

Background Note on the Organisation in the US Market for Clearing and Settlement

Prepared by the Cross-Border Subcommittee of the Securities Industry Association
For the European Commission

This background note has been prepared for the European Commission's Internal Market Directorate General to assist in its work on clearing and settlement. The six questions answered in this paper were provided by the Commission to guide the SIA on the topics of specific interest and relevance.

1. What were the market circumstances when the DTCC was created?.....	Page 2
Early Enabling Legislation	
Crisis as Catalyst	
Beginnings in Vertical Silos	
National Market System – a Public Policy	
Horizontal Consolidation	
Vertical Re-Integration of CCP and CSD	
2. What are the main differences between those circumstances and the current ones in Europe?	4
Single Country	
Single Securities Regulator, Common Regulatory Framework	
Dominant Market Centre	
Homogeneous, Market Utility Business Model	
Separate Infrastructures for Cash and Derivatives Markets	
Cross-Border Services not Policy Priority	
3. What were the arguments used in favour and against the creation of such a system?.....	6
Arguments Used in Favour: Regulatory Concerns, Efficiency	
Arguments Used Against: Revenue Protection, Anti-trust Dangers	
4. How is the system working?.....	7
5. Have there been important changes in the structure of the DTCC?.....	7
National Market System	
Expansion in Instruments	
Expansion in Domestic Services	
Expansion in Cross-Border Services	
Continued Enlargement and Rationalization	
6. What are the strongest and weakest points of such a system?	10
Strongest Points	
Cautionary Notes on the Replication of US Market Features in Europe	
Appendix 1: DTCC 2004 Performance in Brief.....	12
Appendix 2: Overview of 2004 DTCC Business Volumes and Efficiencies	13
Appendix 3: Five Years of Transformation and Accomplishments – DTCC 1999 to 2004	15
Abbreviations	17
References	18

1. What were the market circumstances when the DTCC was created?

The Depository Trust & Clearing Corporation (DTCC) is a holding company formed in 1999 to consolidate under the same corporate ownership the clearing and settlement infrastructures in the US – the central counterparty National Securities Clearing Corporation (NSCC), and central securities depository The Depository Trust Company (DTC).

The integration of NSCC and DTC was driven by market necessity. While the complementary functions of these two institutions resulted in many collaborative efforts over the two decades of their separate existence, by the late 1990's deregulation and evolutionary changes in the US financial industry meant that as both companies extended their services beyond their core functions, they were, in some cases, beginning to overlap and in danger of creating unnecessary conflicts, complexity and costs for their industry constituents.

The integration resulted in a holding company with two separate operating subsidiaries, recognizing the different products and services, regulatory requirements and risk profiles of clearing and settlement organizations. The three legal entities (the holding company and its two operating subsidiaries) share an executive management team and a single slate of directors. Centralized corporate services (i.e. legal, finance, auditing, etc.) support all three entities.

In the European context, it may prove helpful to examine the creation and evolution of NSCC and DTC, in addition to the formation of the holding company DTCC.

Early Enabling Legislation In 1961, twelve years before the establishment of DTC, the New York Stock Exchange (NYSE) together with several major custodian banks had already successfully run a one-year “Pilot Operation for Central Handling of Securities”. Beginning with 15 securities and 31 firms, deliveries were made between members via book-entry and without the physical movement of certificates. Legislative changes were then initiated in order to prepare for a centralised service for all issues listed on the NYSE. In 1962, the process to amend Article 8 of the Uniform Commercial Code (UCC) was started in all the states, in order to sanction the transfer of ownership or pledge of securities by depository book-entry in lieu of delivering physical certificates. The last state's amendment was obtained in 1970.

Crisis as Catalyst The paperwork crisis in the securities industry that developed in the late 1960s served as the catalyst that accelerated the immobilisation and book-entry transfer of securities by a central service provider. At that time, brokers still exchanged physical certificates and checks for each trade, while hundreds of messengers scurried through Wall street clutching bags of checks and securities. A sharp increase in trading led to a growing number of trades to fail. The paperwork crisis was so severe that, in order to help reduce the backlog, the exchanges closed every Wednesday and shortened trading hours on the other days. In 1968, the Central Certificate Service was established by the NYSE to immobilize share certificates, and the foundation of a national depository system had begun to take form.

