

FROM BIRTH TO CENTRAL COUNTERPARTY STATUS: THE 25-YEAR HISTORY OF MBS CLEARING

Jeffrey F. Ingber

With the 25th anniversary of the MBS Clearing Corporation (MBSCC) arriving in 2004, plans are underway to fundamentally change the way that mortgage-backed securities (MBS) are cleared and settled, through the institution of a central counterparty (CCP) structure that will significantly reduce the risks, costs and burdens associated with the settlement of these securities.

As the industry begins to move to that new structure, which has been used for years to settle equities, corporate securities, municipal bonds, and U.S. Government securities, it is instructive to look back at the history of the market and the clearance and settlement process for MBS.

The growth of the MBS marketplace has been explosive over time. That marketplace began in 1970, when Ginnie Mae first guaranteed a pool of mortgage loans. By 1981, the total MBS market had grown to about \$25 billion outstanding. Today, there is more than \$3.5 trillion in such securities outstanding.

In 1979, MBSCC (now called the Mortgage-Backed Securities Division (MBSD) of the Fixed Income Clearing Corporation (FICC), which is a subsidiary of The Depository Trust & Clearing Corporation (DTCC)) was formed to provide comparison, risk management, and other services for the MBS marketplace. The increase in scope and importance of MBS centralized clearing

corporation services over this time has been striking.

While the MBS market grew substantially during the 1970s, the clearance and settlement of MBS trades remained inefficient, burdensome and risky. Confirmation of trades was a manual, paper-based process that was time consuming and costly. "Don't knows" (DKs) of compared trades at pool allocation time were common. Moreover, there was no mechanism in place to net settlement obligations arising from compared trades with the same product in order to reduce clearance costs and fails.

Allocation of specific pools to "To Be Announced" (TBA) trades also was an intensive manual process, accomplished via telephone and/or fax. With regard to such allocations, current face value could vary by as much as 5 percent from the traded par. All settlements, which at that time could occur as much as 12 months after trade date, were on a physical delivery versus payment basis, generally on a single monthly settlement date.

Finally, there was an extremely high fail rate on deliveries, and rampant claims for principal and interest (P&I). Back offices had difficulties in determining the outstanding principal amount of MBS, as services providing amortization schedules were not readily available. At times, certificates were delivered with attachments listing

previous principal payments. In many cases, the attachments were not current and had to be checked against GNMA hard copy publications. Also, many software applications could not distinguish between the original face amount appearing on the physical certificate and the amortized face amount calculated after principal payments.

In spite of the inefficiencies of the decentralized, paper-intensive processing systems, which was costly to MBS issuers and other market players, resistance to change was great. There was a large amount of float from fails and unclaimed P&I that benefited certain dealers, including helping the financing of their positions. But the pressure to reduce processing and operational costs eventually led to a consensus for a common, automated infrastructure for the clearance and settlement of MBS trades. This need was met by the establishment, largely through the efforts of the Public Securities Association (the industry trade group that is now called The Bond Market Association (TBMA) and the GNMA Dealers Association (which in 1980 merged into the Public Securities Association), of MBSCC in January 1979, as a wholly-owned subsidiary of the Midwest Stock Exchange (MSE -- now the Chicago Stock Exchange) in Chicago.

MBSCC began operations in August of that year, using the MSE for operational and data processing support and as its facilities manager. The average monthly value of trades processed by MBSCC that year was \$1.2 billion (compared to 2003 projected monthly volume of over \$6 trillion). It was designed to provide a centralized clearing and risk management system for TBA trades. (MBS trades primarily consisted of purchases and sales, but non-exchange traded GNMA options or standbys became eligible for MBSCC trade-for-trade settlement in mid-1980. MBS options were and remain a small portion of the overall volume processed by the clearing corporation.)

Initially, MBSCC compared trades by taking in only the data submitted by the selling side. In 1980, it implemented a two-sided trade input and comparison system. MBSCC also introduced centralized risk management services for the MBS

marketplace, and implemented the concept of daily margin to cover MBS risk exposure. However, given the significant risks that arise from MBS trading -- including factors such as the relatively large par value, the long period between trade date and settlement date, and the variance factor -- and the significant operational problems with settling MBS pools, MBSCC did not choose to act as a central counterparty and novator of trades.

