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DTC Stockholders

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 1992, those Participants delivered \$19.4 trillion of securities through the depository's book-entry system, and securities in its custody reached \$6.4 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 hundreds of firms that serve as transfer agents, paying agents, exchange agents, and redemption agents for securities issuers.

| <b>HIGHLIGHTS</b>  |             |             |
|--|-------------|-------------|
| <b>Total for the Year</b>  | <b>1992</b> | <b>1991</b> |
| Book-entry deliveries  |             |             |
| Market value (in trillions)  | \$19.4      | \$13.9      |
| Number (in millions)   | 83.3        | 73.2        |
| Cash dividend and interest payments<br>(in billions)               | \$328.3     | \$267.4     |
| Reorganization, redemption, and maturity<br>payments (in billions) | \$352.8     | \$234.9     |
| .....  |             |             |
| <b>At Yearend</b>  |             |             |
| Eligible securities issues   | 1,025,881   | 939,166     |
| Value of securities on deposit<br>(in trillions)                   | \$6.37      | \$5.46      |
| Number of shares on deposit<br>(in billions)                       | 148.3       | 129.5       |
| Principal amount of corporate debt<br>on deposit (in trillions)    | \$1.9       | \$1.5       |
| Principal amount of municipal debt<br>on deposit (in trillions)    | \$1.16      | \$1.01      |
| Participants   | 532         | 548         |
| Broker-dealers   | 352         | 360         |
| Banks  | 172         | 180         |
| Clearing agencies  | 8           | 8           |

A MESSAGE FROM MANAGEMENT

This annual report, like its predecessors, is both a document of record for the year reviewed and a collection of functional descriptions that, taken together, explain DTC's role in the securities industry.

The depository serves its hundreds of bank and broker-dealer users through reliable, high performance of its daily operations and by absorbing tasks that reduce their operating costs. To do so, it continually seeks to increase the number of issues eligible for its settlement and custody services, thereby reducing certificate handling and permitting its Participants to automate securities processing.

In 1992 DTC made further gains toward its goal of making all outstanding issues eligible for depository services that can be made eligible, and making eligible new issues of money market securities, such as commercial paper, that previously have not been depository-eligible.

These continuing efforts, and the number of newly underwritten equity and debt issues distributed through the depository, raised the number of DTC-eligible issues for the first time to over 1 million, not counting the more than 500,000 previously eligible issues that have matured or been called. At the same time, the value of deliveries between Participants on DTC's books in 1992 rose 40% to \$19.4 trillion, aided largely by the growth of commercial paper issuance through the depository. This level is likely to be surpassed in 1993 as more issues become eligible for depository services. Delivery volume in February 1993 averaged over 400,000, for \$104 billion daily.

For security types long eligible at DTC—corporate equities, corporate bonds, and municipal bonds—one can see from 1992 figures how routinely new issues brought to market enter the depository system at birth. Equity issues distributed through DTC last year amounted to \$95.9 billion, an estimated 94% of total equity issuance, and the \$237.1 billion of corporate debt issued entirely or partially through DTC was an estimated 98% of all such newly issued debt. In municipal bonds, issuance through the depository amounted to \$216.4 billion, 94% of 1992's total principal amount of bond issuance according to Securities Data Company. By far the greater part of such new issues remains in the depository during secondary market trading thereafter, subject to requests from some retail investors for certificates that are obtained through DTC in equity issues and in those debt issues which are not book-entry-only issues.

These and other high levels of transaction volumes, along with expense controls, once again allowed DTC to reduce its cost-based fees to users in 1992 and to reduce them further in 1993.

Also in 1992, to shorten the period of any disaster recovery at an off-site location, DTC added a state-of-the-art backup facility mirroring its main site computer and communications capabilities. This permits recovery within three hours of a determination that disaster has made its primary data center inoperable.

DTC's agenda for 1993 continues these themes—maintaining systems reliability at the highest level, making eligible more issues and more types of securities issues, and delivering new or improved services to its Participants through both traditional and more flexible automated means. Part of that agenda stems from DTC's intermediary position, between Participants as well as between Participants and industry transfer, paying, and other agents. From this position the depository can be a change agent in securities processing, working with others to simplify and standardize, making it possible for Participants to improve client service and reduce costs.

In this connection, mention should be made of two key, ongoing efforts to add an interactive option and other enhancements to the Institutional Delivery (ID) system, and to develop a same-day funds settlement system proposal leading to the settlement of all U.S. securities trades in same-day funds.

In these endeavors, as in the past, DTC will be greatly aided by members of industry committees and Participant staffs, who advise DTC on what to do and how to do it. We offer our sincere gratitude to them and to the employees of the depository, who make possible its reputation for quality, reliable, and cost-effective service.



William T. Dentzel, Jr.  
*Chairman and Chief Executive Officer*



William F. Jaewike  
*President and Chief Operating Officer*

MISSION AND EVOLUTION

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 depository services—to reduce the number of certificates the financial community handles—standardizes and automates the flow of information, achieves economies of scale, 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—\$6.4 trillion at yearend 1992.
- An accounting system whose books record all activity affecting the securities in DTC's custody; for example, \$19.4 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 immobilize 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.

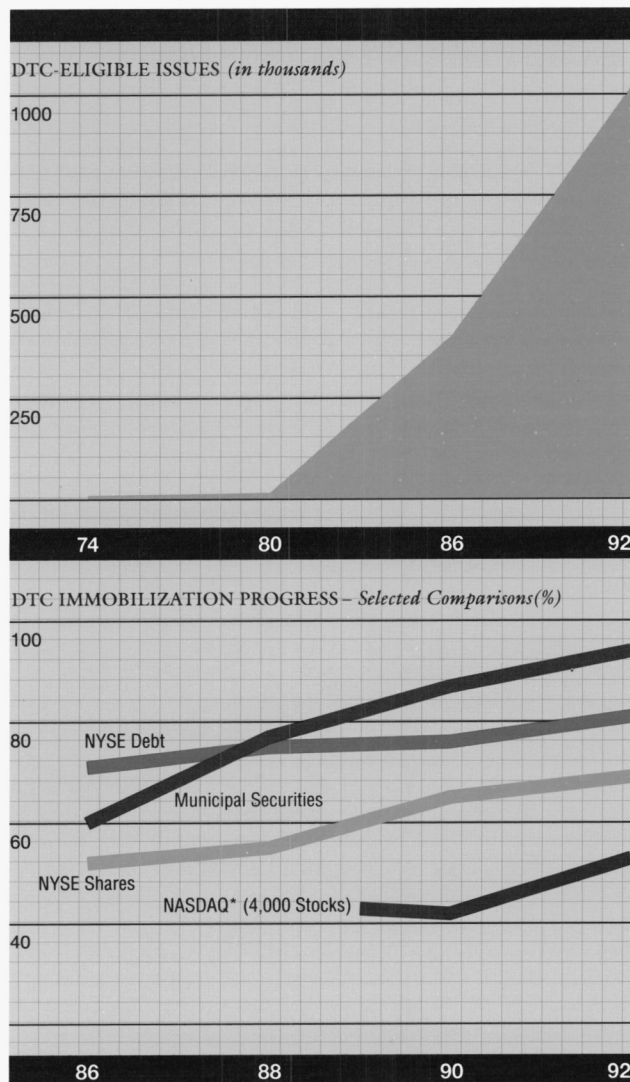
In more recent years, after DTC took on more custody-related processing tasks for Participants, it added to user efficiencies by giving them on-line access to DTC's data base, providing quick answers to their account activity queries.

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. With the addition of more than 100,000 municipal bond and other issues each year for the last eight years, more than 1 million security issues (CUSIPs) are now eligible for book-entry and other DTC services.

Another continuing DTC effort has been to reduce paper instructions and reports to and from Participants



\* Prior data not available



and to replace them with electronic communications. Beginning with the exchange of magnetic tapes, migrating to dedicated and dial-in telecommunications networks, and then to exchanging data computer-to-computer, each step was designed to help users reduce costs and errors wherever possible. The great bulk of depository services are now accessed and delivered through DTC's Participant Terminal System of almost 1,500 terminals and printers across the country, as well as computer-to-computer interfaces with approximately 275 Participants.

Because Participants' customers want several million newly registered certificates each year, DTC continually works 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 1992 closed, DTC had almost \$2.8 trillion of securities with *FAST* agents, received over 99% of Participant transfer instructions in automated form, had 82 transfer agents accepting automated instructions, representing about 67% of its transfer volume, and helped make 41% of newly registered certificates from agents available to users' clients by direct mail.

At yearend 1992, 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 \$6.34 trillion, more than 98% of the total market value of securities held by all three depositories.

More important, the depository's 532 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:

- 76% of the shares of companies represented in the Dow Jones Industrial Average;
- 69% of the shares of all NYSE-listed U.S. companies;
- 53% of the shares of issues included in NASDAQ and 46% of American Stock Exchange-listed U.S. companies;
- 81% of the principal amount of outstanding corporate debt listed on the NYSE; and
- 94% 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.

## DTC SERVICE GROWTH

| <b>TRADING IN SELECTED MARKETS</b>                                    |             |             |             |             |
|---|-------------|-------------|-------------|-------------|
| <b>Average Daily</b>  | <b>1977</b> | <b>1982</b> | <b>1987</b> | <b>1992</b> |
| NYSE shares traded (in millions)                                      | 20.9        | 65.1        | 188.9       | 202.3       |
| NASDAQ shares traded (in millions)                                    | 7.6         | 33.3        | 149.8       | 190.7       |
| AMEX shares traded (in millions)                                      | 2.6         | 5.3         | 13.9        | 14.1        |
| <b>At Yearend</b>   |             |             |             |             |
| Participants  | 265         | 455         | 604         | 532         |
| Eligible issues   | 10,666      | 36,361      | 490,620     | 1,025,881   |
| Market value on deposit (in billions)                                 | \$139       | \$838       | \$2,820     | \$6,371     |
| <b>Total for the Year</b>   |             |             |             |             |
| Book-entry deliveries   |             |             |             |             |
| Value (in billions)   | \$357       | \$2,280     | \$9,800     | \$19,350    |
| Number (in millions)  | 11.0        | 37.0        | 73.7        | 83.3        |
| Cash dividend & all interest payments                                 |             |             |             |             |
| Value (in billions)   | \$5.5       | \$37.2      | \$151.2     | \$328.3     |
| Payments to DTC (in thousands)  | NA          | NA          | 796         | 1,938       |
| Reorganization, redemption,<br>& maturity payment value (in billions) |             |             |             |             |
|   | NA          | NA          | \$127.5     | \$352.8     |
| Underwritings   |             |             |             |             |
| Value (in billions)   | \$19.7      | \$148.3     | \$336.3     | \$746.9     |
| Number  | 252         | 1,425       | 13,830      | 18,322      |
| Underwritings of book-entry-only issues                               |             |             |             |             |
| Value (in billions)   | 0           | 0           | \$61.2      | \$459.4     |
| Number  | 0           | 0           | 7,043       | 10,546      |
| Institutional Delivery System   |             |             |             |             |
| Users (at yearend)  | 178         | 2,228       | 6,927       | 8,617       |
| Total confirmations (in millions)                                     | 0.6         | 5.4         | 20.1        | 29.0        |
| Total affirmations (in millions)                                      | 0.3         | 2.0         | 12.0        | 17.4        |
| Deliveries (in millions) ♦  | 0.2         | 1.7         | 9.0         | 11.6        |

\* Some figures rounded. ♦ Scheduled automatic deliveries only.



**D**TC'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 entitlements 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 1992, after retirement or merger of various stockholders subsequent to the completion of the 1992 stock reallocation, there were 138 DTC stockholders: 53 broker-dealers, 79 banks, and six self-regulatory organizations and clearing agencies.

Broker-dealer Participants owned 14.1% of DTC stock, while bank Participants owned 42%. 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 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 1992, \$21.5 million was returned to Participants as general refunds

in proportion to their use of 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.