By the beginning of 1970, numerous studies of the problems of the US securities industry were under way. A common conclusion was that long-term solutions would require market-led efforts, and an inter-industry organisation, the Banking and Securities Industry Committee (BASIC) was formed. BASIC acted on a number of projects to reduce the costs and improve the process of

securities operations, the most significant of which was the establishment of a Comprehensive Securities Depository System (CSDS), expanding on the NYSE's Central Certificate Service. Regional markets and banks soon joined in the process and a National Coordinating Group was formed.

Beginnings in Vertical Silos NSCC and DTC were originally set up by the NYSE, the American Stock Exchange, and National Association of Securities Dealers (NASD). Other regional stock exchanges, such as those in Boston, Philadelphia, Chicago, etc. each owned its respective clearing and settlement vehicles. In 1975 there were seven vertical silos. Although industry participants favoured consolidation of clearing and settlement arrangements, the exchanges opposed unless theirs was the surviving institution.

National Market System – a Public Policy The paperwork crisis and other problems within the securities industry in the late 1960's prompted the passage of the Securities Acts Amendments of 1975 to promote a unified national market in trading, clearing and settlement. Congress directed the Securities and Exchange Commission (SEC) to facilitate the establishment of the unified national system that would have five objectives: efficiency, competition, price transparency, best execution and order interaction.

Congress' policy was not to mandate a fixed market structure but to use the five objectives to guide a comprehensive but flexible regulatory approach. The SEC, however, was less concerned about competition among infrastructure providers than ensuring that there was an efficient, robust national infrastructure. CCPs and CSDs were required to apply for SEC registration as clearing agencies, the first time that these entities were regulated. Regulated free interfaces between regional infrastructures were to form the heart of the national market system.

It is worth noting that the SEC was able to promote a national system for clearing and settlement while leaving open the possibility for any organisation wishing to compete. Any trading space wishing to clear and settle without going directly to the national infrastructures is free to do so as long as it meets the standards set by the SEC. In addition, any organisation can apply for approval and registration as a clearing agency (although in the cash equities markets no new entrant since the late 1970s has so far chosen to do so, and the existing entities have been consolidated and integrated).

Horizontal Consolidation During 1976-7, about a year after the SEC released a report on the cost savings that CCP consolidation would bring to the market, the NSCC was formed through the merger of the individual CCPs of the NYSE, the American Stock Exchange and NASD.

Also in the same year, all CSDs affiliated with the individual stock exchanges were interlinked to form a national system. This was accomplished by CSDs opening accounts with each other. Market participants could then trade the stock of a company on any exchange and hold their shares in their home CSD, by an arrangement called "one account settlement". When new shares were issued, the underwriter would put the issue into the CSD of its choice. The shares would then be transferred, via book entry at this CSD, to the account of a primary market subscriber's home CSD. Subsequent secondary market trading would settle similarly by book entry.

The regional stock exchanges' vertically-integrated CCPs and CSDs were gradually absorbed into NSCC and DTC respectively, a twenty-year process that began in 1976 and ended with the last integration taking place in 1997.

Vertical Re-Integration of CCP and CSD NSCC and DTC subsequently became subsidiaries of DTCC in 1999. The equities market structure today consists of competing stock exchanges and trading platforms that are required to make market information publicly available on terms that are fair and reasonable, but a single CCP and a single CSD under common ownership serving the national equities market. As covered in Section 5, it should be noted that equities have been only one of a wide range of financial instruments and markets supported by DTCC subsidiaries, in particular fixed income, some from the beginning and others over time.

2. What are the main differences between those circumstances and the current ones in Europe?

The main differences in the circumstances that led to the consolidation of clearing and market infrastructures in the US versus the current ones in Europe include the following:

Single Country Although there are both state and federal laws, and tax rates that are not the same in every state, the US is nonetheless one country with one currency. Relatively speaking, consolidation was more straightforward. Still, the 50 different state laws have from time to time posed challenges, as with revisions to Article 8 discussed above.

