EuroCCP Brings Safe and Low-Cost Clearing and Settlement to Europe

The launch of European Central Counterparty Limited (EuroCCP) in 2008 was one that challenged the traditional vertical silos of trading and clearing in Europe. Similar to its parent, DTCC, EuroCCP serves multiple, non-affiliated trading venues. It introduced a new low-cost structure for clearing and settlement and its arrival has already driven competitors to lower fees across Europe.

EuroCCP's value proposition is unique in Europe: an at-cost (rather than "for-profit") central counterparty that manages risks as befits a critical post-trade market infrastructure. EuroCCP is also user-governed by a board of directors made up of European participants, regulated by the Financial Services Authority (FSA) in the U.K., and managed by a highly skilled group of Europeans.

EuroCCP's fees, starting from 6 euro cents and decreasing to 2.5 euro cents per transaction according to total volumes processed by EuroCCP, are among the lowest in Europe. By leveraging DTCC's technology and processing capacity, EuroCCP is best placed to offer Europe the economies of scale already achieved in the U.S. market.

EuroCCP's unique, simple and transparent fee structure offers volume discounts to all users regardless of the venue on which they trade. It gives trading firms the flexibility to choose the best trading venue for execution, because regardless of where they trade, it will cost the same low fees to clear via EuroCCP.

The year 2008 was certainly an eventful one for EuroCCP. It gained approval to operate as a recognized clearing house from the Financial Services Authority in the U.K. in March, signed the voluntary Code of Conduct in April to interoperate with other CCPs, and then began to clear for Turquoise on August 15, initially with several securities in each of 13 markets implemented over five business days. EuroCCP rapidly ramped up to more than 1,300 equity issues in all markets by the end of September.

By early 2009, EuroCCP had 24 approved general clearing or individual clearing participants representing over 40 trading firms. Volume hit a peak of almost 560,000 transactions in early October 2008, and daily transaction volume through EuroCCP in the first two months of 2009 averaged close to 400,000, the first threshold beyond which a volume discount would be offered to all clearing participants. Volume traded on Turquoise continued to climb in February 2009, reaching a market share of about 8% for the most actively traded equities.

"Our objective was to create an entirely new model for European clearing and settlement that took advantage of our parent company's technology, scale and expertise to offer extraordinarily low prices on an at-cost basis. We aimed to provide superior risk management as a central counterparty that was responsive to the market's needs through effective user governance," said Diana Chan, EuroCCP Chief Executive Officer. "Those objectives have all been met."

Risk management is the core competence of a central counterparty. In this domain, EuroCCP clearly benefits from DTCC's 35 years of experience in managing market, credit and operational risks. Its superior and successful handling of the Lehman Brothers International (Europe) default clearly illustrates not only institutional know-how in risk management, but also its diverse European team that is intimately familiar with the needs of customers and practices across multiple markets throughout Europe.

EuroCCP's strategy for growth is focused on three areas: increase the number of trading platforms serviced by EuroCCP, increase the markets in which EuroCCP can settle trades, and diversify into new and different clearing services. In 2008 and early 2009, the DTCC subsidiary made major progress in all three areas.

In the first quarter of 2009, EuroCCP began clearing trades for both SmartPool and the NYSE Arca Europe high-frequency trading platform. SmartPool is a "dark pool" institutional block trading platform established by NYSE Euronext, HSBC, BNP Paribas and JPMorgan.

EuroCCP is also working to achieve interoperability with incumbent CCPs to ensure that users have the choice of a safe and cost-effective clearing solution. Trades in the same security by the same clearing participant on the same day on any platform cleared by EuroCCP are netted into one margin requirement and settlement obligation, further reducing costs for market participants.

Finally, EuroCCP entered a new arena in January 2009 with its appointment to provide central counterparty services to the securities lending and borrowing market in the U.K. by SecFinex, a company

“OUR AIM IS TO PROVIDE SUPERIOR RISK MANAGEMENT AND LOW COST – THROUGH AN AT-COST USER-GOVERNED MODEL.”

(Left to right) **Donna Alexander,** *senior operations specialist, EuroCCP;* **Diana Chan,** *Chief Executive Officer, EuroCCP and* **Trevor Spanner,** *Chief Operating Officer, EuroCCP (London)*

jointly owned by NYSE Euronext, Fortis Bank and Société Générale that provides automated securities lending services in Europe. The U.K. market for securities lending is one of the largest in Europe. The CCP service for securities lending is expected to go live in the third quarter of 2009, pending regulatory approval.

On September 15, 2008, exactly one month after it had gone into operation, EuroCCP had a real-world test of its risk management systems when Lehman Brothers International (Europe), a EuroCCP participant, went into administration. Chan, Chief Operating Officer Trevor Spanner and James Cressy, Head of Operations, led a team that moved swiftly to close out and settle Lehman's €21 million in pending trades with no loss to EuroCCP or any of its participants. The superior approach taken by the team ensured that securities were delivered to participants expecting to receive them with a minimum of delay, and that EuroCCP had the least exposure to potential financial loss.