*Oppenheimer & Co., Inc. Vice President Rafael Dieppa and DTC Senior Product Development Analyst Sarah Murray examine DTC's reclamation procedure, the second phase of a program to help Participants resolve short positions. (Photo on opposite page.)*

*Sterling National Bank & Trust Company of New York Assistant Vice President Louise A. Giampietro (left) talks with DTC Participant Services Representative Gerardine Marotta about the latest functions added to the Participant Terminal System.*





**SERVICES**

**D**TC'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 1992. 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 1992, 17.2 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 46 million deliveries against payment valued at \$17.6 trillion were made through DTC in 1992, with another 37.2 million deliveries for \$1.8 trillion made through DTC for settlement in the National Securities Clearing Corporation's 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, 96 banks were participating in the depository's pledge program. The Federal Reserve Banks of Birmingham, Boston, 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 \$39.9 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 1992, lead managers used DTC to distribute 18,322 new corporate and municipal underwritings valued at \$746.9 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 \$6.4 trillion were held by DTC at yearend.

**Dividends and Interest**

DTC collects dividend and interest payments for securities in its custody. In 1992, DTC received more than 1.9 million payments for Participants from 3,200 paying agents—on peak days over 150,000 payments for \$12.7 billion—with corporate cash dividends and interest rising to \$260.1 billion and municipal bond interest reaching \$68.2 billion.

Timeliness of corporate cash dividends and interest payments is high, with 99.6% of funds received on payable date and 99.8% 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 1992, DRS included 476 plans and facilitated reinvestment of \$1.5 billion in dividend distributions.

**Voluntary Offerings**

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



*First National Bank of Maryland Assistant Vice President J. Shelley Hopkins consults DTC Participant Services Representative Helen Nolan about the various options Participants have for settlement.*

and deliver them to agents through DTC. The value of these acceptances in 1992 was \$16.5 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 40,891 Participant tender-offer instructions received through DTC, 83% 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 189 million shares resulted from these conversions in 1992.

**Redemptions**

When a security in the depository's custody matures or is called by the issuer, DTC presents it for redemption to one of almost 2,900 agents with which it deals and pays the proceeds to affected Participants. In 1992, DTC processed redemptions in 144,120 issues for a total dollar value of \$319.6 billion. These figures include 81,065 municipal maturities. Daily redemptions ranged as high as almost 13,680, and for as much as \$28.4 billion. In addition, DTC processed 35,217 partial municipal calls and 2,237 partial corporate calls. The record-breaking call volumes in 1992 had DTC receiving over 20,350 notices from nearly 1,040 agents, generating more than 57,000 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 7,663 in 1992, include municipal and corporate issues, mortgage-backed bonds, and floating-rate notes and securities with similar repayment options. Also in 1992, DTC received 19,129 instructions to exercise Participant puts and allocated \$17.3 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 16,859 unit instructions in 1992.

**Warrant Subscriptions**

Warrants for common stock can be exercised by book-entry through DTC. In 1992, 14,581 subscriptions in 107 warrant issues were processed, resulting in the issuance of 217 million shares (the number of subscriptions includes 9,174 rights instruc-

tions). In addition, DTC processed 42 rights offerings.

**Options**

More than 225 banks and broker-dealers used DTC to deposit securities to satisfy OCC margin or clearing fund requirements in 1992. The value of these pledged securities totaled \$7.1 billion at yearend.



*At the scene where DTC processed record levels of redemption payments are Chemical Bank's Luis G. Branez, Vice President, and DTC's Doris Madaia, Supervisor-Collections.*

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 1992, 5.8 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.

*Urgent COD Withdrawals:* Participants can obtain urgent certificates-on-demand (CODs) in certain issues—full-Fast Automated Securities Transfer (FAST) securities and all municipal bond issues. Effective July 1, 1993, however, urgent CODs will be eliminated in fully registered municipal securities that settle in same-day and next-day funds (excluding FAST issues).

*Rush Withdrawals-by-Transfer:* RWT transfers now often replace the declining number of urgent COD withdrawals in corporate securities. 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.

**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 2.4 million certificates were handled this way in 1992—41% of all certificates issued 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 enables users to process mutual fund transactions for their customers through an electronic link with NSCC's automated Fund/SERV program.

*DTC Deposits Department Supervisor Robyn Eaves and Manager Michael Lippa (center) explain to Shearson Lehman Brothers's First Vice President Frank Denaro how bar coding streamlines deposit processing.*

SELECTED SERVICES STATISTICS

|  | 1992    | 1991    |  | 1992    | 1991    |
|--|---------|---------|--|---------|---------|
| <b>Deposits</b>  |         |         | <b>Redemptions (SDFS and NDFS)</b>                               |         |         |
| Daily Average Certificates for Registered Securities         | 60,800  | 59,500  | Full Calls and Maturities  | 106,654 | 81,355  |
| Total Registered Certificates (in millions)                  | 15.4    | 15.1    | Municipal Partial Calls  | 35,217  | 25,853  |
| Daily Average Certificates for Bearer Securities             | 6,900   | 12,800  | Corporate Partial Calls  | 2,237   | 1,548   |
| Total Bearer Certificates (in millions)                      | 1.8     | 3.2     | <b>Puts (SDFS and NDFS)</b>                                      |         |         |
| <b>Deliveries</b>  |         |         | Eligible Issues  | 7,663   | 5,141   |
| Number (in millions)   | 83.3    | 73.2    | Instructions to Exercise   | 19,129  | 21,948  |
| Value (in \$ trillions)                                      | \$19.4  | \$13.9  | Total Value of Allocations (in \$ billions)                      | \$17.3  | \$16.4  |
| <b>Pledges (in \$ billions)</b>                              |         |         | <b>Units</b>   |         |         |
| To Banks   | \$25.7  | \$15.9  | Eligible Issues  | 607     | 619     |
| To Options Clearing Corporation                              | \$7.1   | \$7.0   | Instructions to Combine  | 4,206   | 4,999   |
| To Federal Reserve District Banks                            | \$7.1   | \$6.5   | Instructions to Separate   | 12,653  | 15,547  |
| Total  | \$39.9  | \$29.4  | <b>Warrant Subscriptions</b>                                     |         |         |
| <b>Custody</b>   |         |         | Eligible Issues  | 107‡    | 125     |
| Securities on Deposit (in \$ trillions)                      | \$6.4   | \$5.5   | Subscriptions Processed  | 14,581♦ | 12,674  |
| <b>Dividends and Interest</b>                                |         |         | Resulting Shares (in millions)                                   | 217     | 232     |
| Number of Payments Received (in millions)                    | 1.9     | 1.7     | <b>Certificate Withdrawals</b>                                   |         |         |
| Number of Paying Agents                                      | 3,217   | 2,610   | Daily Average Withdrawals-by-Transfer                            | 20,600  | 19,100  |
| Total Corporate Cash Dividends and Interest (in \$ billions) | \$260.1 | \$205.4 | Total New Registered Certificates (in millions)                  | 5.8     | 5.3     |
| Total Municipal Bond Interest (in \$ billions)               | \$68.2  | \$62.0  | Daily Average Certificates-on-Demand for Registered Securities   | 470     | 740     |
| Total Stock Dividends (in billions of shares)                | 8.6     | 3.8     | Total Certificates Withdrawn                                     | 167,000 | 214,000 |
| <b>Change Mode of Payment Instructions</b>                   |         |         | Daily Average Certificates-on-Demand for Bearer Securities       | 418     | 541     |
| In UIT Securities  | 10,599  | 10,821  | Total Certificates Withdrawn for Bearer Securities (in millions) | 0.5     | 0.8     |
| In Variable-Mode Preferred Stock Issues                      | 239     | 616     | Total Certificates Withdrawn through RWT Service                 | 32,000▲ | 25,000  |
| <b>Tender and Exchange Offers</b>                            |         |         | <b>Direct Mail Service</b>                                       |         |         |
| Offers Processed and Allocated Agents Involved               | 565     | 480     | Number of Participants   | 135     | 119     |
| Value of Acceptances (in \$ billions)                        | \$16.5  | \$21.6  | Participating Transfer Agents                                    | 27      | 18      |
| <b>Conversions</b>   |         |         | Certificates Mailed by Agents (in millions)                      | 1.1     | 0.9     |
| Eligible Issues  | 540     | 513     | Certificates Mailed by DTC (in millions)                         | 1.3     | 1.2     |
| Number of Resulting Shares (in millions)                     | 188.9   | 279.6   | Total Certificates Mailed (in millions)                          | 2.4     | 2.1     |
|  |         |         | % of All WT Certificates Sent by Direct Mail                     | 41      | 39      |

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

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.

In 1992, Fund/SERV Interface doubled its users to 34 and more than doubled the transactions processed to almost 50,000. Total settlement value of mutual fund orders processed through the Interface nearly tripled at \$763.8 million—\$599.6 million in purchases and \$164.2 million in redemptions.

DTC is redesigning its Interface to correspond to NSCC's redesigned Fund/SERV program.

In 1992, DTC introduced an Interface with NSCC's Networking service to enable the electronic exchange of standardized non-trade account data between participating mutual funds and Networking users. The Bank of New York and United Missouri Bank, N.A., became the system's first two 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.

**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, transfer 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. In 1991, DTC began providing 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 their processing needs.

*Participant Terminal System (PTS):* Linked directly to DTC's computers, *PTS* is a network of 1,480 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.



DTC's James Bonnelly, Manager-Aging Transfer, works with Marie Matterna, Vice President at Marine Midland Bank, one of 46 agents using the Transfer Agent Response System.

## Key Developments in '92

■ DTC continued to replace hard-copy distribution of its important notices with *PTS* functions and Computer-to-Computer Facility files. Affected in 1992 were most reorganization, underwriting, dividend, and *FAST* notices and United Kingdom American Depositary Receipt notices. By yearend, 93% of the daily volume of hard-copy notices had been eliminated, projected to result in a yearly cost savings of approximately \$1 million.

■ DTC's automated Participant Legal Notice System (LENS), developed to supplant the distribution of 17 million pages in legal notices DTC receives annually, completed its first year in June. An enhancement allows the ordering of most attachments to notices for security holders that are in reference to conversions and puts.

■ The Transfer Agent Response System (TARS) allows agents to use their *PTS* terminals to view their outstanding transfers and enter reasons for delays. DTC can then view these responses and begin researching, if necessary, eliminating physical documentation between DTC and agents in resolving delays and tracking items.

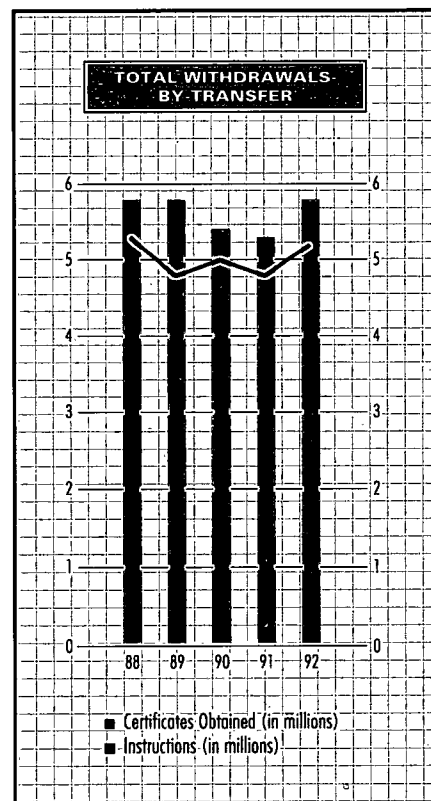
■ The PELD function in *PTS* enables Participants to monitor their pending full-service legal deposits that are awaiting additional documentation before proceeding in transfer to the agent.

■ DTC centralized transfer agents' billing and receipt of fees for the Direct-Mail-by-the-Agent transactions of authorizing Participants, which also reduces manual processing. Agents send transaction details to DTC over CCF, and their DMA fees are included in DTC's monthly service fees to appropriate Participants.

■ DTC introduced the Deposit/Withdrawal at Custodian (DWAC) service over *PTS*. With DWAC, Participants can send electronic requests

| AUTOMATION STATISTICS                           |         |         |
|---|---------|---------|
|   | 1992    | 1991    |
| CCF Users                                       | 699     | 697     |
| CCF II Users                                    | 321     | 262     |
| Average Daily Number of CCF/CCFII Records*      | 10.3    | 8.1     |
| <i>PTS</i> Terminals                            | 1,480   | 1,384   |
| Average Daily Number of <i>PTS</i> Transactions | 894,000 | 827,500 |
| <i>PTS Jr.</i> Users                            |         |         |
| Participants                                    | 186     | 176     |
| Pledgee Banks                                   | 15      | 14      |
| Others  | 40      | 34      |
| MDH Users                                       | 44      | 37      |

\* In millions; includes MDH.



to certain transfer agents or other DTC custodians to deposit and withdraw specified securities in and out of their DTC accounts, reducing processing steps, paper movement, and cost. These requests are filled upon agreement with the agent.