Single Securities Regulator, Common Regulatory Framework In 1975, the US Congress made a firm and clear public policy to create a unified national market, with a single securities regulator directed to facilitate its establishment. The Congress set five policy objectives, and the SEC used a comprehensive and flexible regulatory approach to establish, monitor, and strengthen a regulatory environment that gave the forces of competition sufficient room to flourish. Although competition forces were allowed to shape market structure, a single regulator exercised its regulatory authority to act when necessary to address problems or practices that could stand in the way of achieving the objectives that Congress had set for the national market system. Where competition might not be sufficient, the SEC was empowered to act promptly and effectively to ensure that the rules and essential mechanisms were put in place as rapidly as possible. The SEC was also in a position to prompt, encourage and facilitate the securities industry to create solutions that furthered the unified national market objectives. Because the SEC's mandate from Congress spanned all three securities market functions of trading, clearing and settlement, it could take action in a holistic manner that fulfilled the national market objectives.

Central providers of clearing and settlement services (CCPs and CSDs) had to register with the SEC as registered clearing agencies and registered transfer agents, and be subject to common regulations. The common regulatory framework put in place since 1975 facilitated the consolidation which gradually happened over the next twenty years.

When the SEC granted permanent registration status to the clearing agencies and transfer agents, it was primarily concerned with a robust infrastructure for the unified national market system. The SEC paid considerable attention to the agencies' provisions for participants' fair representation and due process. It looked at each agency's governance proposal individually, and was more concerned with the objective of good governance – who controlled each one, due process, etc. and not whether it was able to compete with the others.

Main differences with Europe: In Europe, there is no empowered legislature to espouse an EU-wide system equivalent to the US national market system. A common regulatory framework in the European context is generally taken to mean the home country principle to facilitate competition across national borders. EU-wide minimum safety standards and governance objectives might not necessarily be considered to fall within the scope of a common regulatory framework.

Dominant Market Centre The fact that there was one predominant market centre – New York – is significant in three respects. First, the New York market’s clearing and settlement infrastructures had the economies of scale to invest in technology, and provided a low marginal cost foundation for national consolidation. Second, because of the large number of issuers whose shares were listed on the NYSE, legislative changes that enabled the formation of the CSD for that market had to be made by every state, paving the way for national legal harmonisation. These changes included the fiduciary laws of many states limiting the form and means of holding securities in certain capacities, and Article 8 of the UCC which then effectively limited ownership of depositories to security exchanges and associations (which would limit the full participation of banks). Third, the infrastructures in New York, NSCC and DTC, acted as the leader in the national standardisation of services and market practice.

Main differences with Europe: There are three main trading centres: Euronext, Deutsche Börse, and the London Stock Exchange. The proposed takeover of the London Stock Exchange, if it materialises, might create a similarly dominant market centre.

Homogeneous, Market Utility Business Model The regional CCPs and CSDs in the US were owned by stock exchanges and focused on their core function of providing a central service for their respective markets in clearing and settlement. NSCC and DTC were created at a time when stock exchanges and central service providers in clearing and settlement were typically not-for-profit market utilities owned by users. The ownership and governance of NSCC and DTC were from the outset those typical of market utilities. The NYSE, which owned the predecessor of the DTC, offered DTC stock to users in proportion to their usage. Although DTC has a trust company charter under New York State banking law and Federal Reserve membership, it used these initially to bolster its status with custodian banks and increase their confidence in depository custody, and later to open a central bank account in order to support so-called “same-day” (immediately available) net funds settlement, replacing net settlement by paper checks. DTC did not combine infrastructure CSD and commercial banking services.

Main differences with Europe: The homogeneous business model made the consolidation of market infrastructures in the US more straightforward than the current situation in Europe, where different ownership structures and business models bring competition issues to the forefront when consolidation happens. European trading, clearing and settlement infrastructures are mostly for-profit; some are user-owned, others are shareholder owned and either privately held or publicly traded. The controversy in Europe over CCPs revolves around whether an exchange that owns one has an unfair competitive advantage – derived from cross-subsidisation – over an exchange that must rely upon an unaffiliated CCP, potentially one owned or controlled by the competing exchange. The controversy over CSDs in Europe revolve around (a) whether a bank has an unfair competitive advantage – derived from leveraging and bundling – over competitors when it owns or is affiliated with a CSD, (b) how much separation or transparency is needed between the

competitive and infrastructure services, and (c) whether there are sufficient safeguards against abuse of dominant position.

Separate Infrastructures for Cash and Derivatives Markets Derivative financial instruments were quite new in the 1970's when the unified national market system was conceived. The options market built a single CCP owned by multiple exchanges from the outset; the exchanges that started trading options did not have existing options CCPs to protect. The financial futures market developed more slowly; not only was it in Chicago (not in New York), but it was also outside the jurisdiction of the SEC. The focus of consolidation at the time was therefore on the cash equity market alone. Government bonds and mortgage-backed securities are not held in DTC but in another national CSD, the Federal Reserve Bank.