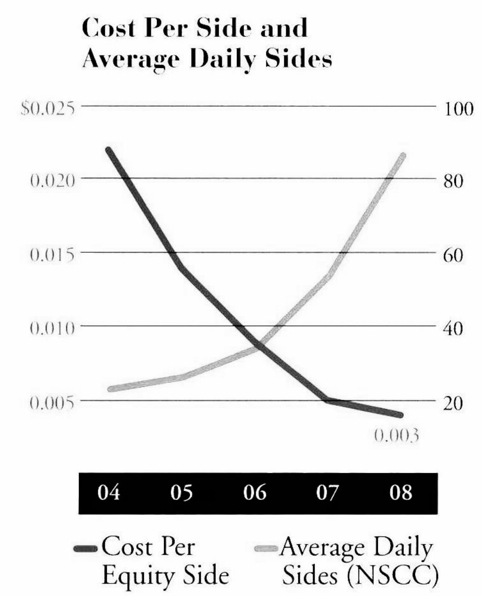
The year 2009 is shaping up as one in which EuroCCP will continue to work closely with its European customers to achieve increased efficiency, reduced risk and lower costs. □

Countries Served by EuroCCP

Austria, Belgium, Finland, France, Denmark, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom

DTCC adds value and reduces risk. They don’t rest on their laurels.

DTCC Processes Waves of Surging Equity Volume but Costs Remain Flat



This past year was characterized by extreme market stresses, bankruptcies and unpredictable spikes in equity trading volume.

NSCC provides clearing, settlement, risk management and a central counterparty guarantee of trade completion for virtually all broker-to-broker equity, listed corporate and municipal bond and UIT trading in the U.S. market, taking feeds from more than 50 exchanges and trading platforms, including the New York Stock Exchange, Nasdaq OMX and regional exchanges. And this year, NSCC completed the successful on-boarding and conversions of three additional marketplaces – BATS Exchange, Inc., Nasdaq OMX BX and the integration of the American Stock Exchange into the NYSE platform.

Financial Crisis Sparks Market Volatility

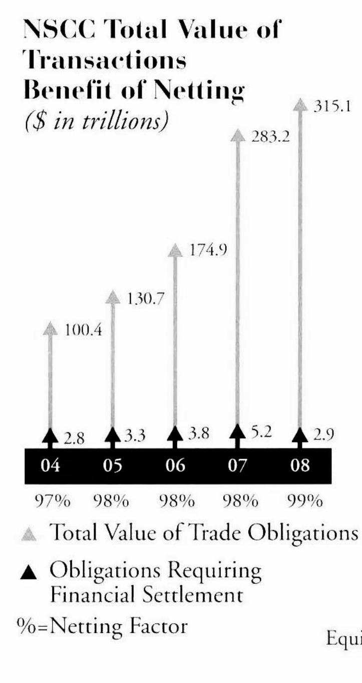
The most turbulent year in Wall Street's history pushed trading volumes to record levels, with total processing volumes up 62% to 21.9 billion transactions, from 13.5 billion in 2007. The total value of these transactions climbed to $315 trillion, up 11% from $283 trillion in 2007. NSCC also saw the average number of daily transactions jump 60% to 86.5 million from 53.9 million in 2007, with the average value of these transactions rising to $1.26 trillion.

On the year's peak volume day of October 10, 2008, NSCC seamlessly processed a record 209.4 million total transactions, a 142% jump over the 2008 average daily volume of 86.5 million – and 113% higher than the 98.5 million transactions on the peak day of 2007.

"During this year of unparalleled challenges and unpredictable volatility, DTCC worked quietly but effectively behind the scenes to seamlessly process record levels of equities transactions," said Tom Costa, managing director and general manager, Clearance and Settlement Group. "We understand that our unique role as the industry's utility requires us to efficiently process these transactions to maintain the stability of our financial markets during times of great upheaval."

Costs Remain Flat for Third Consecutive Year

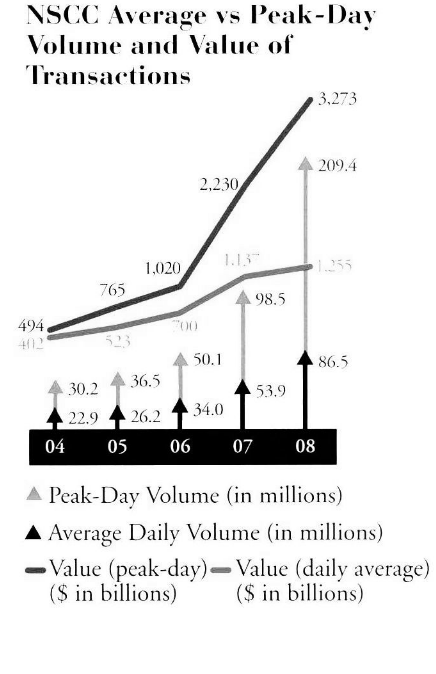
As transaction volumes have grown more than 262% over the past three years, NSCC has kept operating expenses flat at less than $70 million annually for clearing operations for the entire U.S. equities market.



