Report of

THE BACHMANN TASK FORCE

on

CLEARANCE AND SETTLEMENT REFORM IN U.S. SECURITIES MARKETS

Submitted to
The Chairman of the U.S. Securities and Exchange Commission

May 1992

BACHMANN TASK FORCE

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May 26, 1992

Hon. Richard C. Breeden
Chairman
United States Securities And Exchange Commission
Washington, D.C.

Dear Mr. Chairman,

In response to your request for a plan to implement improvements to the U.S. Clearance and Settlement system aimed at increasing safety and soundness, I am pleased to submit, on behalf of the Task Force, the accompanying report. It represents hands-on hard work by a small group of dedicated industry leaders, experts in their fields, who were able to arrive at the consensus this report reflects. The rare unanimity this diverse group reached in its conclusions underscores, in my view, the importance of the report findings and the need for immediate discussion followed by prompt implementation.

Five factors, both individually and in combination, have changed the risk profile faced by our industry. They are:

1. The ever-increasing volume of transactions,
2. The complexity of both products and transactions,
3. The increasingly international nature of transactions resulting from active global markets,
4. The speed with which transactions today take place, and
5. A rapid increase in on and off balance sheet proprietary and contra-party credit.

It would be nice to say that these problems are limited to a few large firms, but one cannot say that. Today's markets are so interdependent that a problem in the institutional markets is simultaneously a problem to retail firms and investors as October of 1987 proved. Because all trends suggest that markets by their

very nature gravitate toward greater speed, size and complexity (in search of competitive advantage), a return to yesterday is impossible. Our industry therefore must prepare for a new reality.

In examining the forces driving change in clearance and settlement, it seems clear that a discussion built around global competitiveness and/or efficiency would be divisive. One person's inefficiency is another's opportunity. Many participants don't care very much about global considerations one way or the other. Consequently, the Task Force limited its efforts to safety and soundness -- issues which impact all market participants. In the process, however, I believe many of the global and efficiency issues were addressed.

In preparing this report, the group spent much time reviewing available data in an effort to quantify risk. Among the more interesting and significant observations which emerged from this process:

1. No single source exists to quantify or monitor aggregate systemic market risk. Numerous organizations including the Federal Reserve Bank of New York, Securities and Exchange Commission, Treasury Department and National Securities Clearing Corporation separately monitor facets of the market, but no one seems to be watching the market as a whole.
2. There are well known industry-wide problems for which solutions seemingly exist, but which, nonetheless, remain unresolved. For example,
   A. Retail securities transactions settle with ownership conveyed on the fifth business day, but good funds are not available until one day later.
   B. The Automated Clearing House (ACH) has a provision which permits rescission on wired funds for up to 60 days after transmission.
   C. Firm deposits at the various clearing houses are counted as good capital. In case of failure, a clearing house can assess members up to 100% of their deposit. A mandatory assessment could throw other members into capital violation.
   D. It is possible for firms and investors to be long a security in one market and short in another, i.e. "hedged". Because of the lack of communications, each market could call for added cash even though the investment has been rendered riskless. The effect would be to take liquidity out of the market

at the exact moment when greater, not lesser, liquidity is needed. The withdrawal of liquidity was the single greatest risk on October 20, 1987.

E. Physical certificates are an anachronism that produces considerable friction in the clearance and settlement system. Today's most conservative investors buy products including CDs, Treasury and U.S. Government Agency Securities, Tax Exempt Bonds, and mutual funds, none of which are available in certificate form. Proof of ownership in non-certificated forms can just as satisfactorily be made available for all securities. Consequently, the need to provide certificates should not be permitted to stand in the way of increasing the safety of the markets.

F. Although verification of transactions by institutions can and should easily be accomplished immediately, present rules do not put a limit on the number of days an institution is allowed. A simple program can make this process interactive to even the smallest institution able to afford a personal computer.

3. The equation TIME = RISK became an inescapable truth as we processed the information. Indeed, wherever we went, market practitioners and regulators in one way or another spoke of decreased processing time as a risk reduction tool. Tools currently are available to significantly reduce transaction processing time. The Task Force's recommendation that these tools and processes be used is hardly revolutionary. Rather, it is part of a much greater continuum by which over the years, as technology permitted, the industry has embarked on steps that increase market safety. Examples would include National Securities Clearing Corporation and The Depository Trust Company.

In preparing this report, the Task Force fortunately was able to draw on the good work of many others. The Federal Reserve Bank of New York, the staff of the Board of Governors of the Federal Reserve System in Washington, the Commission, NSCC, DTC and the New York Clearing House, all made information available. The G-30 U.S. Working Committee, a number of its sub-committees, and the Securities Industry Association, all provided specific recommendations and supporting materials. Much of our work was simply collating and sequencing the results of their efforts.