Rather, it developed a non-mutualized counterparty risk management system designed to incent firms to continue to carefully consider counterparty credit risk. Even though MBSCC never was the guarantor of transactions, it did early on establish a credit committee, which helped to set the minimum requirements for becoming a member and for the ongoing review of members. Over the years, on several occasions when significant market news occurred, this committee met to consider increasing margin requirements for members.

By the end of 1980, a significant percentage of the key MBS dealers and brokers were active participants. In addition, MBSCC began to add mortgage bankers as members. Within a year of its commencement, MBSCC proved to be a success in greatly reducing MBS operational and staffing costs.

From the beginning, MBSCC offered two distinct trade input systems to address participants' confirmation requirements. One was a dealer-to-dealer system, pursuant to which both the selling and purchasing party submit trade terms as principals. The other was a broker-dealer system, which is a three-sided system designed to compare inter-dealer broker trades on a give-up basis. (Initially, trades done with brokers were confirmed and determined to be MBSCC-eligible over the telephone. If eligible, each trade was entered as two dealer-to-broker trades. In 1982, MBSCC implemented a new automated trade reporting system that allowed brokers to electronically enter all eligible trades to MBSCC on trade date plus one.)

MBSCC also has always provided two settlement options. One is use of the Settlement Balance Order (SBO) system for trades that participants desire to be netted. SBO netting significantly reduces the number of pool allocations and receive and deliver obligations. The majority of participants' trades are entered into the SBO system.

The other settlement option is use of the Trade-for-Trade (TFT) system. Participants may be TFT members exclusively, or may choose SBO participation, which includes TFT services. Trades which are SBO-ineligible, or for which SBO is not desired, are entered into MBSCC's TFT system for individual settlement. All SBO transactions settle in accordance with TBMA guidelines, one of which is that allocation must occur in \$1 million current "face" value increments.

Regardless of whether trades are netted and settlement is done pursuant to settlement balance orders, the settlement of TBA trades processed and possibly netted by MBSCC was, and continues to be, done by buyers and sellers outside of the clearing corporation. Settlement of each class of TBA trades occurs on a single day each month, as designated by the TBMA. For SBO trades, net buyers and sellers directly allocate and settle trades with one another, even if the two parties have never traded with each other.

MBSCC initially offered services only for Ginnie Mae MBS. In 1981, Freddie Mac Participation Certificates (PCs) were made eligible for MBSCC services. Fannie Mae MBS were first issued in 1981, and became eligible for MBSCC processing in 1982. Throughout the 1970s and early 1980s, most MBS were issued in pass-through form. In mid-1983 Freddie Mac issued the first collateralized mortgage obligation (CMO); CMOs and other structured products are not eligible for MBSD processing.

The success of MBSCC promoted an acceleration of MBS trading volume. By 1985, the cost and burden of physical delivery of MBS certificates had become a noticeable problem. As the SEC noted:

Dealers and custodian banks must devote significant human resources to prepare certificates for delivery, effect those deliveries, and check

certificates received throughout the day. The physical delivery process results in late deliveries and misdeliveries of certificates and resulting failed trades. Furthermore, the risk of loss while transporting certificates for delivery is great. Moreover, physical delivery limits the number of trades that can be settled during a given settlement cycle. Finally, concentration of deliveries for settlement of forward trades on specific designated days creates a huge strain on industry processing resources.

MBS dealers argued for the immobilization of MBS certificates as a means of addressing these problems, and the MBSCC Board ultimately authorized the offering of depository services. The establishment of its Depository Division (the "Depository") in 1985, with custodial services provided to it by Chemical Bank, paved the way for book-entry MBS settlement by immobilizing physical GNMA MBS certificates, thus eliminating the need for physical settlement. (MBSCC had two Divisions at that point, with the other one being the Clearing Division, which provided trade comparison, netting and settlement services.)

The Depository also provided for P&I collection and distribution, again reducing costs. Only GNMA securities were ever made eligible for deposit in the Depository Division; MBSCC expected to add FNMA and FHLMC securities as eligible securities for deposit after establishment of an interface with the New York Fed, but this never happened.