■ DTC's Dividend Automated Receipt System (DARS) became available over CCF (in addition to magnetic tape). DARS permits participating bank paying agents to give DTC a single payment and an automated transmission showing the issues to which the payment applies instead of a separate payment for each issue.

■ The Federal Reserve Bank of New York began accepting automated pledges and releases over *PTS*, joining the Federal Reserve Bank of Boston, which uses *PTS Jr.*

■ DTC's Collateralized Mortgage Obligation Trade Adjustment System (CTAS) electronically makes factor adjustments for all transactions in applicable CMO and other asset-backed securities. CTAS helps eliminate recordkeeping and repeated communication between Participants and limits counterparty risks.

■ DTC automated the put (tender) processing of mortgage-backed securities with monthly repayment features with its development of a system that includes an on-line data base regarding these securities, a link to put agents, and a Participant *PTS* function called PUTS. One agent, Texas Commerce Bank, began piloting the data base and APUT in November. The data base became available to Participants through the expanded Put Instructions (PUTS) function over *PTS*, and to agents through a complementary APUT function. This marks the first time DTC has provided a shared position data base that is updated on-line by both Participants and agents.

**ELIGIBLE ISSUES**

**D**TTC'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 1992, almost 299,000 issues became DTC-eligible, lifting the total of eligible issues to more than 1 million by yearend—resulting in a net gain of 9% over 1991. Of the newly eligible issues, 126,083 were serial or term issues (CUSIPs) of municipal bonds distributed through the depository, and 96,100 issues settle in same-day funds.

**Issue Eligibility**

Recognizing the cost savings to Participants of the widest possible issue eligibility, DTC in 1992 made eligible 99.98% of all issues Participants submitted for review for the purpose of underwriting distribution through the depository.

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.

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.

The depository also seeks to make eligible securities issues, and types of securities issues, that for one reason or another are not yet among the more than 1 million issues that are DTC-eligible.

Based on surveys of Participants' priorities, DTC in 1992 focused on securities already issued and outstanding in an effort to make them eligible. Such

issues include: municipal issues without assigned CUSIP numbers, limited partnerships, baby bonds, and issues that, for a variety of reasons, cannot be transferred.

**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 fifth full year of operation, the system incorporates certain controls to limit settlement risk. Chief among them are net debit collateralization, and net debit caps limiting the extent to which debits can build in a Participant's account.

In 1992, 228 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 1992, nearly \$1.15 trillion in face value of securities was on deposit—a 47% increase over yearend 1991.



*DTC Underwriting Supervisor Romulo Montero describes to Kemper Clearing Corp. Assistant Vice President Darlene Huszti the ways DTC works to make new issues eligible for depository services.*



The largest security type on deposit continued to be commercial paper—with \$293.2 billion of face value, or 53% of the estimated CP universe (see the “Money Market Instrument Program” section on commercial paper, page 19). Collateralized mortgage obligations again followed at \$223.6 billion on deposit, up from \$165.3 billion in 1991.

Medium-term notes (MTNs) also continued to rise, from \$106.2 billion on deposit in 1991 to \$159.8 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 1992, 451 MTN issuers distributed 7,060 issuances through the depository, valued at \$80.2 billion, compared with 1991’s 368 issuers distributing 7,531 issuances through DTC, valued at \$66.5 billion.

Participants also continued either wholly or partially to distribute book-entry-only global securities issues through DTC in 1992. Most of these issues settled in same-day funds. DTC processed a total of 112 new global issues in 1992, all with no certificates available to U.S. investors, compared with 60 in 1991. These BEO global securities are also eligible for settlement at 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;
- ▣ 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

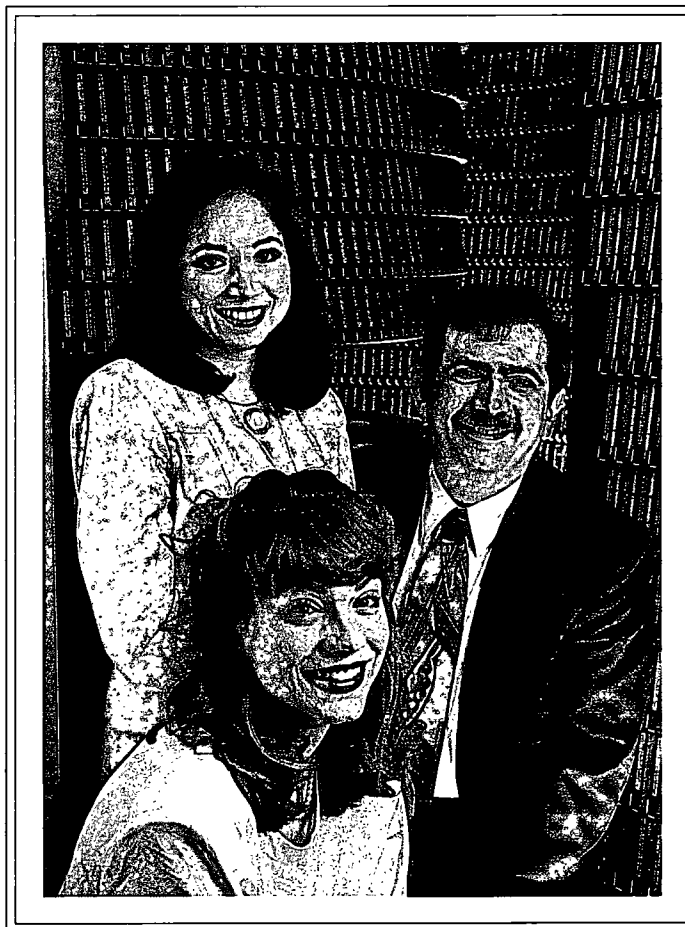
that it has sent the *Proxy* and specifies the quantity of securities the Participant can vote. After DTC completes these steps (soon after record date), communication between issuers and beneficial owners occurs as if the depository did not exist.

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 to issuers.



*Djerizza Weisz, Manager (upper left), Vito Lagomazini, Supervisor, and Julie O'Donnell, Assistant Supervisor, of DTC's Same-Day Funds Settlement Department discuss when the face value of Participants' SDFS long positions reached \$1 trillion, soon after that system's fifth anniversary.*

**SELECTED SDFS STATISTICS**

| <b>Growth*</b>                                    | <b>1992</b> | <b>1991</b> |
|---|-------------|-------------|
| Direct Participants                               | 228         | 212         |
| Total Direct Accounts                             | 484         | 430         |
| Indirect Participants                             | 164         | 173         |
| Settling Banks                                    | 94          | 93          |
| Eligible Issues (CUSIPs)                          | 47,787      | 33,383      |
| Face Value on Deposit<br>(in \$ billions)         | \$1,146.5   | \$779.6     |
| Value of Transactions Settled<br>(in \$ billions) | \$13,430.2  | \$6,955.5   |
| Underwritings**                                   | 5,497       | 4,627       |
| Principal Amount**<br>(in \$ billions)            | \$277.9     | \$180.7     |

\* As of December 31, 1992.

\*\* Does not include medium-term notes, commercial paper, and certain insured municipal and corporate bonds.

**SDFS - ELIGIBLE ISSUES\***

| <b>Security Type</b>                                      | <b>Issues<br/>(CUSIPs)</b> | <b>Face Value<br/>on<br/>Deposit**</b> |
|---|----------------------------|--|
| Asset-Backed Securities                                   | 499                        | \$144.3                                |
| Auction-Rate and Tender-Rate<br>Preferred Stock and Notes | 1,771                      | \$34.2                                 |
| Collateralized Mortgage<br>Obligations                    | 6,225                      | \$223.6                                |
| Commercial Paper  | 9,240                      | \$293.2                                |
| Corporate Bonds   | 645                        | \$114.6                                |
| Corporate and Municipal<br>Variable-Rate Obligations      | 90                         | \$1.9                                  |
| Discount Notes  | 1                          | \$0.03                                 |
| Government Agency Securities                              | 1,112                      | \$19.9                                 |
| Government Trust Certificates                             | 306                        | \$13.9                                 |
| Medium-Term &<br>Short-Term Notes                         | 16,495                     | \$159.8                                |
| Municipal Bonds   | 557                        | \$3.9                                  |
| Municipal Notes   | 1,350                      | \$27.3                                 |
| Retail Certificates of Deposit                            | 3,422                      | \$9.2                                  |
| Unit Investment Trusts                                    | 1                          | \$0.08                                 |
| Variable-Rate Demand<br>Obligations                       | 3,477                      | \$38.1                                 |
| Zero Coupon Bonds   | 2,596                      | \$62.4                                 |

\* As of December 31, 1992. \*\* In \$ billions.

**DTC-ELIGIBLE SECURITY ISSUES**

**ISSUES MADE ELIGIBLE IN 1992**

|   |                |
|---|----------------|
| Equity  | 5,700          |
| Corporate debt and certificates<br>of deposit | 97,500         |
| Registered Municipal Securities               | 174,900        |
| Bearer Municipal Bonds                        | 19,500         |
| U.S. Treasury and Federal Agency              | 900            |
| <b>Total</b>                                  | <b>298,500</b> |

**TOTAL ELIGIBLE ISSUES\***

**Corporate**

|  |                |
|--|----------------|
| NYSE and AMEX Equity Issues            | 3,341          |
| Other Equity Issues                    | 19,079         |
| Corporate Debt Securities              | 34,955         |
| Collateralized Mortgage<br>Obligations | 7,087          |
| Units                                  | 555            |
| Warrants                               | 1,605          |
| American Depositary Receipts           | 954            |
| Unit Investment Trusts                 | 26,693         |
| Certificates of Deposit                | 15,323         |
| Other                                  | 2,769          |
| <b>Total Corporate</b>                 | <b>112,361</b> |

**Municipal**

|                                 |                |
|---------------------------------|----------------|
| Registered Bonds                | 682,820        |
| Bearer or Interchangeable Bonds | 224,213        |
| Notes                           | 1,350          |
| <b>Total Municipal</b>          | <b>908,383</b> |

**Government**

|  |                  |
|--|------------------|
| U.S. Treasury and Federal<br>Agency Issues | 5,137            |
| <b>Grand Total</b>                         | <b>1,025,881</b> |

\* By CUSIP number, as of December 31, 1992.

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**MUNICIPAL SECURITIES PROGRAM**

**L**ess than 12 years after DTC began its full-scale program offering depository services for municipal bonds, over \$1.1 trillion in principal amount of municipal bonds was on deposit at DTC, about 94% of the estimated amount outstanding. Moreover, of the total principal amount of municipal securities issued in the United States during 1992, 93%—\$268.3 billion—was distributed through DTC.

**Bonds**

Distributed through DTC in 1992 were more than 9,700 new municipal bond issues (125,315 CUSIPs), with a principal amount of \$216.4 billion. These figures, which exclude variable-rate issues, represent 81% of all new long-term bond issues, according to Securities Data Company (SDC).

Variable-rate demand obligations, which became eligible in DTC's same-day funds system in 1988, numbered 366 issues distributed, at a total of \$10.4 billion, in 1992.