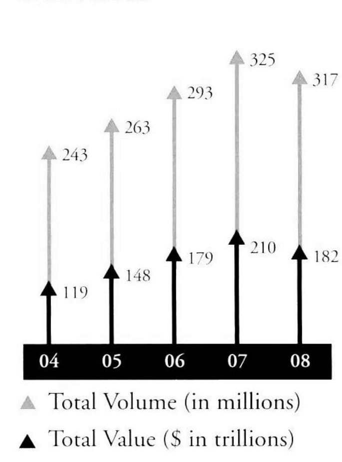
"THE TOTAL ANNUAL COST OF EQUITY CLEARING IS LESS THAN $70 MILLION – AVERAGE COST PER FIRM IS $250,000."

William Kapogiannis *(left), director, Clearance and Settlement/Equities, and* **Thomas Costa,** *managing director and general manager, Clearance and Settlement Group*

NSCC Average vs Peak-Day Volume and Value of Transactions



DTC Book Entry Deliveries



Based on DTCC's at-cost model, fees represent the initial billing for services, while the actual cost borne by customers is the net amount paid after rebates and discounts. Fees are a means of tracking usage and allocating costs to customers. In 2008, the total cost of equity clearing represented just 7% of DTCC's net revenues.

NSCC also revised its fee policies in 2008 to return money to customers more promptly and help them accurately capture these returns in their P&Ls for the period in which they were incurred. NSCC now immediately returns any net revenue in excess of its target gross margin rate in the month in which that revenue was generated. With expenses relatively fixed, NSCC immediately discounts prices for any month when actual volume exceeds budgeted volume. In addition, any margin remaining at the end of the year is returned to customers as a rebate.

Increasing Processing Capacity

During 2008, NSCC boosted its processing capacity from 280 million transactions per day to an unprecedented 500 million transactions. NSCC now boasts processing capacity more than three times the average daily volume of 2008. Since 2004, NSCC has increased processing capacity more than 1,000% – at no additional cost to the industry or financial firms.

As the impact of the financial crisis spread to the credit markets this year, NSCC's Continuous Net Settlement (CNS) system, which nets down or reduces the total number of trade obligations requiring financial settlement, played an even more pivotal role helping to reduce risk for financial firms and optimizing their use of capital. In 2008, NSCC reduced the total number of trade obligations requiring financial settlement from $315 trillion to $2.9 trillion, representing a netting factor of 99%, which unleashed trillions of dollars in liquidity for other investment purposes at a time when capital was scarce.

New Initiatives Close the Gap on Risk

DTCC's successful management of firm failures like Lehman Brothers and Madoff Securities in 2008 underscored the enormous value of its central counterparty guarantee, which acts like an insurance policy by assuming the buyer's credit risk and the seller's delivery risk in the event either side defaults. In addition, DTCC's sophisticated risk management programs proved their value this year by empowering the organization to monitor and take preventative action to safeguard counterparties. By maintaining rigorous standards for membership, requiring financial disclosure of member firms, and conducting financial surveillance of participants, DTCC ensures the soundness and solvency of market participants – and the stability of the capital markets.

In 2008, NSCC continued to build on its achievements in mitigating risk by moving forward with plans to implement a real-time trade date guarantee for all CNS eligible trades, such as equity, corporate bond and municipal bond transactions. NSCC currently applies its guarantee at midnight the day after the trade is executed.

"By accelerating NSCC's trade guarantee to real time, we will reduce credit exposure for trading firms and systemic risk across the industry," Costa said. "The real-time guarantee enhances our already robust risk management process and strengthens our ability to protect firms from potentially unstable trading partners."

NSCC achieved another risk-mitigation milestone in 2008 when it increased the percentage of trades being received in real time to roughly 90%. Real-time submission moves the U.S. equity markets closer to a fully integrated real-time trading and clearing environment and further strengthens the safety and soundness of the U.S. post-trade infrastructure. Real-time submission supports straight-through processing, reduces risk by increasing NSCC's visibility into trade data, and promotes intra-day trade reconciliation. It also supports business continuity through the real-time safe storage of data at the clearing agency level.

NSCC also took an important step this year in enhancing liquidity for financial firms by amending its agreement with the Options Clearing Corporation (OCC) regarding margining requirements for options exercises and assignments (E&A). The changes, which were approved by the Securities and Exchange Commission (SEC), allow billions of dollars of duplicative risk margin to be returned to financial firms three business days sooner. It is estimated that customers will save between $2 to $3 billion in an average month.

"These initiatives reinforce the vital role played by NSCC in helping to mitigate systemic risk and protect the safety and soundness of the global capital markets," Costa said.