Main differences with Europe: In Europe, the cash and derivatives markets are usually in the same financial centre in each country, making common ownership from the outset or via mergers more easy to accomplish. Also, government bonds and equities are usually immobilized in the same CSD. The unified clearing of all financial instruments, which can bring significant benefits to market participants not only in the form of lower and optimized clearing fund contributions but also improved regulatory reporting and surveillance, is easier to achieve in national markets in Europe than in the US.

Cross-border Services not Policy Priority Of \$28 trillion worth of securities on deposit at DTC, about \$2.8 trillion-worth are securities (mainly global bonds and shares) from non-US issuers, and another \$500 billion-worth is in the form of ADRs which also represent securities of non-US issuers. That said, DTCC has a primarily US-domestic focus. DTCC users benefit from economies of scale for all securities which are held and settled at DTC, but often use an entirely separate middle- and back-office infrastructure for transactions in the rest of the world.

Main differences with Europe: In Europe, the policy direction is to remove barriers for national market infrastructures to provide cross-border services within the EU, with the objective of using competition among market infrastructures to drive intra-EU cross-border access costs down for the infrastructure users. Expansion of cross-border services beyond the EU is not a priority, either.

3. What were the arguments used in favour and against the creation of such a system?

Arguments Used in Favour:

Regulatory Concerns The paperwork crisis of the late 1960's generated a deep concern within Congress and the SEC. Beginning in 1970 a series of hearings were conducted by US Senate and House of Representatives sub-committees and the SEC. After several years of intense discussion and debate over the vision of a national securities market system and its regulation, the Securities Acts Amendments of 1975 were passed to create a unified national market system.

Efficiency The paperwork crisis brought the whole securities industry together, out of self-interest, to find a common solution to achieve efficiency. Banks, brokers and stock markets worked together in BASIC, the inter-industry organisation formed in 1970 that determined the DTC's characteristics and an acceptable corporate structure and management. BASIC's efforts to establish the CSDS proceeded despite the legal uncertainty in the first few years of its work.

Arguments Used Against:

Revenue Protection Opposition to consolidation, also out of self-interest, came from the infrastructures.¹ Despite clear and compelling evidence of reduced costs, the infrastructure entities which would be absorbed into a single national system opposed the elimination of even one CCP. In most cases the CCPs accounted for a significant component of the revenue of their affiliated exchange, and both the exchanges and the CCPs opposed any integration unless theirs was the single remaining institution.

When the NYSE, American Stock Exchange and NASD finally agreed to merge their CCPs to form NSCC in 1976-7, the affiliated exchanges received a per-trade fee for several years to compensate them for revenues lost after the merger. The other regional markets' concerns about competition issues (e.g. predatory pricing) were addressed via free interfaces between registered agencies.

By the mid-1980's, as multiple market structures became less accepted as an inevitability, the divestment of the CCPs and the CSDs from the remaining vertical silos and their consolidation into NSCC and DTC went under way.

Anti-trust Dangers During the early years of the implementation of the unified national market system, the SEC was unsuccessfully sued by a service provider to NSCC, who challenged the SEC's temporary registration of NSCC and the latter's failure to solicit competitive bids for a service contract. The court found that competition at the clearing level was of secondary importance to an efficient, robust infrastructure. In "balancing" the anti-trust dangers with the goal of a single national system, the court considered that the goal of the 1975 Securities Acts Amendments was to create the environment for effective competition among brokers, to the benefit of their investor customers, and not competition among clearing systems or their service providers.

4. How is the system working?

Appendix 1, DTCC 2004 Performance in Brief, gives an overview of the key metrics.

Appendix 2, Overview of 2004 DTCC Business Volumes and Efficiencies, describes the performance highlights.

Appendix 3, Five years of Transformation and Accomplishments – DTCC 1999 to 2004, summarises the milestones during the five-year period.

5. Have there been important changes in the structure of DTCC?

National Market System The most dramatic change in the early years was the establishment of the unified national market system concept, including national clearing and settlement, in the Securities Acts Amendments of 1975. Clearing agencies (including depositories) were then regulated for the first time. Since then, there had been a steady evolution in the scope of activities undertaken by NSCC and DTC. They were separate companies until their integration in 1999

¹ Banks and brokers were supportive of efficiency gains from consolidation.

under DTCC. The creation of the holding company DTCC gives the group more flexibility in expanding into non-regulated services as well as acquisitions.