The Task Force hopes that this report will be a catalyst to a discussion and prompt implementation of these recommendations. The unity of the group is, as I suggested earlier, significant. Among the key recommendations in the report are:

1. Shorten the settlement cycle. If time equals risk, then less time between a transaction and its completion reduces risk. A shorter settlement cycle will also uncover potential problems sooner, before they mushroom or begin to cascade throughout the industry.
2. Revise the ACH system. If retail trades must settle more quickly, then the wiring of funds to and from customers should be a practical, inexpensive and reliable alternative. Steps are currently being taken to eliminate the rescission aspect from the settlement process.
3. Require an interactive ID process. To permit days to pass before verifying an institutional transaction is as much of an anachronism as the physical certificate. All trades should be confirmed by T+1. Requiring all institutional market participants to immediately verify their transactions would reduce settlement risk materially.
4. Include Tax-Exempt Bonds. Municipal bonds are an important part of the U.S. securities market, and as such should be included in this effort, though any delay in the implementation timetable for the recommended changes should not impact the date for implementation for corporate securities.
5. Settle all transactions among financial intermediaries and between financial intermediaries and their institutional clients in book-entry form only and pay for them in same-day funds.
6. Make all new securities depository eligible. Today all but a very few securities can be eligible for deposit in a depository. Such eligibility should be mandatory.
7. Implement or expand cross-margining. If available data is organized in a more useful way between and among markets and clearing agencies and cross-lien agreements are arranged, clearing agencies should be able to see evidence of hedging and thus be able to set credit requirements accordingly. This enhancement can have a profound effect on the liquidity of key market participants at critical times.
8. Monitor all market activity. Today, data about markets is fragmented though interdependencies increase. Information on the financial markets should be gathered, examined, and made publicly available so all interested parties can better understand risks.

9. Be prepared to streamline the handling of physical certificates. The desire of individual investors or institutions to hold physical certificates need not slow down an accelerated settlement process. Because the trend is toward fewer and fewer investors taking physical delivery of certificates, we have come to the conclusion that it is not necessary to immobilize certificates at this time. However, should certificate processing prove a barrier to implementation of these recommendations, then, as a minimum, investors holding securities should be required to deliver them before entering a sell transaction.

10. Monitor flipping. "Flipping" is the practice of selling into an underwriter's syndicate bid. It is a violation of underwriting agreements and can destabilize a public offering. Flipping presently is being monitored through delivery of physical certificates. The ability to monitor this practice should not be lost in a certificateless environment.

Mr. Chairman, you have provided our industry with a rare and golden opportunity -- namely, to help shape the inevitable change which is now clearly visible on the horizon. Although no decision will be embraced by everyone, I sense in our industry a rising expectation that now is the time to conclude the discussion and to act. We on the Task Force are proud to be a part of this process; we are enthusiastic about our product; and each of us is prepared to do our part in implementing the recommendations contained in the accompanying report. If the recommendations in the report are followed, the project will be complete in mid-1994...July 1 to be exact.

Sincerely,

John W. Bachmann
Chairman

David M. Kelly

Richard G. Ketchum

John F. Lee

Gerard P. Lynch

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FORMATION OF THE TASK FORCE

The Task Force was formed in November 1991 to address the issue of safety and soundness of the clearance and settlement system in the United States securities markets and to determine what changes are necessary to achieve a safer and more efficient system. The Task Force, operating under the premise that there are universal benefits to be gained from increasing the safety and soundness of the clearance and settlement system and reducing systemic weakness in the present structure that could pose a threat to both markets and participants, met biweekly to gather quantitative information and review expert opinion on risk management and to hear presentations on and evaluate current industry projects that would affect clearance and settlement.

The Task Force began its study of the clearance and settlement system by examining the nature of the markets that it serves.

THE CHANGING MARKETS

Incredible strides in technology, automation and data communications over the past 20 years have changed the complexion and structure of the financial markets dramatically. Not only have the markets grown considerably in size, but previously local markets are now tightly linked with other domestic markets as well as with markets abroad. Once self-contained markets have evolved into multi-product, multi-user, global markets, representing enormous underlying market values, that are interrelated through common participants.

To begin, the financial industry has witnessed extraordinary growth in U.S. equities, options and futures markets in the past decade. The equities markets were by far the fastest growing of these markets with share volume

on the New York and American Stock Exchanges, National Association of Securities Dealers Automated Quotations and regional exchanges quadrupling from 21,107 million shares in 1980 to 85,062 million shares in 1989. Futures contracts on U.S. commodities markets tripled during the same time period. Ninety-two million futures contracts on U.S. commodities markets were traded in 1980 while 267 million contracts were traded in 1989 with futures on financial products experiencing the fastest growth. Options activity more than doubled with total options contracts traded on U.S. exchanges increasing from 96.7 million contracts in 1980 to 227 million in 1989. Similar to the futures market, new options products grew at the fastest rate.

Further, a growing number of firms participate in more than one domestic market. An indirect measure of this is available through a review of the common database maintained by the securities and futures industry that showed that as of November 1991, 593 firms had direct clearing or settlement relationships with more than one clearinghouse or depository, not including affiliates. In addition, there were 127 common clearing members between the cash market and The Options Clearing Corporation (OCC) as well as 29 firms who maintain clearing relationships both in the cash and futures markets. Every clearinghouse or depository in the United States has some members who have clearing relationships at other domestic clearinghouses or depositories.

Moreover, the complexity of the markets has changed as well with the continued growth of derivative and synthetic products and bilateral markets such as foreign exchange and swaps. Foreign exchange trading in the United States is estimated to amount to $129 billion per day while in 1990, the outstanding notional value of interest rate and currency rate swaps at any point in time was estimated to be close to $3 trillion.