DTC Also Handles Record Volumes

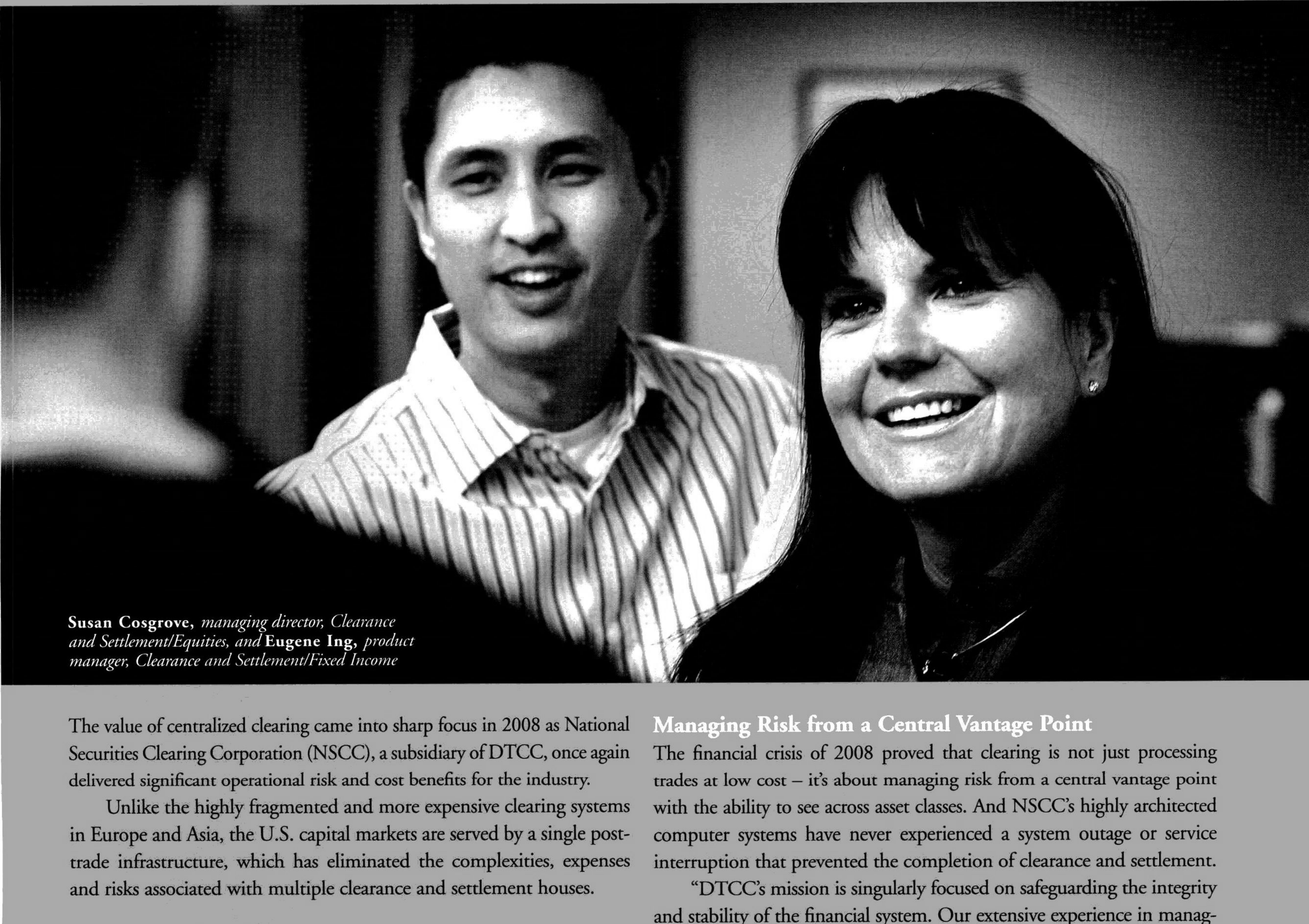
While NSCC provides final CNS settlement instructions to customers each day, the payment and book-entry movement of securities ownership occurs at The Depository Trust Company (DTC). In addition, DTC also settles institutional trades, money market instruments and other financial obligations. Activity at the depository mirrored the volatility in the markets, with book-entry deliveries dropping to 317 million from 325 million in 2007, a decline of 3%. The value of these deliveries, which include both netted broker-to-broker and institutional transactions, also fell from $210 trillion in 2007 to $182 trillion, a reduction of 13%.

OMGEO

Even in the face of 2008's market turmoil, Omgeo, DTCC's joint venture with Thomson Reuters, was able to increase its processing volume and expand its global customer base. The company, which focuses on automating post-trade processing for institutional investors across the globe, now has some 200 hedge funds in a client base that extends to more than 6,000 customers in 46 countries.

Transaction volume through Omgeo's U.S. domestic trade confirmation service, Omgeo Trade Suite, increased to 360 million confirmations in 2008. For Omgeo Central Trade Manager (Omgeo CTM), the company's core matching platform for domestic and cross-border trades, volumes per month rose to 3.5 million, an increase of 105% year over year. Over 380 clients are currently using the service. Volumes on U.S. fixed income allocations in Omgeo OASYS climbed 32% to a record 3.3 million. □

Benefits of Centralized Clearing Reinforced During Financial Crisis



Susan Cosgrove, *managing director, Clearance and Settlement/Equities, and* **Eugene Ing,** *product manager, Clearance and Settlement/Fixed Income*

The value of centralized clearing came into sharp focus in 2008 as National Securities Clearing Corporation (NSCC), a subsidiary of DTCC, once again delivered significant operational risk and cost benefits for the industry.

Unlike the highly fragmented and more expensive clearing systems in Europe and Asia, the U.S. capital markets are served by a single post-trade infrastructure, which has eliminated the complexities, expenses and risks associated with multiple clearance and settlement houses.