Full and partial call bond volumes continued to reach record levels. For the year, DTC received over 14,760 call notices from nearly 770 agents, generating more than 50,400 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. 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.

| <b>SELECTED DTC MUNICIPAL STATISTICS</b>  |             |             |
|---|-------------|-------------|
|   | <b>1992</b> | <b>1991</b> |
| Daily Average Book-Entry Deliveries   | 16,700      | 15,000      |
| Partially Called Issues with Lotteries Resulting Call Proceeds (in \$ billions) | 35,217      | 25,808      |
| Coupons Presented (in millions)   | \$9.3       | \$5.3       |
|   | 29.7        | 36.7        |
| <b>Bonds</b>  |             |             |
| Eligible Issues (by CUSIP)  | 907,033     | 829,305     |
| Principal Amount on Deposit (in \$ billions)                                    | \$1,135.4   | \$982.7     |
| Underwritings Distributed Through DTC   | 10,199      | 7,994       |
| % BEO   | 47          | 42          |
| Total Principal Amount (in \$ billions)   | \$232.1     | \$169.2     |
| % BEO   | 70          | 65          |
| Variable-Rate Demand Obligations  |             |             |
| Eligible Issues (by CUSIP)  | 3,477       | 2,135       |
| Principal Amount on Deposit (in \$ billions)                                    | \$38.1      | \$29.5      |
| Issues Distributed (by CUSIP)   | 501         | 316         |
| % BEO   | 91          | 90          |
| Total Principal Amount (in \$ billions)   | \$10.4      | \$6.7       |
| % BEO   | 91          | 93          |
| <b>Notes</b>  |             |             |
| Eligible Issues (by CUSIP)  | 1,350       | 1,222       |
| Principal Amount on Deposit (in \$ billions)                                    | \$27.3      | \$28.1      |
| Issues Distributed (by CUSIP)   | 1,493       | 1,338       |
| % BEO   | 95          | 87          |
| Total Principal Amount (in \$ billions)   | \$36.2      | \$34.3      |
| % BEO   | 98          | 95          |

**Notes**

In 1992, 1,273 issues with a total par value of \$36.2 billion were distributed through DTC. These represented 41.2% of all municipal note issues last year and 86.2% of their par value, based on SDC figures. The size of issues ranged from distributions as small as \$30,000 of Rensselaer County, New York, Capital Notes, to as large as \$5 billion of 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 21.

**Exchange of Bearer Certificates**

DTC's municipal bearer bond exchange program continues, with 1.4 million certificates exchanged in 1992. 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 million bearer certificates, at an estimated annual savings in handling, storage, and other costs of 77 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.

**MONEY MARKET INSTRUMENT PROGRAM**

**Commercial Paper Program**

**C**ommercial 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 generally rated in one of the top two ratings categories by at least one of the largest ratings agencies. It 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 the commercial paper to be issued and delivered by computer to the issuer's issuing/paying agent (IPA). 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 deliveries versus payment to paying agent Participant accounts on maturity date for inclusion in that day's settlement.

DTC's gradual expansion of its CP program proceeded as planned in 1992. Despite constraints on program growth during most of the year, the program by yearend had:

- ▣ 704 programs of 660 issuers eligible;
- ▣ 23 IPA banks and 35 dealers participating; and
- ▣ \$293 billion on deposit at DTC—53% of the estimated CP universe—compared with \$177 billion at yearend 1991, or 33% of the estimated universe.

Moreover, the daily average number of issuances at yearend 1992 was 1,363, with a face value of \$19.2 billion, compared with yearend 1991's daily average of 868 issuances, with a face value of \$10.9 billion.

A list of DTC-eligible CP programs and their IPA banks and dealers appears in DTC's monthly *SDFS Eligible Securities* book.

In November, the Federal Reserve Bank of New York agreed to remove all expansion limits on the CP program after DTC's new backup data center demonstrated its ability to recover within three hours of the primary data center being declared unusable because of a disaster.

**Other Money Market Instruments**

During 1992, DTC proposed making other types of issues eligible for its money market instrument (MMI) program. Its proposals in December for Participant comment were developed with the aid of a subcommittee originally formed by the Public Securities Association's

Money Market Committee in 1988 to advise DTC on developing its CP program. The subcommittee is composed of representatives of dealers, New York Clearing House banks, and banks headquartered outside of New York City.

DTC's three proposed programs are institutional certificates of deposit, municipal CP, including variable-rate demand obligations in a CP mode, and bankers' acceptances. In

general, the new programs all would share the processing characteristics and requirements of DTC's CP program.

DTC also proposed ways to expand or improve its existing service for MMI issues: corporate CP; medium-term notes, including deposit notes and medium-term bank notes; preferred stock in a CP-like mode; short-term bank notes; and discount notes.



*DTC's proposal to make more types of money market instruments eligible was the result of a concerted effort by many DTC and Participant staff, including State Street Bank's Neil Carfora, Senior Vice President (second from the right), and DTC Planning Analysts Joyce E. Rosen, Weyman Lew, Costanza Pinilla, and Janet C. Jones (from left).*

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**RECENT DTC GROWTH BY SECTOR IN SELECTED SERVICES**

| <b>Eligible Issues</b>  | <b>1992</b>      | <b>1991</b>      | <b>1990</b>      |
|---|------------------|------------------|------------------|
| Equity  | 22,420           | 21,324           | 19,037           |
| Corporate debt  | 34,955           | 28,930           | 19,377           |
| Municipal debt  | 908,383          | 830,527          | 733,513          |
| Other   | 60,123           | 58,385           | 55,983           |
| <b>Total</b>  | <b>1,025,881</b> | <b>939,166</b>   | <b>827,910</b>   |
| <b>Selected Services</b>  |                  |                  |                  |
| Value of securities on deposit<br>(in \$ trillions)               |                  |                  |                  |
| Banks   | \$4.82           | \$4.13           | \$3.10           |
| Broker-dealers  | 1.52             | 1.30             | 0.96             |
| Other depositories  | 0.03             | 0.03             | 0.04             |
| <b>Total</b>  | <b>\$6.37</b>    | <b>\$5.46</b>    | <b>\$4.10</b>    |
| Shares on deposit (in billions)                                   |                  |                  |                  |
| Banks   | 71.3             | 60.8             | 55.4             |
| Broker-dealers  | 75.9             | 67.4             | 60.9             |
| Other depositories  | 1.1              | 1.3              | 1.6              |
| <b>Total</b>  | <b>148.3</b>     | <b>129.5</b>     | <b>117.9</b>     |
| Principal amount of corporate<br>debt on deposit (in \$ billions) |                  |                  |                  |
| Banks   | \$1,555.0        | \$1,229.3        | \$ 941.8         |
| Broker-dealers  | 319.0            | 298.2            | 243.3            |
| Other depositories  | 9.6              | 17.5             | 15.3             |
| <b>Total</b>  | <b>\$1,883.6</b> | <b>\$1,545.0</b> | <b>\$1,200.4</b> |
| Principal amount of municipal<br>debt on deposit (in \$ billions) |                  |                  |                  |
| Banks   | \$ 758.8         | \$ 661.1         | \$613.7          |
| Broker-dealers  | 395.5            | 339.9            | 239.4            |
| Other depositories  | 8.4              | 9.8              | 7.4              |
| <b>Total</b>  | <b>\$1,162.7</b> | <b>\$1,010.8</b> | <b>\$860.5</b>   |
| <b>Participation*</b>   |                  |                  |                  |
| DTC Participants  | 532              | 548              | 568              |
| Broker-dealers  | 352              | 360              | 379              |
| Banks   | 172              | 180              | 181              |
| Clearing agencies   | 8                | 8                | 8                |

\* Excludes indirect participation in DTC, which in 1992 included approximately 1,300 banks and 3,000 broker-dealers that are correspondents of Participants.

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**SECURITIES IN BOOK-ENTRY-ONLY FORM**

September 1992 marked the 10th anniversary of book-entry-only (BEO) issuance by underwriters through DTC. The issuance of debt securities in BEO form continues to increase, as issuers reduce expense and investors grow more comfortable owning securities without certificates. In 1992, BEO securities valued at \$4.2 trillion—virtually all of them debt securities—were distributed through DTC. At yearend, the depository held BEO securities with a face value of over \$1.5 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 80% of the principal amount of debt issues in which certificates 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 Depositary 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
- Mortgage-Backed Securities
- Warrants Linked to Currency Exchange Rates.

**Book-Entry-Only in '92**

■ DTC's commercial paper program, completing its second full year in 1992, saw 279,480 issuances distributed with a combined principal amount of nearly \$3.7 trillion (see the "Money Market Instrument Program" section on commercial paper, page 19).

■ The number of issuer programs for continuously offered medium-term notes (MTNs) eligible at DTC grew to 451 from 368 by yearend. The principal amount of MTNs distributed through the depository in 1992 was \$80.2 billion.

■ \$162.5 billion of principal amount in municipal bonds (including variable-rate demand obligations), compared with \$109.3 billion in 1991, was distributed in BEO form through DTC, representing 70% of all

municipal bond debt distributed through the depository.

■ Municipal notes issued in book-entry-only form amounted to \$35.5 billion in principal amount, compared with \$32.7 billion in 1991, representing 98% of all municipal notes distributed through DTC.

**Information Available**

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

| <b>BOOK-ENTRY-ONLY ISSUANCE IN DTC</b> |             |             |
|--|-------------|-------------|
|  | <b>1992</b> | <b>1991</b> |
| <b>Municipal Bonds</b>                 |             |             |
| Issues Distributed                     | 4,813       | 3,368       |
| Their Principal                        |             |             |
| Amount (in \$ billions)                | \$162.5     | \$109.3     |
| As a % of Total Bond                   |             |             |
| Principal Amount                       |             |             |
| Distributed Through DTC                | 70          | 65          |
| <b>Municipal Notes</b>                 |             |             |
| Issues Distributed                     | 1,197       | 1,015       |
| Their Principal                        |             |             |
| Amount (in \$ billions)                | \$35.5      | \$32.7      |
| As a % of Total Note                   |             |             |
| Principal Amount                       |             |             |
| Distributed Through DTC                | 98          | 95          |
| <b>Corporate Securities</b>            |             |             |
| MTN Issuances                          |             |             |
| (continuously offered)                 | 7,060       | 7,531       |
| Their Principal                        |             |             |
| Amount (in \$ billions)                | \$80.2      | \$66.5      |
| CP Issuances                           | 279,480     | 147,250     |
| Their Principal                        |             |             |
| Amount (in \$ billions)                | \$3,659.8   | \$1,804.7   |
| Other Issues Distributed               | 4,536       | 6,526       |
| Their Principal                        |             |             |
| Amount (in \$ billions)                | \$261.5     | \$170.1     |

## INSTITUTIONAL DELIVERY SYSTEM

DTC's Institutional Delivery (*ID*) system is a mechanism for comparing and settling institutional trades in DTC-eligible securities that reduces costs and increases the assurance of timely settlement. *ID*'s chief benefit is its ability to coordinate through a central entity, DTC, and thereby simplify all the clearance and settlement functions for institutional trades of broker-dealers, institutions, custodian banks, and other agents.

Briefly, here is how the *ID* system works: A broker-dealer or dealer bank executing an institutional trade furnishes DTC with such transaction details as price, quantity, and settlement amount, which it passes on as a legal trade confirmation to the institutional customer, the customer's agent, and any other designated parties. If the *ID* confirmation accurately reflects the institution's order, the institution sends an affirmation to DTC, which 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 usually is automatically completed by book-entry on the morning of settlement date. If the security is not DTC-eligible, the deliverer and receiver settle the transaction outside of DTC, based on depository instructions that facilitate the delivery's completion.

### *ID* in '92

By yearend, the *ID* system expanded to include 8,617 institutions, broker-dealers, custodian banks, and other agents. Average monthly *ID* confirmation volume processed through the system was 2.4 million for the fourth quarter, up 11% from the year-ago period. For the year, 58.1 million confirmations, affirmations, and prescheduled deliveries were processed through *ID*, a 17% increase over 1991.

At yearend, the industry affirmation rates of trade confirmations in DTC-eligible securities reported by broker-dealers through the *ID* system were as follows:

94% for corporate debt and equity securities, repeating yearend 1991's record 94%. A record 95% was achieved from February through November.

80% for municipals, up from 77% at yearend 1991. A record 83% was achieved in September.

The Securities and Exchange Commission's Division of Investment Management issued a no-action letter, clarifying that an investment manager receiving an *ID* confir-

mation may agree not to require its broker-dealer to mail a separate trade confirmation. The letter also indicated the investment manager's obligation to keep copies of confirmations of trades effected for customers would be satisfied by keeping *ID* confirms.

About a dozen institutions in Europe began using *ID* to receive confirmations of U.S. trades by dialing in to the system through an EZTYM software package and a compatible personal computer.

An input function allowing affirmations through DTC's Mainframe Dual Host communications system became available.