In addition, the markets have become more global. In 1980, U.S. investors purchased and sold about $17 billion of non-U.S. equities. This number increased twelve-fold to over $219 billion annually by the close of the decade. Moreover, in the United States today there is approximately one dollar of international equity trading for every five dollars of domestic activity. The growth in ADR trading volume in U.S. markets, which increased by 20% from 1990 to 1991, is yet another example of the expansion of international linkages. An example of how global our investment community has become is that on October 28, 1991, TELMEX (Telefonos de Mexico), one of over 100 foreign listings on the New York Stock Exchange (NYSE), was the most actively traded stock that day.

With over 2,000 companies outside the U.S. eligible for listing on the NYSE alone, it is apparent that the international composition of our "domestic" markets can only increase. On the derivative side, the advent of contracts denominated and settled in foreign currency and international over-the-counter derivative markets further illustrates the degree to which globalization has reached into our marketplace.

The globalization and increase in the size and complexity of the markets that has occurred over the past decade presents new concerns to the industry. It is not possible to separate the retail market from the institutional, or the domestic market from the international. A broker/dealer for a retail customer may also be engaged in proprietary foreign exchange trading. The counter-party to an individual investor buying a corporate security may be an institution heavily involved in the swap or derivative markets. In addition, hedges today often involve multiple products in multiple markets. The markets ultimately are all bound together; therefore, no one in the markets, including retail investors, is immune to the risk presented by the complexity, speed and volume of ever-changing markets. The market break in October 1987 provides an example of this potential vulnerability as referenced in the Report of the Presidential Task Force on Market

Mechanisms in which the Presidential Task Force concluded, "Nonetheless, that the market break was intensified by the activities of a few institutions illustrates the vulnerability of a market in which individuals directly own 60 percent of the equities." As pointed out by E. Gerald Corrigan, President, Federal Reserve Bank of New York, in his remarks before the Money Marketeers of New York University in June 1990:

> "As I see it one cannot help but conclude that the risks in the financial system are greater today than they were in the past, if for no other reason than the fact that the speed, value, volume and complexity of financial transactions create elements of interdependencies and linkages on a truly global scale that are different in degree, if not kind, from anything we have seen in the past."

We cannot roll back to a more simplistic past. The U.S. securities industry must prepare for the reality of the increased complexity of products and transactions, increased international dependency resulting from more active global markets and the greater risk that results from the interdependencies of the markets.

BACKGROUND OF CLEARANCE AND SETTLEMENT REFORM

In the period beginning at the close of trading on Tuesday October 13, 1987, and ending at the close of trading on October 19, 1987, the Dow Jones Industrial Average declined by almost one third representing a total loss in the value of outstanding U.S. stocks of approximately one trillion dollars. Stunned by these events, the federal government and the securities industry diligently studied the events and in the resulting reports, Report of the Presidential Task Force on Market Mechanisms and the Interim Report of the Working Group on Financial Markets, proposed plans of action that would increase the safety and soundness of the U.S. financial systems and reduce systemic risk as well as enhance global competitiveness and increase efficiency.

And, on an international level, the Group of Thirty, concerned with the international financial system, initiated a project that resulted in nine recommendations to improve the state of risk, efficiency and cost in the world's clearance and settlement systems.

In 1992, four years after these reports were released, the agenda for change in the clearance and settlement system remains largely unrealized. The goals of the Report of the Presidential Task Force on Market Mechanisms, the Interim Report of the Working Group on Financial Markets and the Group of Thirty recommendations came to mean different things to different participants in the industry with some seeing them as an opportunity for substantial benefit at a small cost while others believed their implementation would require much sacrifice with little gain.

The Task Force believes that the industry has not totally focused on the critical point that systemic weakness in the clearance and settlement process leaves the securities industry vulnerable not only to risk from within the U.S. securities markets but to risk from derivative and unregulated international dealer markets as well. In this modern trading environment, the Task Force believes that the exposures associated with the time period between execution and settlement should not be ignored. The Task Force believes the profits made through the inefficiencies of the present system do not offset the potential costs should the industry experience a major failure in the clearance and settlement system.

While focusing primarily on risk reduction in the clearance and settlement process, the Task Force recognizes that improved clearance and settlement procedures may also permit many firms to identify opportunities for increased global competitiveness or enhanced efficiency in domestic operations. The Task Force concluded that the opportunities

in the areas of global competitiveness and efficiency are important by-products of adopting changes in the clearance and settlement system to reduce risk.

FINDINGS OF THE TASK FORCE

Because the Task Force believes that improving the safety and soundness of the securities market is a critical issue, we reevaluated the safety and soundness of the present clearance and settlement system and a host of risk reduction mechanisms, as well as several mechanisms that would increase the efficiency of the clearance and settlement process, in terms of their potential benefits and practicality of implementation. Based on our evaluation of the system, the Task Force concluded that:

> *"Time equals risk" in the financial markets and the safety and soundness of the U.S. securities market can be substantially improved by shortening the settlement cycle for corporate securities to T+3 by mid 1994. For consistency of settlement in the domestic securities markets, the Task Force also recommends that the municipal securities market adopt a T+3 settlement cycle as well; however, any delay in the implementation timetable because of the unique attributes of the municipal securities market should not impact the implementation date for corporate securities. The system and legal initiatives necessary to accomplish T+3 settlement for corporate and municipal securities should serve as a stepping stone to further reductions in settlement periods over time as technology and systems permit. Critical to the Task Force's recommendation is our conclusion that enhancements to existing affirmation and payment systems are presently being implemented which will permit a shorter settlement cycle without imposing undue costs on broker/dealers or institutional and public investors.*

The Task Force believes that the recommended changes in the clearance and settlement system outlined in detail in the remainder of this report should serve as a platform for further risk reduction efforts in the securities industry. Implementation of these changes are part of the natural evolution within the securities industry to increase the safety and soundness of the clearance and settlement system. Moreover, we strongly believe that these changes can be implemented by the first quarter of 1994. Ultimately all markets and market participants are potential victims to risk from within the system as well as from outside; therefore, the Task Force believes that recognized risk reduction measures in the clearance and settlement process should be pursued to increase safety and soundness.