Lowest Clearing Cost in World

In 2008, NSCC continued to leverage economies of scale to drive down the unit cost of clearing to historic lows. For an average of about one-third of a penny per transaction, NSCC offers the lowest cost in the world for trade clearance – about 100 times cheaper than fees in Europe. Operating expenses for equities clearing for the entire U.S. equities markets in 2008 was less than $70 million. The average cost of clearing per customer last year was approximately $250,000, with more than three-quarters of firms paying an average of less than $14,000.

DTCC continually works to reduce the price of clearing by controlling fixed costs. "The Equities Clearance and Settlement Group is anchored by a team of just over 200 employees, which represents less than 10% of DTCC's entire workforce. Yet even as trading volumes increased significantly over the last three years, we aggressively held the line on costs," said Susan Cosgrove, managing director, Clearance and Settlement/Equities.

Managing Risk from a Central Vantage Point

The financial crisis of 2008 proved that clearing is not just processing trades at low cost – it's about managing risk from a central vantage point with the ability to see across asset classes. And NSCC's highly architected computer systems have never experienced a system outage or service interruption that prevented the completion of clearance and settlement.

"DTCC's mission is singularly focused on safeguarding the integrity and stability of the financial system. Our extensive experience in managing risk is what separates us from every other CCP in the world. In a very difficult year for the industry, we demonstrated that there is no substitute for DTCC's experience," Cosgrove said.

Firms also save with NSCC by only having to post collateral at just one location, operating and maintaining a single back-office infrastructure and a single connection to NSCC, which also serves as a gateway to access a wide range of NSCC and other DTCC subsidiary services.

"NSCC continues to maintain the highest credit of AAA/A-1+ and, as a result, we have access to significant lines of credit to ensure we have the necessary liquidity resources to protect the system and promote orderly settlement in the event of a firm failure," Cosgrove noted.

At a time when the industry faced the worst financial crisis in history, the one bright spot of certainty and stability was the unified clearance and settlement system – and the seamlessness in NSCC's post-trade clearing and settlement processes in mitigating the risk of a volatile market.

transaction processing efficiency capabilities

&

Customer rating in 2008 from a customer satisfaction survey, conducted by an independent research firm.

93%

Flight to Safety Prompts Record Volume in Fixed Income Securities Trading

Faced with plummeting share prices and market turmoil, investors in 2008 fled to the relative safety of U.S. Government securities and their close cousins – mortgage-backed securities issued on the secondary market by government agencies.

"The 'flight to safety' may have helped calm many investors," noted Tom Costa, managing director and general manager, DTCC Clearance and Settlement Group, "but in fixed income markets, it sent trading volumes up sharply."

Trades in government securities processed by DTCC's Fixed Income Clearing Corporation (FICC) in 2008, for example, rose to a record 34.4 million, a 13% increase over the 30.4 million recorded in 2007. The value of the trades in this vast market, the world's largest, surged past $1.042 quadrillion, up 3.5% over the $1.006 quadrillion in the prior period.

To help sustain liquidity in the market, FICC's Government Securities Division was able to free up nearly $3.1 trillion in capital each day for investors in 2008 by netting down or reducing the total volume of trades requiring financial settlement from $4.1 trillion to $1.0 trillion.

More Liquidity = More Trading

More liquidity was also the reason trading in FICC's GCF (General Collateral Finance) repurchase agreement soared in 2008 – shooting upward by more than 78%. For more than five years, trading in this instrument had remained relatively flat because both parties to the trade were required to clear the transaction at the same clearing bank. After consultation with Bank of New York and JPMorgan Chase, the country's two clearing banks for government securities, FICC asked the Securities and Exchange Commission (SEC) to end the restriction. When regulators agreed to do so, transactions rose to $173.4 trillion from $93.6 trillion the prior year as the market took advantage of the greater liquidity now available.

Hoarding Securities

The record trading volumes of 2008 also saw a rise in delivery failures. While this trend has ebbed since the height of the financial crisis, FICC is working together with customers, regulators and industry organizations to create an industry-wide "best practice" that may include disincentives for failing to deliver.

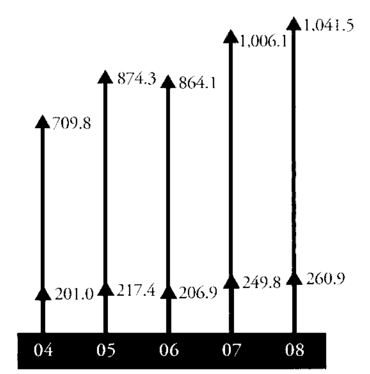
Mortgage-Backed Securities – the Safer Kind

Mortgage-backed securities get much of the blame these days for dragging down financial institutions and economies worldwide. But not all mortgage-backed securities are created equal. FICC has always limited the mortgage securities trades it clears to "agency paper" – securities issued in the secondary market by government-chartered agencies and companies such as Fannie Mae and Ginnie Mae. In 2008, as the agencies expanded their issuance of paper, and investors flocked to the implicit guarantee of quality these securities offer, the trading of mortgage-backed securities volume rose to nearly 2.65 million sides, up 28% from just over 2 million the previous year. The value of the securities traded climbed as well, to $111.3 trillion from $94.9 trillion in 2007.