### International *ID* System

DTC's International Institutional Delivery (*IID*) system extends certain *ID* system benefits—trade confirmations, affirmations, and deliver/receive instructions—to trades executed in non-DTC-eligible U.S. and international securities.

The *IID* initiative began as a means of improving cross-border clearance and settlement in non-U.S. securities, thereby also reducing costs for broker-dealers, custo-



*Ord Minnett, Inc.'s Pat Brogna, Principal, (left) and DTC's Darlene Jasmine, International Services Senior Participant Services Representative, analyze the potential of the new International Institutional Delivery system work station.*

dians, and investors. Users have since begun to put *IID* to domestic use for trade confirmations in DTC-ineligible securities with short settlement cycles.

Because *IID* is used for securities that are not DTC-eligible, this service does not provide for DTC book-entry settlement. Use of *IID*'s standardized deliver/receive instructions, however, can assist brokers and custodians in communicating settlement instructions in the United States and abroad to meet short settlement deadlines.

*IID* enables intraday processing of confirmations, affirmations, and deliver/receive instructions; investment managers can add funding instructions for trade settlement at affirmation. In addition, *IID* provides confirmation fields on such items as currency codes and alternate currency instructions as well as International Standards Organization deliver/receive instruction formats.

***IID* in '92**

*IID* expanded from 282 registered users in 1991 to 310 in 1992. Users include approximately 40 broker-dealers in 11 countries in the Americas, Europe, and the Pacific. System usage was relatively flat at 1991 levels, however, and is expected to remain so until investment managers catch up with leading broker-dealers in automating their use of *IID*.

▣ DTC introduced a software program for broker-dealers that manually inputs confirmations. It dramatically reduces the number of keystrokes for entering most trades by allowing the broker-dealer to store on a personal computer most settlement and other information that the software automatically generates with each confirmation.

▣ About 15 broker-dealers are accessing *IID* through DTC's Computer-to-Computer Facility, which allows for high-volume transmissions.

▣ Users utilized *IID* to submit confirmations for trades in Government bonds, which can settle on trade date or trade date plus one.

▣ An introductory videotape was made available to potential users. The tape, *Services for Cross-Border Trades by DTC Users*, actually contains two videos: *What Is DTC?*, an overview of the depository, and *International ID and the Global Securities Markets*, which outlines the *IID* system and its benefits.

**Enhanced *ID* System Proposed with Interactive Capability**

In January 1992, DTC published a memorandum, "An Interactive Option for the Institutional Delivery System," which proposed to combine and add to

features of the *ID* and *IID* systems. Users would have the option of using the new *ID* system in its current batch environment, or interactively—with the capability of accomplishing all system functions within hours during a single business day—or in both ways, according to user needs.

In May, an *ID* Focus Committee of some 25 representatives of broker-dealers, banks, institutional users, and industry organizations formed to determine system specifications. After the conclusion of its work, DTC published in March 1993 a paper describing the system's proposed new features:

- ▣ notification of order execution;
- ▣ trade allocation process-

ing for customer accounts;

- ▣ data base of standing instructions;
- ▣ advice of trade confirmation cancellation/correction;
- ▣ matching of broker-dealer and institutional trade data input; and
- ▣ enhanced authorization processing.

Tentative implementation schedules call for the first of these new features to be in place by late 1993, with the rest to become available during 1994.



*DTC Information Services Manager Vito Ancona (left) and Project Leader Marc Berliner were part of the effort to develop an interactive option for the Institutional Delivery system.*



**D**TC'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, without shipping certificates. 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.

#### 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 on 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).

#### Services for Foreign Securities Issues

Global securities, with settlement possible in the U.S. and other markets through interdepository links, were first distributed through DTC in 1990. In 1992, 112 global equity and debt issues with a total value of \$26 billion at issuance were made eligible for DTC services. Of these, 82 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 about two dozen other countries were represented, with settlement possible at DTC, Cedel, and Euroclear. The remaining 30 global issues were asset-backed and other debt issues, no different from other issues of those types except that they can settle in DTC, Cedel, Euroclear, and elsewhere as provided.

Global securities eligible for DTC services are usually in BEO form, with no certificates

made 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. Deliveries by DTC Participants to a participant in the international depositories Cedel or Euroclear are made by book-entry to the DTC accounts of Cedel's and Euroclear's U.S. depository banks, or to the DTC accounts of banks that issue global certificates or American Depositary Receipts (ADRs). Cross-border deliveries into DTC reverse this procedure.



*A same-day funds settlement system for trades in corporate and municipal securities has been a top priority of DTC Settlement Planning Director Ron Marshall (left) and National Securities Clearing Corporation Vice President and Associate General Counsel Peter Axilrod.*

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 ADRs, including ADRs as a portion of Global Depositary Receipts (GDRs), which are eligible for DTC services. There were 950 such issues eligible in DTC at the end of 1992.

ADRs experienced a more than 27% increase in the value of underwritings distributed through DTC in 1992, \$7.9 billion vs. \$6.2 billion the prior year. Included in these figures are Rule 144A Private Placements in ADR form, which also increased substantially, from \$1.1 billion in 1991 to \$2.7 billion in 1992. Such issues amounted to 22 of the 46 total ADR issues distributed through DTC last year.

In 1991, DTC developed an Elective Dividend Service (EDS) to allow Participants to provide it with instructions regarding dividend payments on DTC-eligible foreign issues over the Participant Terminal System (PTS). EDS includes a tax withholding service for dividend and interest payments on Canadian securities in DTC's custody. Begun in 1987 in cooperation with the Canadian Depository for Securities Limited (CDS), that service affords U.S. tax exempt beneficial owners a withholding exemption at source on Canadian cash dividends, and accommodates various other levels of withholding as appropriate for Participants' customers.

Participants now certify through EDS that portion of their position in Canadian securities and United Kingdom ADRs that is tax exempt and the portion that is entitled to the favorable 15% withholding rate. By making such certifications over EDS, Participants receive payments with the appropriate taxes withheld at source, avoiding a costly manual tax reclaim process. DTC hopes to expand its EDS service to reach the tax authorities of all countries whose issuers issue ADRs in the U.S.

In 1992, EDS was expanded to permit the automated transmission to DTC by Participants of certifications regarding stock dividends so that appropriate taxes are paid to Revenue Canada.

### International Links

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

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.

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

As the infrastructure to permit more efficient cross-border trade settlement develops abroad, DTC is working on preparations at home. Its objective is to amend existing state laws, which did not contemplate that Participants of a U.S. securities depository such as DTC would make book-entry deliveries of securities that were in the custody of a foreign securities depository. The State of New York, at DTC's initiative, enacted an appropriate amendment to its Uniform Commercial Code in July of 1992, and the depository expects that this process will be completed during 1993 or 1994. Then, when business needs justify it, DTC could arrange participation in any recognized foreign securities depository so that book-entry deliveries could be made to and from DTC Participants' accounts there and in DTC, with securities held there for DTC's account.

**A**s 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 negotiation 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.

- Securities are released to representatives of eligible Participants and transfer agents only with proper identification.

- DTC microfilms registered and bearer certificates and related data that enter and leave its premises.

- Duplicate computer files of transactions, stored in various locations, permit prompt file reconstruction if processing is interrupted. These and the microfilm records supplement comprehensive files of original documents and production reports.

- Backup computer and communications arrangements help ensure DTC's data-processing functions 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.

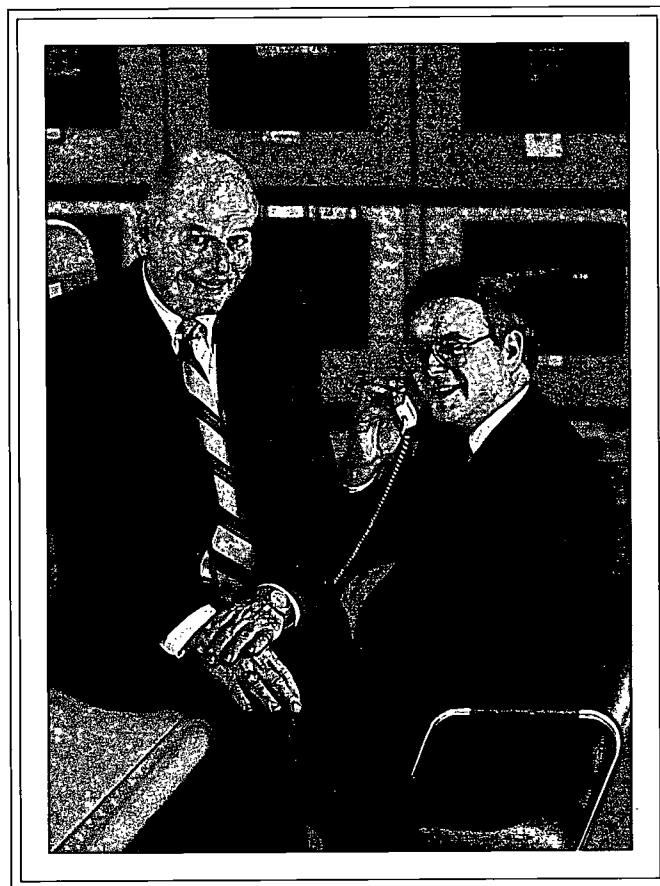
- Alarm systems, which use motion and vibration sensors and heat detectors, are monitored locally and at a central station. Line encryption protects individual control panels from compromise.

- A professionally 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.

*DTC Senior Vice President Michael Fedorochko (left) gives Ford Financial Services Assistant Vice President Craig A. Dukes a tour of the depository's new backup data center and recovery site.*

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### **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 them 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 satisfy 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. Should the loss exceed the deposit (or should it be sustained for reasons other than Participant failure), DTC might then charge (pro rata) the excess to 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 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 between commercial paper activity 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 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:

- \$15 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*



Thomas J. Lee  
*Executive Vice  
President*



Dennis J. Dirks  
*Executive Vice  
President*



Thomas C. Cardile  
*Senior Vice President*



Donald F. Donahue  
*Senior Vice President*



Michael Fedorochko  
*Senior Vice President*



Glenn E. Mangold  
*Senior Vice President*



Richard B. Nesson  
*Senior Vice President  
and General Counsel*



Edward J. McGuire, Jr.  
*Secretary*

**VICE PRESIDENTS**

- Michael A. Agnes
- Joseph J. Arney
- Nicholas J. Arrigan
- Joseph J. Bellantoni
- Neil F. Brander
- Ronald J. Burns
- John J. Colangelo
- Raymond R. DeCesare
- Stuart A. Fishbein
- Ronald A. Garguilo
- Bruce S. Garland
- 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
- Larry E. Thompson
- Carl H. Urist

**Comptroller**

Gary J. LaCara

**Treasurer**

Philip E. Plasencia

**Assistant Secretary**

Jane C. Klueger

**Assistant Treasurer**

Leonard A. Miele

**COMMITTEES OF THE  
BOARD OF DIRECTORS**

**Nominating Committee**

- Thomas C. Schneider,  
*Chairman*
- John F. Lee
- Richard S. Pechter
- H.J. Runion, Jr.

**Audit Committee\***

- Edward L. Goldberg,  
*Chairman*
- Richard J. Matteis
- Michael Urkowitz
- Ronald J. Yoo

**Compensation  
Committee\***

- Richard S. Pechter,  
*Chairman*
- Michael Minikes
- Thomas C. Schneider
- Michael Urkowitz

*\*Retiring from the Audit Committee in March 1992 were C. Howell Scott, as Chairman, and Sheldon Harrison. C. Howell Scott also retired from the Compensation Committee at that time.*

**THE BOARD OF DIRECTORS**



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



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



Richard V. Fulp  
*Executive Vice  
President*  
Bank of America  
NT & SA



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



Richard A. Grasso  
*Executive Vice  
Chairman,  
President, and Chief  
Operating Officer*  
New York Stock  
Exchange, 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.



John F. Lee  
*President*  
New York Clearing  
House Association



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*  
Wachovia Bank of  
North Carolina, N.A.