Expansion in Instruments and Domestic Transaction Services In answer to industry needs for greater synergies, cost reductions and efficiencies in the post-trade processing of all securities, DTC expanded continuously the number and types of securities it handles. In addition to equities, it processes corporate and municipal bonds, American and Global Depositary Receipts, collateralized mortgage obligations and exchange-traded funds, as well as commercial paper and other money market instruments. More than 2.5 million securities issues are now DTC-eligible.

- In its very early years, DTC introduced Institutional Delivery (ID), an electronic trade affirmation hub service that coordinates among investment managers, brokers and custodians which support institutional investors' trades from execution through settlement and custody. This was the service that DTCC eventually spun-off into the Omgeo joint venture with Thomson Financial ESG.
- DTC has long provided centralized and comprehensive asset services. These include custody, securities distribution service for new issues, reorganizations (such as stock splits, spin-offs, bankruptcies, conversions, exchanges, mergers and tender offers), dividend and interest payments, redemptions, and US tax withholding.
- DTCC also more recently created non-regulated subsidiaries to provide a variety of post-trade processing services, such as Global Assets Solutions LLC which offers services such as corporate actions validation and messaging, and DTCC Deriv/SERV LLC which offers an OTC derivatives processing solution.
- NSCC offers two non-CCP services which are central and automated service extensions that leverage its wide customer base of brokers with similar needs. Its mutual fund services include: standardized formats for, and centralized processing of, mutual fund purchases, redemptions, exchange orders and account registrations, automated and centralized exchange of customer account information between fund companies and their distributors. Its insurance services include: automated annuity and life insurance application processing, premium payment and financial reporting, linking insurance carriers with broker/dealers, banks and trust companies through one automated, centralized, nationwide system. Both these services leverage on economies of scale of a wide customer base with similar needs for automated processing.
- NSCC indirectly provides a service to retail investors through its customer account transfer service, which moves any asset held in customer accounts from one broker to another.

Expansion in Cross-Border Services A number of services were developed in response to specific user demand.

- DTC has securities accounts at several foreign CSDs, inter-market links that allow its users to settle foreign securities. These include the Canadian, German, and Swiss depositories. The Canadian service was set up initially to facilitate the settlement of Canadian shares that are traded OTC in New York. The German and Swiss arrangements were set up initially for several non-US issues listed and traded in US dollars on the NYSE (e.g. the German company

Daimler Chrysler, Swiss company UBS). Similarly, a dozen CSDs from around the world have direct accounts at DTC.

- A “global clearing network” service set up in the 1980’s is still in operation but usage is low. This service provides DTC users who desire a standardised communication format to use the DTC standard when they access foreign markets. DTC provides a messaging interface only; the users enter into direct custody and clearing agreements with agent banks in the foreign markets.
- In 2002 DTCC absorbed the Emerging Markets Clearing Corporation (EMCC) which was a specialised central counterparty for emerging markets debt. Due to low market demand the EMCC has since been wound down.
- The European Pre-Issuance Messaging (EPIM) service was developed for the issuance of European commercial paper in partnership with Clearstream Banking Luxembourg and Euroclear Bank. This service leverages technology used in the US market to bring efficiencies to the European securities market infrastructure.
- Omgeo is a joint venture between DTCC and Thomson Financial that provides matching and trade reporting services for institutional investors’ trades worldwide, including the successor to the ID service originally introduced by DTC in 1974. Omgeo has specific relevance in that its significant market share and potential in the marketplace drew intense regulatory review. An SEC order defined a set of principles to govern interoperability between Omgeo and potential competitors requiring fair and reasonable linkages that are transparent to customers. To assure competition and to permit customers to choose a single matching service, the principles call for use of industry standard formats and protocols, prevent a matching service from using intellectual property to eliminate competition, prohibit interface surcharges, set out interface pricing principles, and provide strict guidelines for linkage implementation. In addition, the SEC order requires Omgeo to maintain high standards of safety and soundness, and calls for neutral industry involvement in the negotiations between Omgeo and potential competitors. The SEC intends to impose these conditions on all central matching services that obtain an exemption from registration.