Netting in the Pool

The value of the underlying pools of mortgages that make up mortgage-backed securities also increased, growing to $14.3 trillion from $10.8 trillion in 2007. The pools, which FICC manages through its Electronic Pool Notification (EPN) Service, will play a critical role in the operation of the new central counterparty for mortgage-backed securities that FICC plans to launch in the third quarter of 2009. ☐

U.S. Government Securities
($ in trillions)



▲ Average Daily Value of Transactions Processed

▲ Value of Transactions Requiring Settlement

%=Netting Factor

Preparing a Central Counterparty for Mortgage-Backed Securities

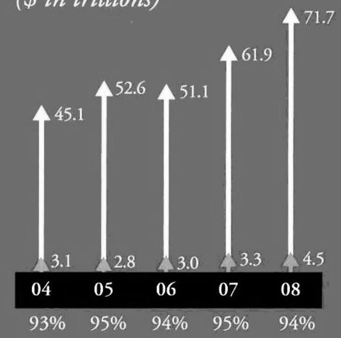
DTCC's Fixed Income Clearing Corporation plans to put its new central counterparty (CCP) for mortgage-backed securities trades into operation in fall 2009. The CCP will make it easier, cheaper and less risky for firms to clear and settle trades in the mortgage-backed securities market, where trading in the U.S. now surpasses $111 trillion annually.

In preparation for its new CCP, FICC first set up a mechanism to match specified pool trades. Then, early in 2008, FICC put in place an easy way for trading parties to substitute the pools associated with a particular trade. As a final step toward implementing the long-planned CCP, FICC plans to begin testing its new Pool Netting service in mid-year with an eye to launching the full CCP in August.

Pool Netting further reduces the number of financial obligations requiring settlement by matching and offsetting the buys and sells in each mortgage pool designated for settlement as part of the traded securities. Once the netting is complete, FICC's new CCP will ensure delivery versus payment of any net pool settlement obligations that still remain.

Sometimes, though, good ideas get tested in the market ahead of schedule. When Lehman Brothers slid abruptly into bankruptcy in September 2008, FICC and its customer-members agreed that using a CCP-like mechanism – even temporarily and done manually – would help liquidate exposure from Lehman's forward trades. Within 24 hours, almost 90% of the outstanding trades were eliminated. The result? The CCP for a day was instrumental in reducing risk and has now heightened interest in seeing the official launch of the automated system in 2009.

Mortgage-Backed Securities TBA Trades
($ in trillions)



▲ Par Value Netting Destined
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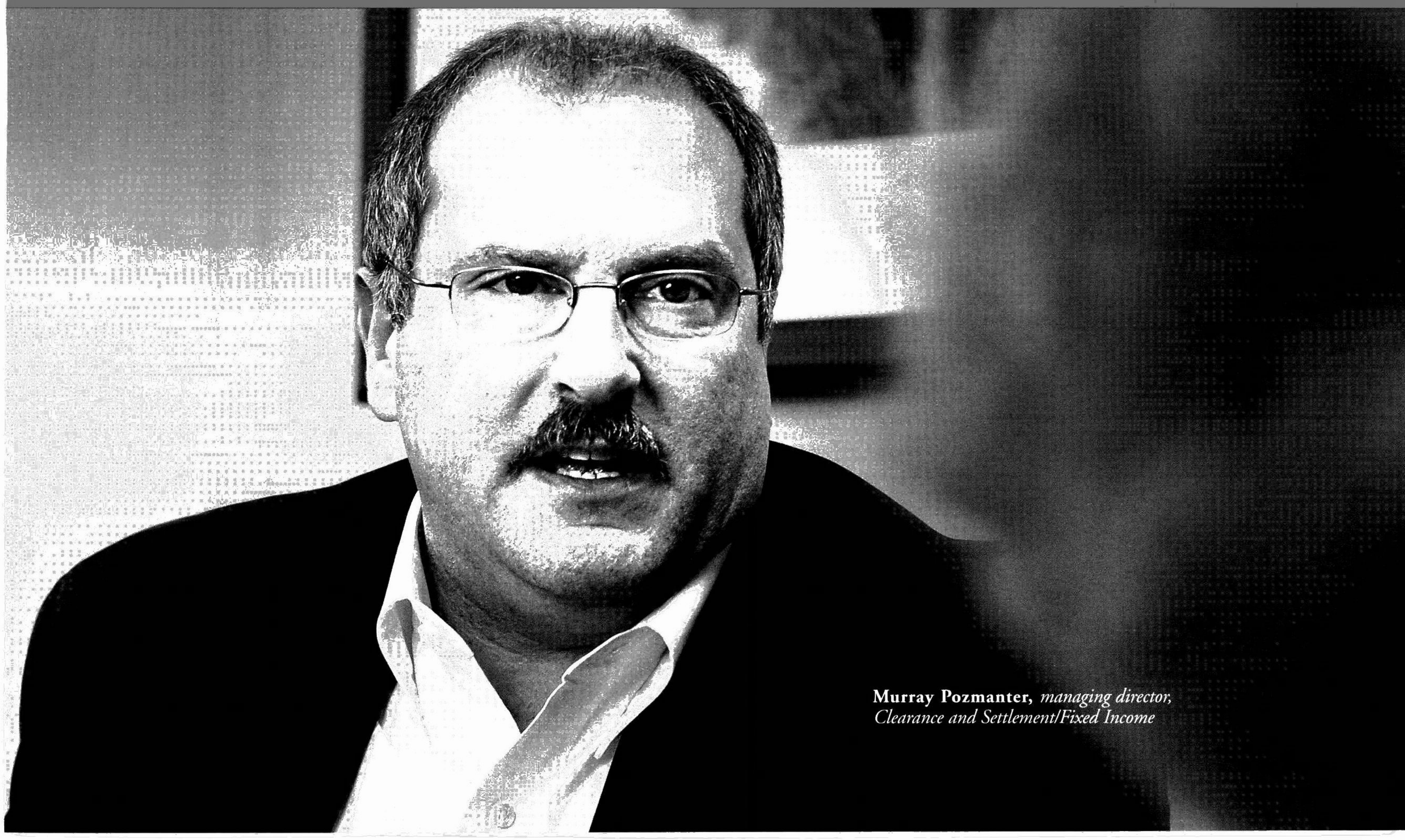