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 1992, at the end of their terms, were Sheldon Harrison, Senior Executive Vice President, The Bank of New York, and C. Howell Scott, Executive Vice President, Bankers Trust Company. Retiring from the board in November was C. Richard Justice, Executive Vice President, National Association of Securities Dealers, Inc., and in December, Ronald J. Yoo, Vice Chairman, Shearson Lehman Brothers Inc. and Shearson Lehman Brothers Holdings.*

R E P O R T   O F   I N D E P E N D E N T   A C C O U N T A N T S

**To the Board of Directors and  
Stockholders of The Depository Trust Company**

**I**n 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, 1992 and 1991, 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*

153 East 53rd Street, New York, NY, February 25, 1993

FINANCIAL INFORMATION





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**STATEMENT OF CONDITION**

| <i>Dollars in thousands at December 31,</i>  | <i>1992</i>         | <i>1991</i>         |
|--|---------------------|---------------------|
| <b>Assets</b>  |                     |                     |
| Cash and money market accounts   | \$ 5,524            | \$ 60,657           |
| Repurchase agreements  | 3,970,251           | 1,822,385           |
| Receivables:   |                     |                     |
| Participants:  |                     |                     |
| For settlements  | 10,625              | 25,797              |
| For services   | 27,969              | 26,708              |
| Dividends, interest and other  | 455,852             | 130,227             |
| Deferred income taxes  | 21,071              | 14,797              |
| Prepaid expenses   | 6,083               | 5,051               |
| Equipment and leasehold improvements, less accumulated depreciation of \$77,344 in 1992 and \$68,418 in 1991 | 41,591              | 44,305              |
| Deposits to Participants Fund, callable on demand  | 475,234             | 445,027             |
|  | <b>\$ 5,014,200</b> | <b>\$ 2,574,954</b> |
| <b>Liabilities, Participants Fund and Stockholders' Equity</b>   |                     |                     |
| Liabilities:   |                     |                     |
| Drafts payable   | \$ 2,581,968        | \$ 1,207,627        |
| Accounts payable and accrued expenses  | 114,365             | 111,243             |
| Payable to Participants:   |                     |                     |
| For refunds  | 8,992               | 15,567              |
| For settlements  | 77,989              | 232,074             |
| On receipt of securities   | 55,492              | 85,044              |
| Dividends, interest and other  | 1,495,676           | 259,383             |
| Notes payable  | 8,222               | 13,177              |
|  | <b>4,342,704</b>    | <b>1,924,115</b>    |
| Participants Fund:   |                     |                     |
| Deposits received  | 177,168             | 186,986             |
| Deposits callable on demand  | 475,234             | 445,027             |
|  | <b>652,402</b>      | <b>632,013</b>      |
| Stockholders' Equity:  |                     |                     |
| Capital stock—authorized, issued and outstanding 18,500 shares of \$100 par value                            | 1,850               | 1,850               |
| Surplus  | 950                 | 950                 |
| Undivided profits  | 16,294              | 16,026              |
|  | <b>19,094</b>       | <b>18,826</b>       |
|  | <b>\$ 5,014,200</b> | <b>\$ 2,574,954</b> |

*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> | <i>1992</i> | <i>1991</i> |
|--|-------------|-------------|
| <b>Revenues</b>  |             |             |
| Services to Participants                                     | \$ 293,595  | \$ 274,542  |
| Interest income  | 42,839      | 70,236      |
|  | 336,434     | 344,778     |
| <i>Less—Refunds to Participants</i>                          | 57,369      | 78,673      |
|  | 279,065     | 266,105     |
| <b>Expenses</b>  |             |             |
| Employee costs   | 175,990     | 165,232     |
| Rent, maintenance and utilities                              | 41,921      | 41,559      |
| Data processing rentals and supplies                         | 18,731      | 15,470      |
| Professional and other services                              | 15,235      | 15,332      |
| Depreciation and amortization                                | 8,936       | 9,144       |
| Interest expense   | 1,176       | 1,583       |
| Other expenses   | 16,808      | 17,717      |
|  | 278,797     | 266,037     |
| Excess of revenues over expenses and refunds                 | 268         | 68          |
| Undivided profits, beginning of year                         | 16,026      | 15,958      |
| Undivided profits, end of year                               | \$ 16,294   | \$ 16,026   |

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



## STATEMENT OF CASH FLOWS

| <i>Dollars in thousands for the years ended December 31,</i>  | <i>1992</i> | <i>1991</i>  |
|---|-------------|--------------|
| <b>Cash flows from operating activities:</b>  |             |              |
| Excess of revenues over expenses and refunds  | \$ 268      | \$ 68        |
| Adjustments to reconcile excess of revenues over expenses and refunds to net cash provided by (used in) operating activities: |             |              |
| Depreciation and amortization   | 8,936       | 9,144        |
| Pension and deferred compensation   | 8,063       | 4,464        |
| Provision for uncollectible dividend receivables  | 383         | 308          |
| Provision for deferred taxes  | (6,274)     | (4,231)      |
| (Increase) decrease in receivables from Participants  | 13,911      | (3,451)      |
| (Increase) decrease in dividends, interest and other receivables  | (326,008)   | 52,342       |
| Increase (decrease) in accounts payable, accrued expenses and other, net  | (5,973)     | 1,649        |
| Increase (decrease) in Participants Fund deposits   | (9,818)     | 5,739        |
| Increase (decrease) in drafts payable   | 1,374,341   | (68,376)     |
| Increase (decrease) in payables to Participants   | 1,046,081   | (184,379)    |
| Total adjustments   | 2,103,642   | (186,791)    |
| Net cash provided by (used in) operating activities   | 2,103,910   | (186,723)    |
| <b>Cash flows from investing activities:</b>  |             |              |
| Purchases of equipment and leasehold improvements   | (6,222)     | (4,248)      |
| <b>Cash flows from financing activities:</b>  |             |              |
| Principal payments on notes   | (4,955)     | (5,186)      |
| Increase (decrease) in cash and cash equivalents  | 2,092,733   | (196,157)    |
| Cash and cash equivalents, beginning of year  | 1,883,042   | 2,079,199    |
| Cash and cash equivalents, end of year  | \$3,975,775 | \$ 1,883,042 |

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

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## NOTES TO FINANCIAL STATEMENTS

December 31, 1992 and 1991

### 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, 1992, 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 1992, this refund amounted to \$21,517 (1991—\$20,700). 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, reduced by certain related expenses. Such net monthly refunds totaled \$35,852 in 1992 (1991—\$57,973).

#### 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 a small number of money center financial institutions, 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 recorded at cost. 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 revenues and expenses reported in the financial statements in periods which differ from those in which they are subject to taxation.

#### F. Reclassification of expenses:

Beginning in 1992, expense categories reflect applicable sales taxes. Sales taxes were previously included in other expenses. Expenses for 1991 were reclassified to conform with the 1992 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 satisfy the Participants’ obligations to DTC, and to satisfy 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 and Interest on Securities on Deposit:**

DTC receives cash and stock dividends and interest on securities registered in the name of its nominee and interest on bearer securities which it distributes to its Participants for the owners of the securities. Amounts received on registered securities withdrawn before the record date but not transferred from the name of DTC's nominee cannot be distributed unless claimed by the owners of the securities through a Participant or other financial institution. At December 31, 1992, cash dividends and interest payable amounted to \$164,854, of which \$36,499 was awaiting distribution to Participants and \$128,355 was held pending claims on behalf of the record date owners of the applicable securities. Stock dividends payable and unclaimed are not reported in the financial statements. Unclaimed cash and stock dividends and interest on securities registered in the name of DTC's nominee and interest on bearer securities are transferred to New York State when required by abandoned property laws. Cash dividends and interest receivable at December 31, 1992, amounted to \$263,724 (1991—\$113,596) before reduction by an allowance of \$475 (1991—\$475) for possible losses. Stock dividends receivable are not reported in the financial statements.

**Note 5—Pension and Other Retirement 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.

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

| <i>Dollars in thousands</i>  | 1992       | 1991       |
|--|------------|------------|
| Plan assets at fair value, primarily equity securities and deposits under group annuity contracts                | \$49,268   | \$45,481   |
| Accumulated benefit obligation for service rendered:   |            |            |
| Vested   | 49,137     | 38,357     |
| Non-vested   | 2,673      | 3,140      |
|  | 51,810     | 41,497     |
| Additional amounts related to projected compensation increases   | 14,935     | 13,526     |
| Projected benefit obligation for service rendered  | 66,745     | 55,023     |
| Projected benefit obligation in excess of plan assets  | (17,477)   | (9,542)    |
| Unrecognized net asset remaining from the initial application of FAS No. 87                                      | (7,230)    | (8,033)    |
| Unrecognized net loss from past experience different from that assumed and the effects of changes in assumptions | 4,067      | 4,303      |
| Unfunded defined benefit pension cost included in accounts payable and accrued expenses                          | (\$20,640) | (\$13,272) |

The discount rate used in determining the actuarial present value of the projected benefit obligation was 7.75% for 1992 and 1991. 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 1992 (1991—10%). 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.

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 1992 and 1991 included the following components:

| <i>Dollars in thousands</i>                   | 1992    | 1991    |
|---|---------|---------|
| Service cost—benefits earned during the year  | \$5,254 | \$4,804 |
| Interest cost on projected benefit obligation | 4,448   | 3,929   |
| Actual return on assets                       | (4,598) | (7,978) |
| Net amortization and deferral                 | (249)   | 3,384   |
| Net pension cost                              | \$4,855 | \$4,139 |

DTC also provides certain health care and life insurance benefits for retired employees. The cost of these benefits is generally recognized when the insurance premiums are paid. The Financial Accounting Standards Board requires the recognition of the cost of such benefits using the accrual method under Statement of Financial Accounting Standards No. 106, "Employers' Accounting for Postretirement Benefits Other Than Pensions" beginning in 1993. DTC's unrecognized obligation at December 31, 1992, is approximately \$17 million and will be amortized over 20 years.

In connection with a workforce reduction program, DTC offered additional benefits to certain qualifying employees in December 1992, including severance pay and enhanced retirement benefits. The cost of this program is \$7.2 million and is included in employee costs in the Statement of Revenues and Expenses.

**Note 6—Income Taxes:**

Income taxes are included in other expenses. The income tax provisions for 1992 and 1991 are summarized as follows:

| <i>Dollars in thousands</i> | 1992     | 1991     |
|-----------------------------|----------|----------|
| Current provision:          |          |          |
| Federal                     | \$ 4,951 | \$ 3,366 |
| State and local             | 1,555    | 817      |
| Deferred (benefit):         |          |          |
| Federal                     | (4,779)  | (3,267)  |
| State and local             | (1,495)  | (734)    |
| Net income tax expense      | \$ 232   | \$ 182   |

The primary difference between pretax accounting income and taxable income relates to unfunded pension expense.

Income taxes paid during 1992 totaled \$6,012 (1991—\$4,503).

Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes," must

be adopted by 1993. The adoption of this new standard, which supersedes Standard No. 96, will not have an adverse effect on DTC's financial condition.

**Note 7—Notes Payable:**

DTC has notes payable totaling \$8,222, at a weighted annual rate of 8.8% which are being repaid in monthly installments. The carrying value of notes payable reported in the Statement of Condition is not materially different from their fair value. Interest paid during 1992 totaled \$1,068 (1991—\$1,532).

Aggregate maturities of notes payable as of December 31, 1992, are summarized as follows:

| <i>Dollars in thousands</i> |         |
|-----------------------------|---------|
| 1993                        | \$4,393 |
| 1994                        | 3,521   |
| 1995                        | 308     |
| Total notes payable         | \$8,222 |

DTC has a short-term line of credit of \$5 million available with a commercial bank at a rate approximating the prime rate and a revolving credit loan agreement of \$150 million at the federal funds rate plus 3/8%. A commitment fee is required on the \$150 million revolving credit loan agreement which is available to support the Same-Day Funds Settlement system. These facilities were not utilized during 1992.

**Note 8—Leases and Other Commitments:**

DTC has entered into operating leases for office space and data processing and other equipment. The leases for office space provide for rent escalations subsequent to 1992. Rent expense in 1992 was \$33,868 (1991—\$34,332) for office space and \$17,580 (1991—\$13,033) for data processing and other equipment.