Continued Enlargement and Rationalization In 2002, the DTCC holding company further integrated three additional CCPs which service US government securities, mortgage-backed securities, and emerging market debt respectively: MBS Clearing Corporation, originally founded in the late 1970s; the Government Securities Clearing Corporation, founded in 1986, and Emerging Markets Clearing Corporation, founded in the mid-1990s.

DTCC has also discontinued services when market conditions caused a drop in demand for DTCC services. As mentioned above, the Emerging Markets Clearing Corporation has recently been wound down, due to lack of market activity. Settlement of mortgage-backed securities, which were eligible securities both in DTC and the Federal Reserve, has been shifted to the Federal Reserve.

6. What are the strongest and weakest points of such a system?

Strongest Points:

- A consolidated service provider which has the ultimate scale economies in serving the principal securities market in the US, that is neither motivated by profits nor share price. Constant reduction in customer costs is achieved through an at-cost operating mentality and a policy to return excess revenues to users in the form of discounts and rebates. Nevertheless, the focus is not only on price efficiency but also on operational risk management, robust business continuity arrangements, investor risk and compensating safeguards.
- The average fee paid by dealing firms for settling an equity transaction, US\$ 4.3 cents (€3.3 cents), is perhaps the lowest in the world.² For the last five years, around USD 200 million, or 20% of revenues, has been returned each year to the industry.
- The Board of Directors is composed almost entirely of customers. This leads to many benefits that are often otherwise derived from competition.
- “User-pays” transparency and an equitable pricing policy, which aligns fees with the cost of services provided, and which maintains a desired balance in revenues and margins between NSCC serving mainly brokers, and DTC serving mainly investors.
- Owned by its customers.
- Each DTC and NSCC participant is free to choose its own cash settlement agent that provides the best liquidity and credit services with the most competitive price and conditions. Credit risk taking is spread among a large number of banks.
- DTC has an account at the Federal Reserve and participants or their cash settlement agents settle NSCC and DTC transactions with finality in central bank money. Although each participant is still exposed to its cash settlement agent with whom it holds cash balances, there is a choice of settlement agents and no concentration of credit exposure.
- No significant profit-generating services in fails coverage, securities or cash lending.
- All the above, and in addition strong corporate governance, operational risk management and financial safeguards to protect the organisation from member loss, contribute to a AAA/A-1+ credit ratings from Standard & Poors for long- and short-term debt.

Cautionary Notes on the Replication of US Market Features in Europe:

- As the single market infrastructure, significant costs are required to manage operational risk and to have in place robust, fail-proof redundant continuity of business arrangements.
- The tendency of the board might be to emphasize the needs of the largest users or the widest mutual needs of all users, though the DTCC Board balances this by including smaller firm participants as well. In the absence of financial performance pressures typical of for-profit organisations, unless special effort is made, new and growing specialised needs may be overlooked, resulting in under-investment for the future.

² This average figure, based on full-year 2003, divides NSCC’s total billing of all fees to participants after discount, by all transactions in equities, mutual funds and corporate and municipal fixed income.

- Operating on an at-cost basis predisposes the company to rely mainly on organic growth.
- Network effects, high fixed costs in IT infrastructure and economies of scale reduce the likelihood of new entrants in the domestic infrastructure role.
- Common ownership of the historically separate CCP and CSD can yield cost efficiencies through shared facilities only up to a point. Investments by both the market infrastructure and its participants are needed to maximize the benefits, such as a common communication interface. However, the investment expense may not be equitable to all participants.
- Absence of national law prohibiting physical certificates results in perpetuation of costs and risks in the continued existence of physical securities that are not dematerialised or immobilized in the CSD.
- The fragmentation of the infrastructures serving cash and derivatives markets is not optimal. This is a consequence of differences in the timing of market development, the financial centres where these markets flourished, and separate regulators.