Murray Pozmanter, *managing director, Clearance and Settlement/Fixed Income*

Depository Servicing of Assets Held in Custody Marks New Milestones

The value of securities held at The Depository Trust Company (DTC), at year-end 2008, stood at $27.6 trillion, down from the $40.1 trillion held in 2007, but the number of securities remained the same at 3.5 million, including equities, corporate and municipal debt, asset-backed securities and exchange-traded funds from more than 110 countries and territories.

Today, DTC offers a broad range of asset services for custody and corporate actions, including underwriting services for municipal and corporate bonds, dividend, proxy and reorganization services, and the electronic registration and transfer of securities.

The depository collected and allocated to customers more than $3.5 trillion in dividend and interest payments and redemption and reorganization activities in 2008, down 7% from $3.8 trillion in 2007. DTC also handled the initial processing and distribution of new issues, including more than 99% of all municipal issues in the United States. Although the value of new issues fell nearly 44% from $4.3 trillion in 2007 to $2.4 trillion in 2008, the number of new issues dropped by just 2% from 54,266 issues in 2007 to 53,402 in 2008.

Automating Syndicated Loans

In 2008, DTCC launched Loan/SERV, a suite of automated, global services for the processing of syndicated commercial loans. Syndicated loans are complicated structures involving multiple lenders for each borrower with an agent bank acting as the liaison, transmitting information back and forth between parties. Until now, this activity was largely processed manually. Loan/SERV launched a global Reconciliation Service and a Messaging Service in both the United States and Europe in 2008. The Reconciliation Service enables banks and lenders to view and reconcile loan positions on a daily basis. The Messaging Service provides a secure network for the transmission of standard loan messages between agent banks and lenders.

Underwriting and Corporate Actions

The depository's new underwriting system, which underwent a major redesign during the past three years and streamlines the way underwriters submit new-issue eligibility requests to the depository, was completed for municipal issues and launched in 2008.

The redesign of DTC's corporate action system continued throughout 2008 and will focus on several key initiatives during 2009. In light of the current economic downturn, the adoption of system enhancements by customers will be optional in 2009.

Key enhancements for 2009 include automation of the survivor option instruction process. The expansion of Canadian asset-servicing capabilities, upgrades in instruction processing for the Elective Dividend Services and the Stock Loan Payment Order functions, and the introduction of class-action announcements.

A Cost-Basis Solution

AccuBasis, DTCC's cost-basis product launched in 2007, will help customers meet requirements outlined in new cost-basis legislation that was signed into law in October as part of The Emergency Economic Stabilization Act of 2008. Broker/dealers, transfer agents, mutual funds and issuers, are required to report accurate, adjusted cost-basis information to investors and the Internal Revenue Service.

Going 'Paperless'

DTC continues to push towards the elimination of paper certificates in the industry. In March 2008, the last of more than 7,300 issues listed on major and regional exchanges became eligible for DTC's Direct Registration System (DRS). DRS eliminates the issuance of physical certificates and gives registered equity owners the option of holding their assets on the records of the transfer agent or issuer in book-entry form. The NYSE, Nasdaq and regional exchanges adopted the requirements in 2006 that all listed securities be eligible to participate in a direct registration system like the one administered by DTC.

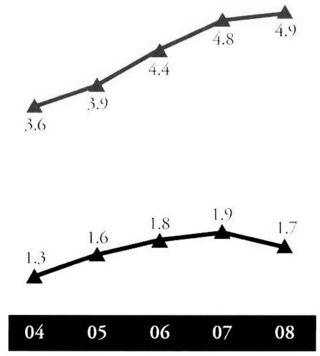
DTC also won approval from the Securities and Exchange Commission (SEC) to eliminate issuing physical certificates for withdrawals-by-transfer (WTs) from the depository beginning in January 2009.