DELIBERATIONS OF THE TASK FORCE

Risk

The risk environment for securities firms in the United States and throughout the world is dramatically different than it was ten years ago. Today, firms generate far greater revenue from proprietary trading than in the past. Moreover, the products traded and strategies used are more complex. In this new environment, the securities clearance and settlement system is exposed to several sources of risk including market risk, participant or credit risk and external risk such as a domestic or international event.

While the securities clearance and settlement organizations are designed to deal with risks arising from within the securities market, they are less protected against disruptions from other organized markets or disruptions caused by an outside event. Thus a disruptive external event or failure in one of the other markets could have a domino effect in the financial industry and significantly impact the exposure of participants in the securities market. In other words, any participant in the

securities market may become a victim. Moreover, there is sufficient fragility in the present structure of the world's financial markets to warrant concerns of such a chain reaction as indicated in the testimony of Alan Greenspan, Chairman, Board of Governors of the Federal Reserve System, and E. Gerald Corrigan, President, Federal Reserve Bank of New York, before the Senate Committee on Banking, Housing and Urban Affairs on two separate occasions:

> "The process of unbundling financial risk is a factor boosting the volume of financial transactions and hence increasing strains on clearing and settlement systems...[E]lements of risk can be transferred through interest rate and currency swaps; in these cases, such shifting can lead to hedging needs or to arbitrage opportunities that result in additional transactions in markets for securities and their derivatives and to enlarged clearing and settlement volume, with attendant risks to clearing and settlement systems." Alan Greenspan, testimony before the Subcommittee on Securities of the Senate Committee on Banking, Housing and Urban Affairs, June 14, 1989.

> "What is it about financial institutions and financial markets that creates the systemic risk problem in the first instance?... confidence and linkages...It is also the reason why payments, clearance and settlement systems can so easily be the mechanism through which a localized problem in the financial system can take on systemic elements." E. Gerald Corrigan, Federal Reserve Bank of New York, testimony before the Senate Committee on Banking, Housing and Urban Affairs, May 15, 1991.

The preceding quotes capture the essence of systemic risk in the financial markets. Markets, such as foreign exchange and swaps, dwarf in size more traditional equity

markets. According to the Bank for International Settlements (BIS) report Survey of Foreign Exchange Market Activity released in February 1990, the estimated size of the foreign exchange market in April 1989 in the United States alone averaged, on a net turnover basis, $129 billion per day. Of this, $81 billion was in the spot market, $39.6 billion in the forward market which includes swaps, forwards and futures and $7.8 billion in the foreign exchange options market.

No comparable values for the average daily value of the U.S. swaps market appear to be available. However, the International Swap Dealers Association reported that in 1990, the value of outstanding interest rate and currency rate swaps at any point in time was close to $3 trillion. Of this, outstanding interest rate swaps totaled $2,311 billion while outstanding currency rate swaps accounted for $577 billion. Equally significant are the developing markets for equity swaps and over-the-counter derivatives which are rapidly expanding in size.

Trading in each of these markets occurs and is settled directly among contra-parties. Thus, unlike the organized markets, there is no intermediation through a clearing agency of credit or market risk. None of this is to suggest that firms presently operating in these markets are not operating responsibly; all indicators suggest that they are. Nevertheless, these markets, by their very nature, raise significant questions as to the impact of the failure of a major contra-party.

The concern raised by these markets is further underscored in remarks made before the New York State Bankers Association on January 30, 1992, in which E. Gerald Corrigan warned banks that "...where it is relevant, you had all better take a very, very hard look at off-balance sheet activities, including the payments, clearance and settlement risks associated with many of those activities. The growth and complexity of off-balance sheet activities and the nature of the credit, price and settlement risk

they entail should give us all cause for concern." Many of these same banks provide the payments and credit critical to maintaining liquidity in U.S. securities markets.

Furthermore, major securities firms operate in these financial markets in affiliates that are wholly unregulated or lightly regulated. Therefore, the question that begs an answer is, can a failure -- operational or financial -- in one of these arenas, damage the formal markets and their clearing and settlement systems?