Appendix 1

DTCC 2004 Performance in Brief

Performance Item	2004	2003	% Change
<i>Revenue</i>	\$1.1 billion	\$947 million	+11%
<i>Settlement</i>			
Value of securities settled through DTCC	\$1.1 quadrillion	\$923 trillion	+ 22%
Value of money market settlement activity (one side)	\$ 90.2 trillion	\$ 87.9 trillion	+ 3%
Value of securities on deposit:	\$ 28.3 trillion	\$ 24.6 trillion	+ 15%
Value of non-U.S. issues on deposit	\$ 2.78 trillion	\$ 2.1 trillion	+ 31%
Volume of book-entry deliveries	243.1 million	225.2 million	+ 8%
<i>Equity, corporate and municipal bond transactions processed (NSCC)</i>			
Value of NSCC equity and bond transactions processed	\$ 100.4 trillion	\$ 81.2 trillion	+ 24%
Volume	5.8 billion	4.8 billion	+ 21%
Volume on peak day (NSCC- 05/10/04)	30.2 million	26.0 million	+ 16%
Peak day netting factor	97%	97%	n/a
<i>Government securities transactions processed (FICC)</i>			
Value of trades in-net	\$709.8 trillion	\$529.1 trillion	+ 34%
Volume	23.5 million	20.1 million	+ 17%
<i>Mortgage-backed securities transactions processed (FICC)</i>			
Value	\$ 68.7 trillion	\$ 67.8 trillion	+ 1%
Volume	1.54 million	1.61 million	- 4%
<i>Mutual funds transactions processed (NSCC Fund/SERV)</i>			
Value	\$ 1.52 trillion	\$ 1.54 trillion	- 1%
Volume	103.8 million	87 million	+ 19%
<i>Insurance applications, premiums and commissions processed (NSCC)</i>			
Value	\$ 11.3 billion.	\$ 9.5 billion.	+ 18%
Volume	36.1 million	30.4 million	+ 19%
<i>Underwriting</i>			
Value of issues	\$ 3.1 trillion	\$ 2.8 trillion	+ 10%
Volume of issues	41,956	39,067	+ 7%
<i>Cash dividend and interest processing</i>			
Value of dividend and interest payments	\$ 1.281 trillion	\$ 1.208 trillion	+ 6%
Volume	3.6 million	3.4 million	+ 5%
<i>Corporate actions processing (Reorg)</i>			
Value of payments involved	\$ 1.03 trillion	\$ 1.03 trillion	+ 0%
Volume	280,650	293,000	- 4%

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Appendix 2

Overview of 2004 DTCC Business Volumes and Efficiencies

On An Average Day at DTCC...

96% Nets Away

In 2004, two of DTCC's two subsidiaries, NSCC and DTC, handling a total value of \$758 billion in average-daily gross transactions, managed to net this figure down to \$34 billion – a net settlement result of 4% -- with 96% netting away.³

This 96% net-down result encompasses both subsidiaries, including NSCC's central counterparty/multilateral-net clearing for dealer trades and mutual funds settlements, as well as DTC's collateralized cash settlement obligations for institutional settlements and other depository deliveries intraday, as well as corporate actions, initial public offerings/underwritings and entitlements.

Each participant appoints a settlement bank, and therefore after each participant's net NSCC and DTC obligations are cross-endorsed, the net figure is notified to that participant's settlement bank. Then the obligations per bank are re-netted across all the participants they represent, into a single final settlement bank debit or credit with DTC, payable via DTC's account at the Federal Reserve Bank of New York (Fedwire).

The \$34 billion figure represents the daily accumulated settlements by those settlement banks on behalf of all DTC/NSCC participants.

Among other statistics:

- The Depository Trust Company (DTC) is a securities depository, providing custody and asset servicing for nearly two and a half million securities issues from the United States and more than 100 other countries and territories. At year-end 2004, the depository held securities in custody valued at \$28.3 trillion US, including nearly \$2.8 trillion US of securities from non-U.S. issuers. The number of book-entry deliveries in 2004, including institutional trade settlement activity, exceeded 243 million transactions. DTC processed a record volume of reorganizations, redemptions, dividend and interest payments, with a value of over \$2.3 trillion US in 2004.
- National Securities Clearing Corporation (NSCC) is a central counterparty and leading provider of centralized post-trade clearing, netting, settlement and information services for equities, bonds, unit investment trusts, mutual funds and insurance transactions. Volumes processed by NSCC reached a record high of almost 5.8 billion transactions in 2004. Of the \$100 trillion US of transactions processed in 2004, NSCC netted down the value of payments requiring settlement by 97 per cent.

³ NSCC's mainly central counterparty netting of trade obligations for equities, corporates, municipal securities and unit investment trusts is even higher, at 97% average, and 98% on peak volume trading days.