Structured Securities

In 2008, DTC began implementing a new set of initiatives to help solve processing problems and cost inequities in the structured securities markets. The initiatives, first proposed in a 2007 white paper, were approved by the SEC in March 2008 and will boost the accuracy, efficiency and timeliness of structured securities payments. □

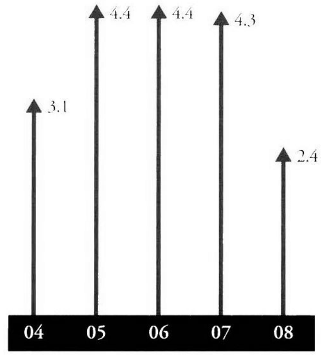
(Left to right) **Daniel Thieke,** *vice president, Asset Services,* *and* **Patrick Kirby,** *managing director, Asset Services*

DTC Cash Dividend and Interest Payments

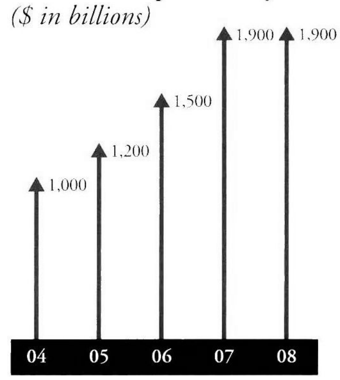


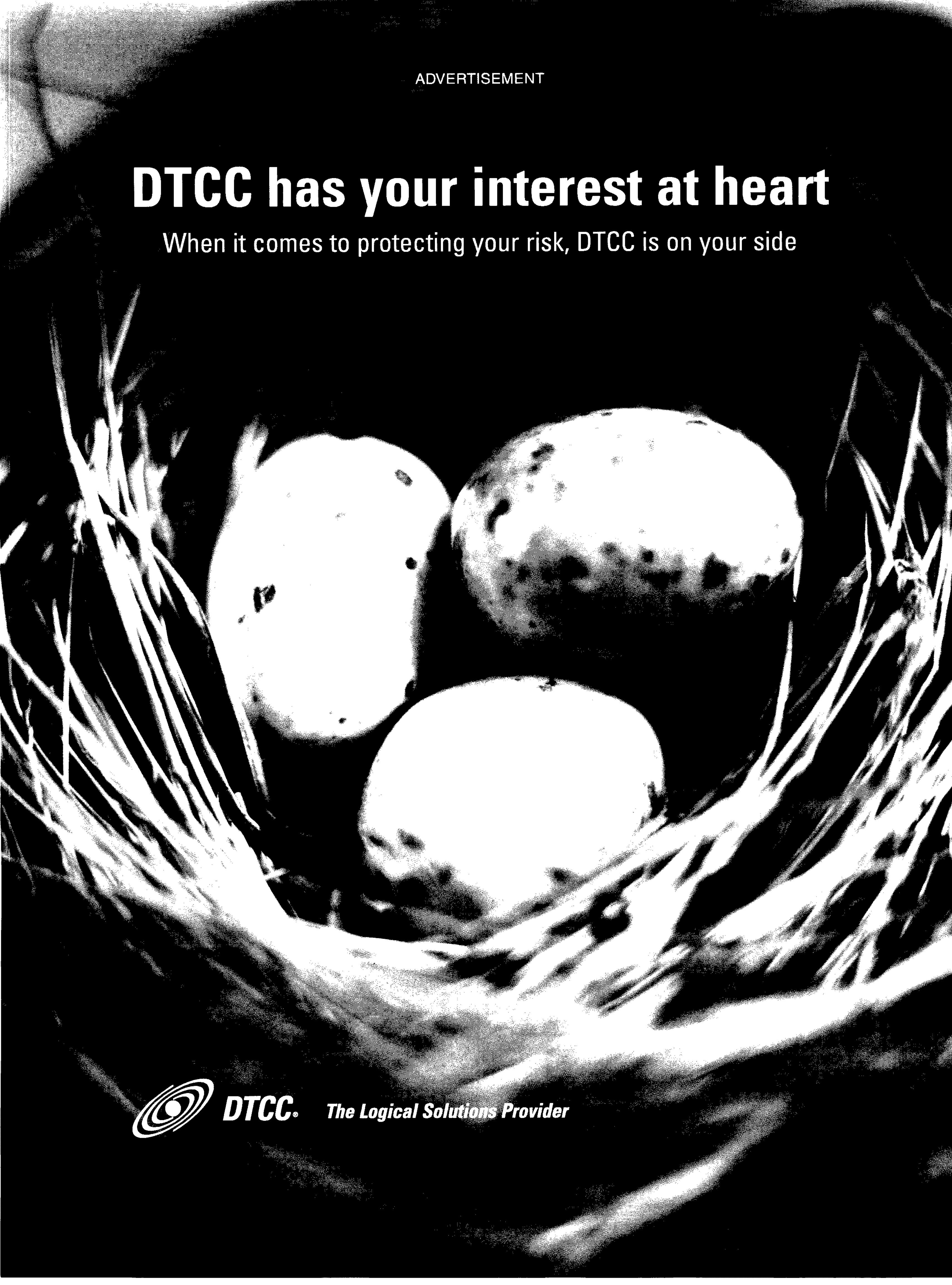
▲ Number of Payments (in millions)
▲ Value of Payments ($ in trillions)

DTC Underwriting Value
($ in trillions)



Value of DTC Reorganization and Redemption Payments
($ in billions)

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