Large financial firms are often actively involved in a number of markets; listed and over-the-counter equities, corporate and municipal debt, government securities, futures and options, mutual funds, foreign exchange and swaps. It is conceivable that if a firm experiences heavy losses in one market, say foreign exchange, its fiscal position could affect its other financial activity. If it becomes a crisis of confidence in the financial community, other firms may be reluctant to complete their obligations to the firm and banks may be reluctant to continue financing the firm, thereby further impacting the firm's ability to continue business and to fund its business. The demise of Drexel Burnham Lambert Incorporated is a case in point. Such a crisis may also impact firms' general willingness to interact normally with others. In 1974, when Bankhaus I.D. Herstatt, K.G.a.A., was taken over by German authorities as a result of heavy losses in foreign exchange trading, Clearing House Interbank Payments System (CHIPS), the New York Clearing House's computerized system for inter-bank payments which is the primary vehicle for settling foreign exchange transactions, was affected because participating banks refused to release funds through the network on behalf of customers until covering funds arrived. This had a domino effect. Other banks failing to receive funds refused to deliver funds until CHIPS finally became gridlocked.

In the Herstatt case, a foreign bank with losses in an unregulated market created a loss of confidence and caused a significant disruption in a major payment system. During the October 1987 market crash, large margin requirements in the options and futures markets temporarily affected market participants' ability to fund their short-term financing needs. If the Herstatt crisis had occurred during a period of high equities market volatility such as October 19, 1987, the strain on the markets, clearing and settlement and payments systems would have been even greater. More or larger insolvencies would not have been unthinkable under such circumstances.

Moreover, the absence of integration of clearance and settlement for derivative and cash market products increases systemic exposure. U.S. equities, futures and options markets and their clearing and settlement systems in the United States are well organized and have established risk reduction systems whereby the organization can monitor participants' exposure, collect margins or clearing funds and act as the counter-party to every trade. They have established methods to reduce and spread risks across their market participants and, thus, are generally protected against disturbances in their markets.

As stated earlier, while these clearing and settlement organizations are designed to deal with risks produced in their markets, they are less protected against disruptions from other organized markets. The following quote from the Report of the Presidential Task Force on Market Mechanisms, January 1988, sums this issue up nicely:

> "With separate clearinghouses for each market segment, no single clearing corporation has an overview of the intermarket positions of market participants. No clearinghouse is able to assess accurately intermarket exposure among its clearing members and among their customers." (page 64)

For example, if a dual equities and futures participant, as a result of losses in one market, is unable to meet its obligations in the other market, both clearing organizations may cease to act for the participant. Though two clearing organizations may informally communicate before and during the liquidation of the participant's position, there are no arrangements in place which would allow the organizations to cooperate more closely.

It is important to note that efforts in this direction have been made and potential agreements continue to be explored. OCC and the Chicago Mercantile Exchange (CME), for example, have a cross-margining agreement in place that benefits dual participants with hedged positions with the respective organizations. In the event of the insolvency of a dual participant, OCC and CME will share any losses resulting from the liquidation of the participant's hedged positions.

Also, OCC and National Securities Clearing Corporation (NSCC) recently signed an agreement that would provide NSCC with funds equal to any margins collected at OCC for options that are exercised and assigned if a dual member becomes insolvent and NSCC incurs a loss as a result of liquidating the member's transactions that resulted from the options being exercised. Other such efforts at developing agreements continue to be explored and have the support of U.S. regulators:

> "To an important degree, more standardization in areas such as clearing and settlement...holds the promise of enhancing efficiency while at the same time strengthening market structures." Alan Greenspan, testimony before the Subcommittee on Securities of the Senate Committee on Banking, Housing and Urban Affairs, June 14, 1989.

None of the efforts under way, however, will help these clearing corporations with the risks posed by "off-exchange" markets. Clearing and settlement entities don't

have access to information about participants' positions and exposures in the non-regulated markets. Without such information, these external risks cannot be factored into the organizations' risk management models. Moreover, even if clearing corporations had access to this kind of information, it is not clear that they could protect themselves against this external risk since they have no control over their participants' activity in those markets.

Further, the external risks posed by a combination of market events and domestic or international events cannot be factored into risk management models. There are any number of plausible events that, if they occurred together, would have a greater impact on the financial industry than the sum of the individual effects of those events. As an example, consider the impact on the financial industry of the following combination of events. First, the Dow Jones Industrial Average reaches 3500 points. This is followed by a series of news events that indicates there is a deepening recession and that Congressional action is likely to trigger a dramatic new inflationary wave. In response, the stock markets worldwide fall 25%, U.S. Treasuries decline 7% and the dollar falls across currencies because of U.S. inflationary concerns. Add to this the default of a major investment bank on its settlement or clearing corporation margin requirements as a result of heavy trading losses. Such a firm would presumably have substantial stock settlement obligations, enormous futures and options margin calls, a multi-billion dollar mortgage-backed book, positions in over-the-counter derivative and swaps markets with market values in the multi-billions, hundreds of thousands (or millions) of customer accounts and a wide variety of short- and medium-term secured and unsecured financings. Given these events, there is a substantial potential for other major firms, already weakened from trading and credit losses from the simultaneous market crashes, to become illiquid in the short term and fail to meet their obligations at the clearinghouse and depository. In such an environment, the willingness of a consortium of banks to provide bridge loans to the clearinghouse would not be certain. Any resulting default by the clearinghouse

would have a significant impact on a wide range of smaller firms as well as a traumatic effect on the public confidence in the securities markets.

There is a temptation for many firms to dismiss the risks discussed above as relevant only to large international firms that have substantial proprietary positions. Yet this dismissal ignores the impact on all participants if a clearing agency becomes even temporarily illiquid. The resulting losses in settlement and resulting massive fails to deliver would leave no firm unscathed. Moreover, the likely plunge in investor confidence in the financial responsibility of financial firms could have lasting effects.