In 1986, HUD announced that new GNMA securities would be issued only in book-entry form through the Depository, beginning in 1987. That was a turning point for the Depository, since all market participants were required either to be a Depository participant or clear through a participant in order to take delivery of new pools in book-entry form. In response to this, the Public Securities Association adopted good delivery guidelines calling for the book-entry (rather than physical) settlement of securities.

That year, MBSCC also determined that it would be advantageous for the Depository to become a trust company, and began the application processes necessary to become both a New York

limited purpose trust company and a New York Fed member. This trust company, which also was an SEC-registered clearing corporation, assumed the operations of the Depository in 1989, was named the Participants Trust Company (PTC), and became a separate participant-owned entity. The significance of PTC's role greatly expanded after the insolvency of Drexel in early 1990, when industry participants realized how difficult it would have been to settle Drexel's forward MBS book had it not been sold to Goldman Sachs. That concern led to the custody banks, in spite of the loss of fees, making their custodial accounts eligible for processing through PTC.

PTC was acquired by The Depository Trust Company (DTC) in 1998, which until then had provided safekeeping of physical certificates for PTC under contract, and became the DTC MBS Division. Until 2002, the DTC MBS Division provided various securities settlement services for Ginnie Mae MBS and acted as a counterparty to transactions with its participants for the receipt of securities subject to transfer versus payment and the net settlement of funds. In 2002, the New York Fed became the depository for GNMA MBS.

The rest of MBSCC was purchased in 1994 by 32 of its participants and the National Securities Clearing Corporation (NSCC). MBSCC transferred its data center to the Securities Industry Automation Corporation (SIAC). The following year, MBSCC moved its headquarters to New York City, under the rationale that MBSCC could be more efficient and responsive to its participants if it was closer to them.

In 1996, MBSCC's Electronic Pool Notification (EPN) system was launched. EPN is an electronic communications network through which buyers and sellers are able to transmit MBS pool information on a real-time basis. EPN messages consist of a full range of information necessary for mortgage pool identification and allocation, including the terms of the trade -- such as MBS agency, product, coupon and maturity -- and the specific securities intended for delivery on settlement day. Once a communications link to EPN has been established, users can submit pool information electronically at any time.

EPN, which has become the standard for pool notification, eliminated what had been one of the most burdensome manual steps in the clearance and settlement process, notification by the seller of the actual MBS pools to be delivered. Before EPN, firms relied on phone and fax to exchange this information. With the introduction of the EPN service, MBSCC began to offer membership in two categories: Clearing Services (comparison, netting, and settlement) and EPN-only. Participants can join either or both.

A principal benefit of the EPN system is that successful delivery of pool information does not require the recipient's availability. EPN users are able to send and effect timely delivery of pool information even if the recipient is not logged onto EPN. In the phone and fax environment, billions of dollars in fails were incurred because of the recipient's inaccessibility, phone and fax problems, and staffing limitations. Successful delivery of a message is denoted by the EPN time-stamp and is independent of the recipient's retrieval of the message.

In 1998, a significant development occurred when Standard & Poor's CUSIPs began to be used as the identifier for TBA trades, incorporating key information such as product, agency, coupon, maturity, and settlement month. Working with the MBSCC, the CUSIP® Service Bureau developed a specialized numbering scheme for TBA MBS. TBA CUSIPs incorporate, within the number itself, a security's mortgage type (Ginnie Mae, Fannie Mae, Freddie Mac), coupon, maturity, and settlement month.

In 2000, MBSCC moved to the same physical location as the Government Securities Clearing Corporation (GSCC), and the two companies began to functionally integrate. In May 2001, as a part of that integration, the first joint GSCC-MBSCC Board meeting was held. At that meeting, all GSCC officers were made officers of MBSCC, and vice versa. Much of 2001 was spent consolidating and combining staff, operations, technology and expertise. In January 2002, MBSCC and GSCC became operating subsidiaries of DTCC.