Presented below are the future minimum payments, by year and in the aggregate, under operating leases having noncancelable lease terms in excess of one year as of December 31, 1992:

| <i>Dollars in thousands</i>         |           |
|-------------------------------------|-----------|
| 1993                                | \$ 45,272 |
| 1994                                | 40,485    |
| 1995                                | 37,161    |
| 1996                                | 35,546    |
| 1997                                | 20,678    |
| Thereafter                          | 51,508    |
| Total future minimum lease payments | \$230,650 |

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**PARTICIPANTS†****Banks**

Affiliated National Bank—Denver  
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 New York (The)  
Bank of Nova Scotia (The), New  
York Agency  
Bank of Oklahoma, N.A.  
Bank of Tokyo Trust  
Company (The)  
Bank One, Indianapolis, N.A.  
Bank One Ohio Trust  
Company, 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.  
Capital Trust Company  
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.  
Citizens Fidelity Bank and Trust  
Company  
City National Bank  
Comerica Bank  
Commerce Bank  
of Kansas City, N.A.  
Connecticut National Bank (The)  
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  
Dominion Trust Company  
Eagle Trust Company  
Fidelity Bank, National Association  
Fiduciary Trust Company  
International  
Fiduciary Trust Company  
of Boston  
Fifth Third Bank (The)  
First American Bank, N.A.  
Firststar Trust Company  
First City, Texas—Houston,  
National Association  
First Fidelity Bank, National  
Association, New Jersey  
First Interstate Bank  
of Arizona, N.A.  
First Interstate Bank of California  
First Interstate Bank  
of Denver, N.A.  
First Interstate Bank  
of Oregon, N.A.  
First National Bank  
of Boston (The)  
First National Bank  
of Chicago (The)  
First National Bank  
of Maryland (The)  
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  
Lincoln National Bank & Trust  
Company of Fort Wayne  
Lloyds Bank Plc  
M&I Marshall & Ilsley Bank  
Manufacturers and Traders  
Trust Company  
Marine Midland Bank, N.A.  
Mark Twain Bank  
Marquette Bank Minneapolis, N.A.  
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 Trust & Banking  
Corporation (U.S.A.)  
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 Minnesota,  
National Association  
Old Kent Bank and Trust Company  
Old Kent Bank  
Pacific Inland Bank  
Pittsburgh National Bank  
Provident Bank (The)  
Provident National Bank  
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

†As of December 31, 1992



Sanwa Bank Limited—N.Y. Branch  
Seattle—First National Bank  
Security Trust Company, N.A.  
Seligman (J. & W.) Trust Company  
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  
Team Bank, N.A.  
Texas Commerce Bank  
National Association  
Toronto Dominion Bank  
(The)—New York Branch  
Toyo Trust Company of New York  
Trust Company Bank  
Trustmark National Bank  
U.S. Bank of Washington, N.A.  
Union Bank  
Union Planters National Bank  
Union Trust Company  
United Jersey Bank  
United Missouri Bank, N.A.  
United States National Bank  
of Oregon  
United States Trust Company  
of New York  
Valley National Bank of Arizona  
Valley Trust Company  
Wachovia Bank 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  
Women's Federal Savings Bank  
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 & Co., Inc.  
Advest, Inc.  
Affina Brokerage Services Inc.  
AKT Associates L.P.  
Alexander (J.) Securities, Inc.\*  
Alger (Fred) & Company,  
Incorporated  
Allen & Company Incorporated  
Alpine Associates  
American Enterprise Investment  
Services Inc.\*  
American Securities Corporation  
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 Securities Corporation  
Baer (Julius) Securities Inc.  
Baird (Robert W.) & Co.  
Incorporated  
Banc One Capital Corporation  
Barr Brothers & Co., Inc.  
Baum (George K.) & Company  
Bear, Stearns Securities Corp.  
Bernstein (Sanford C.) & Co., Inc.  
Bidwell & Company\*  
Blair (C.M.), Foster (W.O.) & Co.\*  
Blair (William) & Company  
Bodell, Overcash Anderson  
& Co., Inc.\*  
Bradford (J.C.) & Co.  
Brawley Cathers Limited\*  
Brounoff, Claire, & Co., Inc.  
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.\*  
Campbell, Waterman, Inc.\*  
Canaccord Capital  
Corporation/CDS\*  
Cantella & Co., Inc.  
Cantor Fitzgerald & Co.  
Cantor Fitzgerald Fixed Income  
Brokers, Inc.  
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.  
Chicago Corporation (The)  
Childs (S.W.) Management  
Corporation  
Citicorp Securities Markets, Inc.  
Coast Options, Inc.\*  
Commerzbank Capital Markets  
Corporation  
Connor, Clark & Co. Limited\*  
Coughlin and Company, Inc.\*  
Cowen & Co.  
Craig—Hallum, Inc.  
Craigie Incorporated  
Cresvale International, Limited  
Crews & Associates, Inc.  
Crowell, Weedon & Co.\*  
Dain Bosworth Incorporated  
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\*  
Deltec Asset Management  
Corporation\*  
Desjardins Securities Inc.\*  
Deutsche Bank Capital Corporation  
Diamant Investment Corp.\*  
Dillon, Read & Co. Inc.  
Doft & Co., Inc.  
Dominick & Dominick, Incorporated  
Donaldson, Lufkin & Jenrette  
Securities Corp.\*  
Donaldson, Lufkin & Jenrette  
Securities Corporation  
Dunhill Securities  
Edwards (A.G.) & Sons, Inc.  
Egan, Marrin & Rubano Inc.\*  
Einhorn & Co.  
Elwood (R.W.) & Co., Inc.  
Equity Securities Trading Co., Inc.\*  
Ernst & Co.  
Execution Services Incorporated  
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.\*  
Gage-Wiley & Company, Inc.\*  
Garat & Co.\*  
Geldermann Securities Inc.  
Gill Trading L.P.\*  
Glickenhau & 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.\*  
Greenwich Capital Markets, Inc.  
Gruntal & Co. Incorporated  
Gruss (Oscar) & Son Incorporated  
Hamilton Investments, Inc.  
Hanauer (J.B.) & Co.  
Hancock (John) Clearing Corporation  
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, Inc.  
Kidder, Peabody & Co. Incorporated  
King (C.L.) & Associates Inc.  
Knox (W.L.) & Company  
Koonce Securities, Inc.\*  
LIT America Inc.  
LIT America, Inc.\*  
LaBranche & Co.  
Lafferty, Harwood & Partners Ltd.\*  
Larkin (Emmett A.) & Co., Inc.\*  
Lashco, Inc.\*  
Lawrence (C.J.) 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.  
Mayer & Schweitzer, Inc.  
McCourtney-Breckenridge & Company\*  
McDaniel Lewis & Co.  
McDonald & Company Securities, Inc.  
McLean McCarthy Inc.\*  
Mechan (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.\*  
Merimack Valley Investment Inc.\*  
Mesirow Financial, Inc.  
Midland Walwyn Capital Corp.\*  
Mitchum Securities, Inc.  
Montgomery Securities  
Morgan (J.P.) Securities Inc.  
Morgan, Keegan & Company, Inc.  
Morgan Stanley & Co. Incorporated  
Moss, Lawson & Co. Limited\*  
Murphey, Marsilles, Smith & Nammack  
Murphy & Durieu  
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.\*  
Paribas Corporation  
Payson (H.M.) & Co.\*  
Pflueger & Baerwald Inc.\*  
Pforzheimer (Carl H.) & Co.  
Pictet (Canada) and Company, Limited\*  
Piper Jaffray Inc.  
Porter, White & Yardley, Inc.  
Preferred Technology, Inc.\*  
Primevest Financial Services, Inc.  
Principal/Eppler, Guerin & Turner, Inc. (The)  
Prudential Securities Incorporated  
RAF Financial Corporation\*  
RBC Dominion Securities Corporation  
RBC Dominion Securities, Inc.\*  
RSF Partners  
Ragen MacKenzie Incorporated  
Rauscher Pierce Refsnes, Inc.  
Raymond, James & Associates, Inc.  
Reaves (W.H.) & Co., Inc.  
Refco Securities, Inc.  
Regional Clearing Corp.  
Republic New York Securities Corporation  
Research Capital Corporation\*  
Richardson Greenshields Securities, Inc.  
Rimson (M.) & Co., Inc.  
Robb, Peck, McCooley Clearing Corporation  
Robertson, Stephens & Company



Rodman & Renshaw, Inc.  
Roney & Co.  
Roosevelt & Cross Inc.  
Rothschild Inc.  
Roulston Research Corp.  
SBCI Swiss Bank Corporation  
Investment Banking Inc.  
Sage Clearing Corporation\*  
Sage, Ruddy & Co., Inc.  
Salomon Brothers Inc.  
Sanwa McCarthy Securities Limited\*  
Schapiro (M.A.) & Co., Inc.  
ScotiaMcLeod Inc.\*  
ScotiaMcLeod (USA) Inc.  
Scott & Stringfellow Investment  
Corporation  
Scottsdale Securities, Inc.  
Seasegood & Mayer  
Seattle-Northwest Securities  
Corporation  
Seidel (Morton) & Co. Inc.\*  
Seidler Amdec Securities Inc.\*  
Shearson Lehman Brothers Inc.  
Shearson Lehman Brothers Inc.\*  
Smith Barney, Harris Upham  
& Co. Incorporated  
Smith, Moore & Co.\*  
Smith New Court, Carl Marks Inc.  
Societe Generale Securities  
Corporation  
Southwest Securities, Inc.  
Spear, Leeds & Kellogg  
Spear Rees & Co.\*  
Spectrum Trading Partners, L.P.  
Steichen (R.J.) & Company\*  
Stephens, Inc.  
Stern & Kennedy  
Stern (M.L.) & Co., Inc.\*  
Sterne, Agee & Leach, Inc.  
Stifel, Nicolaus & Company  
Incorporated  
StockCross, Inc.\*  
Stoeber, Glass & Co., Inc.  
Stone & Youngberg\*  
Streicher (J.) & Co.  
Swiss American Securities Inc.  
TCW Inc.\*  
Thomson Kernaghan & Co., Ltd.\*  
Timber Hill Inc.  
Titus & Donnelly Inc.\*  
Transatlantic Securities Company  
UBS Securities Inc.  
U.S. Clearing Corp.  
Universal Securities Corporation  
Van Kampen Merritt Inc.  
W&D Securities  
Wachovia Securities, Inc.  
Ward, Conary, Murphy Inc.\*  
WSI Stock Loan\*  
Wachtel & Co., Inc.

Wagner Stott Clearing Corp.  
Wall Street Equities Incorporated\*  
Walsh, Greenwood & Co.  
Warburg (S.G.) & Co. Inc.  
Waterhouse Securities Inc.  
Wedbush Morgan Securities Inc.\*  
Weiss, Peck & Greer  
Wellington (H.G.) & Co. Inc.  
Wheat, First Securities, Inc.  
Whitaker (Don C.) Inc.\*  
Wilshire Associates Incorporated\*  
Wilson (L.W.) & Co., Inc.\*  
Witter (Dean) Reynolds Inc.  
Wolfe & Hurst Bond Brokers, Inc.  
Wolfe & Hurst Bond Brokers, Inc.\*  
Wood Gundy Corp.  
Wood Gundy Inc.\*  
Yamaichi International (America), Inc.  
Yamaichi International  
(America), Inc.\*  
Yorkton Securities Inc.\*  
Ziegler (B.C.) and Company  
Ziegler Thrift Trading, Inc.\*

#### Clearing Agencies

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

*#Excludes some firms with limited activity*

*\*National Securities Clearing Corporation  
Sponsored Account*

*\*\*International Securities Clearing  
Corporation Sponsored Account*

#### Participants in the Same-Day Funds Settlement System\*

Adams, Harkness & Hill, Inc.  
Advest, Inc.  
Amalgamated Bank of New  
York (The)  
American National Bank & Trust  
Company of Chicago  
Asiel & Co.  
Associated Bank GreenBay,  
National Association  
BA Investment Services, Inc.  
BT Securities Corporation

