Interstate Bank of California	Morgan Guaranty Trust Company of New York	State Street Bank and Trust Company
Boatmens National Bank of St. Louis (The)	First Interstate Bank of Denver, N.A.	Morgan Stanley & Co. Incorporated	Stock Clearing Corporation
Boston Safe Deposit and Trust Company	First Interstate Bank of Oregon, N.A.	National Association of Securities Dealers, Inc.	Swiss American Securities Inc.
Brown (Alex.) & Sons, Inc.	First National Bank of Boston (The)	National City Bank	Swiss Bank Corporation
Brown Brothers Harriman & Co.	First National Bank of Chicago (The)	National Westminster Bank N.J.	New York Branch
Cantella & Co., Inc.	First National Bank of Maryland (The)	National Westminster Bank PLC	Texas Commerce Bank
Carty & Company, Inc.	First Tennessee Bank N.A. Memphis	National Westminster Bank USA	National Association
Cazenove Incorporated	First Trust National Association	NationsBank of Georgia, N.A.	Timber Hill Inc.
Central Bank of the South	Fleet Bank of Massachusetts, N.A.	NationsBank of Texas, National Association	Trust Company Bank
Central Trust Bank (The)	Fort Wayne National Bank	NatWest Securities Corporation	United Missouri Bank, N.A.
Chase Manhattan Bank, N.A. (The)	Frost National Bank	NBD Bank, N.A.	United States Trust Company of New York
Chemical Bank	Goldman Sachs Money Markets, L.P.	New York Stock Exchange, Inc.	Van Kampen Merritt, Inc.
Cincinnati Stock Exchange (The)	Goldman, Sachs & Co.	Nikko Securities Co.	Wachovia Bank of North Carolina, N.A.
Citibank, N.A.	Hibbard Brown & Co., Inc.	International, Inc. (The)	Waterhouse Securities Inc.
Citicorp Securities, Inc.	Hough (William R.) & Co.	Nomura Securities International, Inc.	Wells Fargo Bank, National Association
City National Bank	Huntington National Bank	Northern Trust Company (The)	Wilmington Trust Company
Clayton Brown & Associates, Inc.	IDS Bank & Trust	Norwest Bank Minnesota, National Association	Wood Gundy Corp.
Continental Bank, National Association	Imperial Trust Company	Oppenheimer & Co., Inc.	Zions First National Bank
CoreStates Bank, N.A.	Investors Bank and Trust Company	Oscar Gruss & Son Incorporated	
	John Hancock Clearing Corporation		

* As of March 31, 1994



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