In 2002, MBSCC implemented a Real Time Trade Matching (RTTM) service. (GSCC had

introduced RTTM for Government securities trades in 2000.) RTTM, which employs standardized ISO SWIFT-based input and output message formats, replaced batch trade comparison with interactive trade comparison, thereby reducing from hours to minutes the time necessary to compare a trade, and significantly reducing intra-day market and operational risk. RTTM also eliminated the need for participants to verbally confirm trades prior to submission to the clearing corporation, and provides an immediate confirmation for trade executions that is legal and binding.

At year-end 2002, MBSCC merged into GSCC, which was renamed the "Fixed Income Clearing Corporation" or FICC. FICC has two divisions -- the Government Securities Division (GSD) and the Mortgage-Backed Securities Division.

In June 2003, FICC disseminated a White Paper outlining its plan to bring MBS clearance and settlement into a central counterparty (CCP) environment. Under the proposal, as is the case for the GSD, the MBSD would provide a guaranty of settlement at the point of comparison of each trade, regardless of trade type, replacing the variable, bilateral risk that is inherent in a settlement balance order model.

For netted trades, the MBSD would become a CCP for settlement purposes when netting output is provided (typically in the evening of trade date). In other words, after the Division establishes a net settlement position in a CUSIP, it would interpose itself as a central counterparty between the two submitting participants for receipt and redelivery of securities, as well as "novate" those net positions at that time. For TFT trades, because they are not netted, the guaranty of settlement and establishment of the MBSD as the new counterparty both would occur at the point of comparison.

Netting and novation would occur on the day of comparison of eligible trades. On the scheduled settlement day, the net TBA positions would be converted into final net receive and deliver obligations versus the Division. Sellers would then use the EPN system to allocate MBS pools to the Division (as CCP) in satisfaction of their

obligations. The Division would, in turn, allocate the pools to the buyers, and pools delivered to FICC in satisfaction of members' deliver obligations will immediately be turned around to members due to receive pools. Once allocation is completed for net TBA positions and TFTs, the original TBA trades would be effectively replaced by the corresponding pool obligations.

To maximize netting benefits realized by members and to reduce the number of receives and delivers required to settle the pools, the MBSD also proposes to implement a new pool netting service that aggregates and offsets a member's buy and sell pool obligations and specified pool trades within the same CUSIP. At the close of business on final netting day, FICC will generate output providing members with their net positions and TFT trades requiring allocation in conformity with TBMA 48-hour notification requirement. (FICC will establish an account within EPN to accept allocations from sellers and immediately turn them around to buyers.) Pool allocations would effectively replace the netted TBA trades and TFT activity.

On delivery date, pool deliveries remaining after the net would occur directly between the Division and its members (through their clearing banks). FICC would provide members with their final net receive and deliver obligations. These obligations would become fixed at this point in time, and the final contract amount will be assigned.

This new CCP model would provide a number of operational efficiencies and streamline or eliminate multiple manually intensive processes. These include the elimination of the Notification of Settlement (NOS) process and a reduction in the number of fail problems, such as round robins, as a result of the ability to net existing trades with new trades. Also, for joint MBSD and GSD members, a single funds-only obligation would be established encompassing mark-to-market obligations and other cash flows stemming from their MBS and Government securities businesses. Thus, the CCP model would promote a seamless, straight-through settlement process in the MBS marketplace.

The overall safety and soundness of the MBS settlement process would be enhanced as a result

of the combination of the risk management processes of the Government and MBS Divisions into a unified, comprehensive structure. In particular, a member's Government and MBS securities activity, which are natural hedges for one another, will be margined as a single integrated portfolio, allowing for appropriate offsets across these products.

From a trading perspective, with FICC as the central counterparty to all TBA trades, blind brokering, whereby the broker remains in the middle of the trade and buy and sell counterparties are never revealed, or "given up," to one another, can now be introduced. For these trades, the current practice of "giving up" trade counterparties would be eliminated, anonymity would be ensured throughout the life of the trade, and trading liquidity would be enhanced.