Baird (Robert W.) & Co. Incorporated  
Banc One Capital Corporation  
Bank One Ohio Trust  
Company, N.A.  
Bank of America NT & SA  
Bank of California, N.A. (The)  
Bank of New York (The)  
Bank of Nova Scotia (The), New  
York Agency  
Bank of Tokyo Trust Company (The)  
Bankers Trust Company  
Barclays Bank PLC, New York  
Branch  
Baum (George K.) & Company  
Bear, Stearns Securities Corp.  
Bernstein (Sanford C.) & Co., Inc.  
Blair (William) & Company  
Boston Safe Deposit and Trust  
Company  
Bradford (J.C.) & Co.  
Brown (Alex.) & Sons, Inc.  
Brown Brothers Harriman & Co.  
Butler, Wick & Co., Inc.  
Central Bank of the South  
Central Fidelity Bank, N.A.  
Charles Schwab & Co., Inc.  
Chase Manhattan Bank, N.A. (The)  
Chase Securities, Inc.  
Chemical Bank  
Chicago Corporation (The)  
Citibank, N.A.  
Citicorp Securities Markets, Inc.  
Citizens Fidelity Bank and Trust  
Company  
City National Bank  
Comerica Bank  
Connecticut National Bank (The)  
Continental Bank, National  
Association  
CoreStates Bank, N.A.  
Cowen & Co.  
Craigie Incorporated  
Crestar Bank  
Custodial Trust Company  
Dai-Ichi Kangyo Bank, Limited  
(The), New York Branch  
Dain Bosworth Incorporated  
Daiwa Bank, Limited (The), New  
York Agency  
Daiwa Securities America Inc.  
Davenport & Co. of Virginia, Inc.  
Davis (Shelby Cullom) & Co.  
Deutsche Bank Capital Corporation  
Dillon, Read & Co. Inc.  
Dominick & Dominick, Incorporated  
Donaldson, Lufkin & Jenrette  
Securities Corporation  
Edwards (A.G.) & Sons, Inc.  
Fahnestock & Co., Inc.  
Fidelity Bank, National Association



Fiduciary Trust Company International  
Fifth Third Bank (The)  
First Alabama Investments, Inc.  
First Albany Corporation  
First American Bank, N.A.  
First Boston Corporation (The)  
First City, Texas-Houston, N.A.  
First Fidelity Bank, National Association, New Jersey  
First Interstate Bank of California  
First Interstate Bank of Denver, N.A.  
First Interstate Bank of Oregon, N.A.  
First National Bank of Boston (The)  
First National Bank of Chicago (The)  
First National Bank of Maryland (The)  
First Tennessee Bank N.A. Memphis  
First Trust National Association  
First Union National Bank  
Firststar Trust Company  
Fleet Bank of Massachusetts, N.A.  
Fleet Clearing Corporation  
Freeman Welwood & Co., Inc.  
French American Banking Corporation  
Fried (Albert) & Co.  
Fuji Bank & Trust Company (The)  
Goldman, Sachs & Co.  
Goldman Sachs Money Markets, L.P.  
Goldman Sachs Trust Company  
Greenwich Capital Markets, Inc.  
Gruntal & Co. Incorporated  
Hamilton Investments, Inc.  
Hancock (John) Clearing Corporation  
Harris Trust & Savings Bank  
Herzog, Heine, Geduld, Inc.  
Hibernia National Bank  
Hilliard (J.J.B.), Lyons (W.L.), Inc.  
Hough (William R.) & Co.  
Howard, Weil, Labouisse, Friedrichs Incorporated  
Howe Barnes Investments Inc.  
Hummer (Wayne) & Co.  
Huntington National Bank  
Hutchinson, Shockey, Erley & Co.  
IBJ Schroder Bank & Trust Company  
IDS Bank & Trust  
Interstate/Johnson Lane Corporation  
Investors Bank & Trust Company  
Janney Montgomery Scott Inc.  
Jefferies & Company, Inc.  
Jones (Edward D.) & Co.  
Kemper Clearing Corp.  
Key Trust Company  
Kidder, Peabody & Co. Incorporated  
LaSalle National Bank  
Lazard Frères & Co.  
Legg Mason Wood Walker, Inc.  
Lehman Special Securities Inc.  
Lerner (David) Associates, Inc.  
Lewco Securities Corp.  
LTCB Trust Company  
MKI Securities Corp.  
Mabon Securities Corp.  
Manufacturers and Traders Trust Company  
Marine Midland Bank, N.A.  
Marquette Bank Minneapolis, N.A.  
McDonald & Company Securities, Inc.  
Mellon Bank, N.A.  
Mercantile-Safe Deposit & Trust Company  
Merrill Lynch Government Securities Inc.  
Merrill Lynch, Pierce, Fenner & Smith Incorporated  
Mesirov Financial Inc.  
Midlantic National Bank  
Montgomery Securities  
Morgan Guaranty Trust Company of New York  
Morgan (J.P.) Securities Inc.  
Morgan, Keegan & Company, Inc.  
Morgan Stanley & Co. Incorporated  
NBD Bank, N.A.  
National City Bank  
National Financial Services Corporation  
National Westminster Bank N.J.  
National Westminster Bank USA  
NationsBank of Georgia, N.A.  
NationsBank of Texas, National Association  
Nationar  
Neuberger & Berman  
New Japan Securities International, Inc.  
Newbridge Securities Inc.  
Nikko Securities Co. International, Inc. (The)  
Nomura International Trust Company  
Nomura Securities International, Inc.  
Northern Trust Company (The)  
Norwest Bank Denver, National Association  
Norwest Bank Minnesota, National Association  
Nuveen (John) & Co. Incorporated  
Old Kent Bank  
Old Kent Bank & Trust Company  
Olde Discount Corporation  
Oppenheimer & Co., Inc.  
PaineWebber Incorporated  
Philadelphia Depository Trust Company  
Piper Jaffray Inc.  
Pittsburgh National Bank  
Principal/Eppler, Guerin & Turner, Inc. (The)  
Provident Bank (The)  
Provident National Bank  
Prudential Securities Incorporated  
RBC Dominion Securities Corporation  
Ragen MacKenzie Incorporated  
Rauscher Pierce Refsnes, Inc.  
Raymond, James & Associates, Inc.  
Refco Securities, Inc.  
Republic National Bank of New York  
Republic New York Securities Corporation  
Rodman & Renshaw, Inc.  
Roney & Co.  
SBCI Swiss Bank Corporation Investment Banking Inc.  
Sakura Trust Company  
Salomon Brothers Inc  
Sanwa Bank California  
Sanwa Bank Limited-N.Y. Branch  
Scotia McLeod (USA) Inc.  
Scott & Stringfellow Investment Corporation  
Seattle-First National Bank  
Shawmut Bank, National Association  
Shearson Lehman Brothers Inc.  
Signet Trust Company  
Smith Barney, Harris Upham & Co. Incorporated  
Societe Generale-New York Branch  
Societe Generale Securities Corporation  
Society National Bank  
South Trust Bank of Alabama, N.A.  
Southwest Securities, Inc.  
Spear Leeds & Kellogg  
State Street Bank and Trust Company  
Stephens, Inc.  
Sterling National Bank & Trust Company of New York  
Sterne, Agee & Leach, Inc.  
Stifel, Nicolaus & Company Incorporated  
Swiss American Securities Inc.  
Swiss Bank Corporation New York Branch  
Toronto-Dominion Bank (The) Trust Company Bank  
UBS Securities Inc.  
U.S. Clearing Corp.  
Union Planters National Bank  
United Missouri Bank, N.A.  
United States National Bank of Oregon



United States Trust Company of  
New York  
Van Kampen Merritt Inc.  
Wachovia Bank of Georgia, N.A.  
Wachovia Bank of North  
Carolina, N.A.  
Wagner Stott Clearing Corp.  
Weiss, Peck & Greer  
Wells Fargo Bank, National  
Association  
Wells Fargo Institutional Trust  
Company  
Wesbanco Bank Wheeling  
Wheat, First Securities, Inc.  
Wilmington Trust Company  
Witter (Dean) Reynolds Inc.  
Wood Gundy Corp.  
Women's Federal Savings Bank  
Yamaichi International (America), Inc.  
Yasuda Bank and Trust  
Company (U.S.A.)  
Ziegler (B.C.) and Company  
Zions First National Bank

\*As of December 31, 1992

**Indirect SDFS Participation\*\***

ABD Securities Corporation  
Adler, Coleman & Co., Inc.  
American Securities Corporation  
AmSouth Bank, N.A.  
BHF Securities Corporation  
Baer (Julius) Securities Inc.  
Bank IV Kansas, National  
Association  
Bank of America Nevada  
Bank of Bermuda International  
Limited  
Bank of California (The)  
Bank of Montreal, New York  
Branch  
Bank of Oklahoma, N.A.  
Bank One, Denver N.A.  
Bank One, Indianapolis, N.A.  
Bank One Texas  
Bank One Wisconsin Trust  
Company, N.A.  
Bank South, N.A.  
Barnett Banks Trust Company, N.A.  
Bidwell & Company†  
Boatmen's First National Bank  
of Oklahoma  
Boatmen's National Bank of  
St. Louis (The)  
Cantor Fitzgerald Fixed Income  
Brokers, Inc.  
Central Trust Company  
Chapdelaine & Co.  
Charles (J.W.) Securities, Inc.

Chase Manhattan Rochester  
Comerica Bank  
Commerce Bank of Kansas  
City, N.A.  
Commerzbank Capital Markets  
Corporation  
Craig-Hallum, Inc.  
Crews & Associates, Inc.  
Custodial Trust Company  
Daiwa Securities Trust Company  
Davidson (D.A.) & Co., Inc.†  
Doft & Co., Inc.  
Dominion Trust Company  
Equity Securities Trading Co., Inc.†  
Ernst & Co.  
Fiduciary Trust Company of Boston  
First American Bank of Georgia  
First Interstate Bank of Arizona, N.A.  
First Manhattan Co.  
First National Bank of Omaha  
First of Michigan Corporation  
First Southwest Company  
First Trust Corporation  
First Wachovia Brokerage Service  
Corporation  
Fort Wayne National Bank  
Freeman Securities Company, Inc.  
Frost National Bank  
Gruss (Oscar) & Son Incorporated  
Guardian Trust Company  
Hanifen, Imhoff, Inc.†  
Imperial Trust Company  
Industrial Bank of Japan  
Trust Company (The)  
Kalb, Voorhis & Co.  
Kenny (J.J.) Drake, Inc.†  
King (C.L.) & Associates Inc.  
Larkin (Emmett A.) & Co., Inc.†  
Lawrence (C.J.) Inc.  
Liberty Bank & Trust Company of  
Tulsa National Association  
Liberty National Bank and Trust  
Company of Louisville  
Lincoln National Bank & Trust  
Company of Fort Wayne  
Lloyds Bank Plc  
M&I Marshall & Ilsley Bank  
Mark Twain Bank  
Mercantile Trust Co.  
Mercantile Trust Company  
National Association  
Michigan National Bank  
Mitsubishi Trust & Banking  
Corporation (U.S.A.)  
Morgan Stanley Trust Company  
Offerman & Co., Inc.†  
Pacific Inland Bank  
Payson (H.M.) & Co.†  
RAF Financial Corporation†  
Ragen MacKenzie Incorporated

Riggs National Bank of  
Washington, D.C. (The)  
Robb, Peck, McCooley & Co., Inc.  
Royal Bank of Canada,  
New York Branch  
Santa Barbara Bank & Trust  
Seattle-Northwest Securities  
Corporation  
Seligman (J. & W.) Trust Company  
Signet Trust Company  
Star Bank, National Association  
Steichen (R.J.) & Company†  
Stern (M.L.) & Co., Inc.†  
Summit Bank  
Sumitomo Bank of California  
Sumitomo Trust & Banking  
Co. (U.S.A.)  
Texas Commerce Bank National  
Association  
Toyo Trust Company of New York  
Trustmark National Bank  
Trust Services of America, Inc.  
Trustcorp Bank, Ohio  
U.S. Bank of Washington, N.A.  
Union Bank  
Union Trust Company  
United Jersey Bank  
Valley National Bank of Arizona  
Valley Trust Company  
Wedbush Morgan Securities, Inc.†  
Wellington (H.G.) & Co. Inc.  
Ziegler Thrift Trading, Inc.†

\*These firms are also direct  
Participants in DTC's Next-Day  
Funds Settlement system.

\*\*As of December 31, 1992

†National Securities Clearing  
Corporation Sponsored Account

**DTC STOCKHOLDERS\***

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

\*As of March 31, 1993



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