Because the markets are interwoven through common members, securities clearing and settling organizations cannot avoid the domino effect of risk posed by unofficial markets or external events. What can be done, however, is to continue to limit the existing exposure within the self-contained securities clearing systems. As pointed out in the U.S. Congress Office of Technology Assessment's report Electronic Bulls and Bears, September 1990, the strength of the clearing, settlement and payment systems "... must be such that market participants will have enough confidence in the robustness and integrity of the systems to avoid taking actions which could bring them down." By limiting the existing exposure in the self-contained securities systems, the systems will be better able to maintain their role of guarantors in the markets even in the event that the markets and their participants become vulnerable to a failure resulting from events initially outside the national market system.

Risk Within the Securities Clearance and Settlement System

The concept that "time equals risk", or "shorter is safer", appears to be a logical, perhaps intuitive, assumption. As long as a contract, whether for the sale of a security

or the sale of a house, remains to be fulfilled, there is a possibility that one of the parties involved may default. Thus it follows that the longer it takes to complete a transaction, the greater the risk that some intervening event will occur and interfere with the intended outcome. This concept, when applied to the securities clearance and settlement process, would indicate that reducing the time between the execution of a transaction and the settlement of that transaction would reduce the exposure in the system in the event of a failure. More specifically, shortening the settlement cycle from T+5 to T+3, a recommendation originally proposed by the Group of Thirty to harmonize international settlement practices, would presumably reduce exposure in the clearance and settlement system. The Task Force, while believing that shortening the settlement cycle is a step toward international harmonization, examined the issue purely from a risk perspective.

In terms of settlement exposure, the Task Force believed that quantitative data was necessary to verify the assumption that time equals risk and commissioned NSCC to identify potential exposure at the clearinghouse in a T+5 environment and estimate the related decrease in loss exposure if the industry moved to a shorter settlement cycle.

NSCC collected market volatility data over a three-year time frame and member position data from selected dates encompassing periods of high and low market volatility. Member position data on eleven large firms, which represent 40% of the dollar value in NSCC's Continuous Net Settlement (CNS) system and 37% of the share volume, was then used to create a composite average large firm. NSCC entered the volatility and position data into a model that produced estimates of expected exposure in the event of a failure of an average large firm.

To measure market risk in the current T+5 settlement period, the market differential of each trade pending in the system on T+1, T+2, T+3 and T+4 was contrasted with

the original contract price. To determine the impact of settlement on T+3, the T+3 and T+4 pending trades were removed from the model. Based on NSCC's risk assessment model, moving from T+5 to T+3 settlement reduced NSCC's CNS market risk component by 58% in the event of the failure of an average large member in a normal market (See Appendix I.).

The Task Force also asked NSCC to quantify the market risk posed by the failure of the same composite average large member during the worst downward market movement observed in the sample dates. In this worst-case scenario, NSCC's risk assessment model estimated that moving to a T+3 settlement period would reduce NSCC's market risk created by that single firm by 55%. While these figures in themselves are significant, it is important to emphasize that the actual worst-case scenario could involve far greater exposures. As noted above, the failure of a major firm may trigger failures in the international dealer markets resulting in temporary illiquidity for a number of major clearing participants (See Appendix I for risk data for a multiple-firm failure scenario.).

The Task Force concluded, based on the quantitative risk data, that reducing the time between trade execution and settlement does in fact reduce risk in the system and that the U.S. securities markets can be made safer by shortening the settlement cycle to T+3.

Shortened Settlement Versus Other Risk Reducing Alternatives

The Task Force believed that to achieve its goal of determining changes that would achieve a safer clearance and settlement system it could not limit its study solely to the risk benefits of shortening the settlement period. Therefore, the Task Force also requested that NSCC, in conjunction with its analysis of the risk exposures in T+5 and T+3 settlement cycles, evaluate the impact of imple-

menting a daily mark-to-market of all guaranteed pending trades in its system in both a T+5 and T+3 settlement cycle.

Implementing a daily mark-to-market would reduce NSCC's market exposure to one day of potential market exposure plus the time it would take to liquidate the positions in the market. While there would be one day of potential market exposure in both a T+5 and T+3 settlement period, the total amount of guaranteed positions that would be subject to market exposure would be roughly halved in a T+3 settlement cycle. NSCC's analysis indicates that by adopting a daily mark-to-market, NSCC's average market exposure to a composite average large member insolvency would decrease by approximately 46% in a T+5 settlement period and 39% in a T+3 settlement period (See Appendix II.).

The Task Force compared the benefits of adopting a T+3 settlement cycle to implementing a daily mark-to-market in a T+5 settlement period. NSCC's average expected exposure in a T+5 settlement period with a daily mark-to-market would be 30% greater than its exposure in a T+3 settlement period without a daily mark-to-market. The data indicates that moving to a T+3 environment reduces NSCC's risk to potential market exposure more than implementing a daily mark-to-market in the current T+5 environment.

A critical feature of the risk reduction benefits of marking-to-market is payment of the mark in the event of an insolvency. NSCC's mark-to-market analysis in both the T+5 and T+3 settlement periods and the subsequent comparison of T+5 settlement with a daily mark-to-market to T+3 settlement both assume that the member paid the mark on the day of the insolvency. It is most likely, however, that in the case of insolvency, the member has not paid the mark. This being the case decreases the risk reduction benefits gained from marking-to-market.