- Fixed Income Clearing Corporation (FICC), created by the merger of Government Securities Clearing Corporation (GSCC) and MBS Clearing Corporation (MBSCC), began operations on January 1, 2003. FICC provides automated trade comparison, netting and settlement services for the U.S. government securities marketplace and is the sole U.S. provider of automated post-trade comparison, netting, risk management and pool notification services for mortgage-backed securities. The value of government securities trades netted in 2004 reached almost \$710 trillion US and the par value of mortgage-backed transactions was nearly \$69 trillion US.
- Emerging Markets Clearing Corporation (EMCC) is a global provider of automated trade comparison, trade guarantee, settlement and risk management services for Brady bonds, as well as dollar-denominated emerging market sovereign, quasi-sovereign and corporate debt. In 2004, EMCC matched and settled 160,700 sides worth \$295 billion US.⁴
- Omgeo is the leading provider of post-trade pre-settlement trade management solutions for institutional trades, linking investment managers, broker/dealers and custodians in more than 40 countries. With 6,000 customers in 2004, it handled up to 1 million trades per day.

⁴ EMCC has been wound down since the preparation of this note. Like other ventures whose original purpose was to streamline, automate, reduce risk and lower cost, when market conditions changed, volumes declined and the business case no longer existed, a decision to discontinue the service was appropriate.

Appendix 3

Five Years of Transformation and Accomplishments – DTCC 1999 to 2004

Thinking and acting in alignment with a core set of goals, we have achieved numerous significant milestones:

- **Achieved full integration**, seamlessly bringing DTC and NSCC together, combining the government securities and mortgage-backed securities groups under the DTCC umbrella and bringing certain SIAC groups and applications into DTCC.
- **Ensured financial stability**, with aggressive budget management and a bottom-line focus that has embedded accountability and a low-cost operating mentality in the organization. We successfully weathered the economic downturn by reducing expenses and developing new sources of revenues.
- **Strengthened risk management**, building our capacity to manage operational risk as well as risks associated with the industry's increasingly complex products.
- **Set new standards for business continuity**, moving swiftly after 9/11 to implement a plan to further protect and decentralize people and systems, winning praise from the industry and the U.S. government.
- **Revitalized our technology organization**, strengthening our development capabilities, moving to industry standards from proprietary protocols, increasing speed to market and lowering costs. We also relaunched and branded our SMART network that links virtually all the industry's trading parties.
- **Exceeded reliability goals** for DTC, NSCC and FICC applications availability and for settlement timeliness.
- **Created Omgeo**, striking a bold joint-venture partnership with Thomson Financial to bring new efficiencies to global institutional trade processing.
- **Advanced straight-through processing** throughout the industry, with initiatives including the Continuous Net Settlement (CNS) system rewrite, the creation of a single settlement system and the rollout of Real-Time Trade Matching (RTTM) to all sectors of the fixed income market.
- **Expanded into new markets**, building on our organizational strengths to seize opportunities strategically. New services include Deriv/SERV, launched on an aggressive timeframe to meet market demand for an OTC derivatives processing solution, and Global Corporate Action Validation Service, rolled out to meet demand for a standardized source of corporate action information globally.
- **Grew global brand recognition for DTCC**, raising our international profile, establishing DTCC as a thought leader on industry issues that transcend borders and garnering regular media reference of DTCC as the "gold standard."
- **Provided leadership** in tackling myriad industry challenges, including mutual funds problems and business continuity, proposing solutions that leverage our knowledge, systems and unique understanding of the industry.

- **Established DTCC as an employer of choice**, transforming and energizing the corporate culture by creating a meritocracy, empowering employees, developing leaders, tackling diversity issues, cultivating innovation, encouraging upward communication and emphasizing the importance of living the values.

Abbreviations

BASIC	Banking and Securities Industry Committee
CNS	Continuous Net Settlement
CSDS	Comprehensive Securities Depository System
DTC	The Depository Trust Company
DTCC	The Depository Trust & Clearing Corporation
EMCC	Emerging Markets Clearing Corporation
EPIM	European Pre-Issuance Messaging
FICC	Fixed Income Clearing Corporation
GSCC	Government Securities Clearing Corporation
ID	Institutional Delivery
MBSCC	MBS Clearing Corporation
NASD	National Association of Securities Dealers
NSCC	National Securities Clearing Corporation
NYSE	New York Stock Exchange
RTTM	Real-Time Trade Matching
SEC	Securities and Exchange Commission
UCC	Uniform Commercial Code

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