From a financial perspective, a new daily cash mark-to-market with a pass-through of funds will accelerate the flows of realized profit and loss associated with a participant's entire portfolio. Also, because settlement will be conducted through the clearing corporation, margin collateral will be released on delivery date, thus enhancing participants' capital positions. Moreover, as a CCP, FICC's multilateral netting by novation process will help participants satisfy the single

counterparty criteria for balance sheet offset under Financial Accounting Standards Board Interpretation No. 41 and, thus, maximize the extent to which members can eliminate repurchase agreements from their balance sheet. The key factor in this regard is that FICC, through netting by novation, becomes the common counterparty for a member's repo transactions done with any other netting member.

The growth of clearing corporation services to the MBS marketplace over the past 25 years has been remarkable. The clearing corporation has evolved from being a wholly-owned subsidiary of the MSE providing niche services designed to move the clearing process out of a paper-based environment into an integrated entity that provides a wide array of crucial services. The operational, risk management, financial, and trading advantages that the MBS Division offers are now vital to the MBS marketplace, and will become even more so with the advent of CCP services in the coming years.

Mr. Ingber is Managing Director and General Counsel of the Fixed Income Clearing Corporation, a subsidiary of The Depository Trust & Clearing Corporation.

*The author would like to thank the following persons for their assistance in preparing this article: Dave Buckmaster, Bill Corrigan, Tiffany Francis, Ken Garbade, Marc Golin, Steve Greenberg, Steve Letzler, Richard Nesson, Dennis Paganucci, George Parasole, Nikki Poulos, Bart Schiavo, Howard Shallcross, and Ed Watts. This article does not purport to be comprehensive or to provide legal advice, and should not be treated as such. The views expressed in this article are those of the author, and do not necessarily reflect the views of DTCC, any of its subsidiaries, or anyone else.

1) See Staff Report: Enhancing Disclosure in the Mortgage-Backed Securities Markets (Securities and Exchange Commission, Department of the Treasury, Office of Federal Housing Enterprise Oversight 2003); see also www.fanniemae.com.

2) MBSCC had a facilities management arrangement with the Midwest Clearing Corporation ("MCC"), a registered clearing agency and subsidiary of MSE. Under that arrangement, MCC provided to MBSCC computer hardware and software, operating premises, personnel, and services such as maintenance of participant accounts, operation of its settlement systems, and preparation of reports.

3) There were 32 MBSCC members by the end of 1980, with 18 having been added that year. The MBSD now has 75 legal entities as direct members, which many of these members acting as prime brokers for other market participants.

4) "Once implemented, we at Merrill Lynch reduced about 50% of the staff involved in fails and P&I claims processing." E-mail to the author from Howard Shallcross, former Chairman of MBSCC (May 30, 2003).

5) See SEC Order Granting MBSCC Temporary Registration as a Clearing Agency, Release No. 34-24046 (February 2, 1987), SEC Release No. 34-24046 (February 2, 1987).

6) There was an initial attempt by Chemical Bank in the early 1980s to launch a private depository. The software application (called "Pass-Through") that was developed for this purpose was eventually made available to MBSCC as part of its facilities management arrangement with Chemical Bank.

7) The Drexel insolvency also was significant in that, after it occurred, MBSCC revised its rules to eliminate the option that it had to "unwind" the net in the event of a member insolvency.

8) For example, in August 2003, the MBSD processed over 136,000 EPN messages, containing information on almost 1.5 million pools with an original face value in excess of \$1.4 trillion.

9) FICC intends to implement a two-tiered membership process, with only the first tier of members receiving the full settlement guarantee.

10) This would require the development of an automated facility that would use an algorithm to most efficiently link sell and buy allocations together to promote timely notification and settlement.

11) Because pools currently settle independent of the clearing corporation, the MBS Division is not aware of the status of a pool settlement until both contra-sides notify it that settlement has occurred. This is done via the Notification of Settlement (NOS) process at the close of business on settlement date plus one (at the earliest). Although most participants have developed an automated solution for communicating NOS, it is a data-intensive process. Because all securities settlements will occur through FICC, FICC will be immediately aware of the settlement of the trade, thus eliminating the need for the current NOS process. This will allow for the timely release of collateral associated with settled trades on their delivery date, optimizing members' capital usage. It will further alleviate the members' operational and accounting burden of reconciling unmatched NOS transactions.