In addition, it is the opinion of the Task Force that a daily mark-to-market would involve all market participants including retail firms and would require constant bookkeeping and a complex payment system to move the money. The impact on firms with a substantial retail customer base would be significant. While the actual risk of simultaneous mass customer defaults would be extremely low, the firms would continue to be marked for each position. This would place retail firms in the impossible position of either continually requiring individual customers to make mark payments or absorbing the marks. The dollar impact on major institutional participants would be enormous. Moreover, implementing a mark-to-market would drain additional liquidity out of the system unless the marks were netted across all markets. The Board of Governors of the Federal Reserve System in its study, Clearance and Settlement in U.S. Securities Markets, March 1992, noted the following about the impact of a daily mark-to-market on liquidity:

> "It thereby reduces the clearing corporation's need for collateral to secure credit exposures. At the same time, however, marking-to-market may increase potential liquidity pressures on both the clearing organization and its participants." (page 15)

Based on the quantitative risk data and expert opinion, the Task Force concluded that implementing a daily mark-to-market is not currently a practical alternative and recommends that the industry shorten the settlement cycle to T+3 to further reduce systemic risk in the clearance and settlement process.

Shortening the settlement cycle is the most effective way to limit the exposure in the clearing system for corporate and municipal securities. Moreover, the Task Force believes that in the longer term, moving to settlement on T+3, which is still two days later than settlement in the derivative and government securities markets, serves

as a platform for future industry discussions of further risk reduction measures such as the harmonization of settlement cycles and daily settlement times.

Obstacles to Shortening the Settlement Cycle

After determining that moving to a T+3 settlement cycle would reduce potential risk exposure in the present securities clearance and settlement system, the Task Force studied the practicality of and obstacles to shortening the settlement cycle. The Task Force concluded that the lack of an electronic payment system for retail transactions and the current affirmation process for institutional trades are the major obstacles in shortening the settlement cycle to T+3 but that these are solvable problems. The Task Force believes that current customer behavior practices should not be an obstacle to shortened settlement provided there is strong leadership from within the industry and educational efforts to address customer and account executive concerns.

Payment Systems

Research commissioned by the U.S. Working Committee of the Group of Thirty Clearance and Settlement Project showed that in the current T+5 settlement cycle, approximately 80% of funds due from retail clients for purchase transactions are available by T+3. In addition, respondents to a survey of the broker and bank community indicated that on average, 21% of retail purchase trades are settled by check delivered through the mail and that only 20% of these trades, as measured in dollar value, arrive on or before T+3. The Task Force believes that these statistics may understate the problem for small firms that rely completely on checks to send and receive customer funds.

The Task Force observed that the ability of firms to immobilize customer monies is often a function of the firms' affiliation with a consolidation account such as a Cash Management Account (CMA). Firms that do not offer a CMA-like option to their customers must rely on the receipt of transmitted funds which still occurs predominantly by check. Depending on the efficiency of the brokerage firm's check processing system and the bank on which the check is drawn, checks may clear or become good funds the same day they are deposited or up to several days later. In addition, the current mail delivery time frames of the U.S. Postal Service would not facilitate a reduction in the settlement cycle. The Task Force believes that there is a growing realization within the industry that the flow of customer funds both to and from the customer should be expedited and concluded that to move to T+3 settlement requires the development and implementation of an electronic payment system as a payment option for firms and retail customers.

The Task Force reviewed the efforts already under way under the auspices of the Securities Industry Association (SIA) to use Automated Clearing House (ACH), a domestic electronic payment system used by over 22,000 banks, thrifts and other depository financial institutions on behalf of corporations and individuals, for securities transactions. The ACH system processes both debit and credit transactions allowing the initiator to collect or disburse funds electronically. In payment transactions, funds flow from an account of the originator to the account of the client. In collection transactions, the funds flow from the transaction recipient's account at the receiving depository institution for credit to the originator's account at its financial institution. Settlement normally takes place through the Federal Reserve. ACH allows for stop orders, notifications of change (change of banks or accounts), reversals and returns connected with an inability to conclude the processing which is most often for insufficient funds.

While the use of ACH as a payment mechanism for retail securities transactions does not require systems changes as long as the customer's and broker's banks participate in ACH, a diverse body of regulations governs the ACH payment system and the retail brokerage community with respect to transaction initiation, settlement, error resolution and exception processing. All depository financial institutions participating in ACH are required to comply with the operating rules of National Automated Clearing House Association (NACHA), local ACH rules and Federal Reserve Regulation E. These rules, which were promulgated by bank regulators and bank associations, do not mesh smoothly with the conventions in place in the securities industry. Therefore, the Task Force concurred with the SIA that the use of ACH in U.S. financial markets requires that these rules be amended to satisfy the requirements of the securities industry.

A joint effort at the SIA and NACHA has studied the rules regarding the use of ACH for securities transactions. For ACH to be used in the securities industry, Regulation E, which was designed to protect retail users of electronic funds transfer systems and permits retail users to rescind payment orders with some exemptions, needs to be amended so that any transaction executed through a registered broker/dealer would be exempt from rescission rights. The SIA has already undertaken steps to effect this change.

In addition to complying with Regulation E, all depository financial institutions are required to comply with the operating rules of NACHA as well as local ACH rules. Current NACHA rules allow rescission rights for unauthorized transactions. The Task Force believes that these customer rescission rights are unacceptable to the brokerage community which has long-standing, workable error resolution procedures although some firms already use ACH for securities transactions in spite of the current recission rights. NACHA has determined that it needs to adopt a new standard entry class code that eliminates these rescission rights before ACH is widely accepted by the securities industry as a payment alternative to checks

(See Appendix III for a copy of NACHA's request for comment on amending NACHA operating rules and guidelines.). Current estimates are that these changes will be approved in 1992 for implementation in 1993.

While the amendment of Regulation E and the adoption of a new standard entry class code are required to make ACH a viable alternative to checks for securities transaction payments, education of the brokerage community and its customers is also necessary before ACH becomes an acceptable alternative. The Task Force believes this to be the greatest challenge because it represents a cultural change to the industry as well as to retail customers and may require broker/dealers to adjust well-established, settled customer relationships. The Task Force believes that the industry, under the guidance of the SIA should plan to initiate an information and education drive to familiarize the retail brokerage community with the advantages to the firm and customer of ACH.

The Task Force believes that mechanisms that reduce the time between the execution of a transaction and the settlement finality of that transaction should be generally encouraged. ACH reduces the time between when the customer agrees to pay and the finality of that payment. Moreover, the Task Force believes that ACH, with proper revisions and with the support of a major industry educational effort, can provide an alternative payment mechanism to enable T+3 settlement. Therefore, the Task Force recommends that ACH be adopted by the industry as a standard payment practice option.

Affirmation of Institutional Trades

The Task Force also concluded that additional steps are required to provide more efficient mechanisms to permit institutional trades to settle in three days. In particular, the current affirmation process in the Institutional Delivery (ID) system cannot accommodate a T+3

settlement cycle. Brokers notify the depository of trades made by an investment manager on behalf of an institutional client. The investment manager and the client's custodian banks are notified of the trade and asked to affirm that the information is correct. In the current batch processing environment, participants receive the reports on T+1 with the goal of receiving affirmation on T+2. To move to T+3 requires that the affirmation process be completed on T+1. This can be accomplished through an interactive system whereby information is processed on receipt with reports distributed on request.

The Depository Trust Company (DTC) has proposed an interactive ID system structured to accommodate the current T+5 settlement environment. The proposed system offers an advice of correction feature, which eliminates instances of telephone notification and the need for broker/dealers to cancel and correct the confirmation, and provides systemic notification and automated affirmation of trades. The proposed system also has a trade authorization feature that permits the authorization of both affirmed and unaffirmed trades from Trade Date to 11:30 a.m. on T+5 and allows authorization after T+5. As noted above, DTC's proposed interactive system would process data upon receipt and distribute reports on request thereby allowing participants to be as interactive as they choose. An interactive system eliminates specific time frames for trade input, confirmation, affirmation and authorization and allows the sequence of confirmation, affirmation and authorization to vary. If ID users agree with the proposal, DTC anticipates that the interactive system will be available by early 1994 on a voluntary participation basis in either a batch or interactive environment.

Timely affirmation of institutional trades on T+1 is required to support a T+3 settlement cycle. The Task Force believes the implementation of an interactive ID system, which allows for completion of the affirmation process on T+1, will permit shortening the settlement cycle to T+3. However, the Task Force believes that if the interactive process alone proves to be insufficient to accommodate

settlement on T+3, dual input by brokers and investment managers could be mandated by the SEC and self-regulatory organizations at a later date.

The Task Force views the implementation of an interactive ID system, which is critical to moving to a T+3 settlement cycle, as a step in reducing risk in the clearance and settlement system.

Summary

The Task Force believes that all the obstacles to shortening the settlement described above are solvable by modifying systems, changing established settlement practices and educating retail and institutional investors. Moreover, we believe that the necessary rulemaking and system changes can occur by the first quarter of 1994.

Further Opportunities to Enhance the Clearance and Settlement Process

The Task Force, in its evaluation of shortening the settlement cycle to improve the safety and soundness of the securities markets, identified two additional issues -- reducing the use of physical certificates and adopting dual input for institutional trades -- that it believes provide further opportunities for the securities industry to enhance the clearance and settlement process. While the Task Force acknowledges that reducing the use of physical certificates and dual input of institutional trades are not prerequisites to move to T+3 settlement, the Task Force believes the industry and the SEC should encourage efforts in these areas.

Reduction in the Use of Physical Certificates

The industry has encouraged the strong and continuing trend over the last decade to settle corporate and municipal securities in book-entry form in a depository environment. As of 1990, DTC alone had immobilized 63% of the total market value outstanding for equities while the number of registered certificates provided to investors and participants through DTC dropped from 16 million certificates annually in 1980 to 6 million certificates in 1990.

The Task Force believes that the physical movement of securities certificates to transfer ownership is inefficient and that immobilization should be the preferred route for U.S. corporate and municipal securities markets. The Task Force further believes that the key to automating clearance and settlement is to eliminate the delivery of physical certificates.

However, the Task Force does not propose eliminating physical certificates for those retail investors who choose to maintain their record of ownership in that form. Brokerage firms should continue to have the option of imposing fees for physical certificates and time delays they believe are warranted. While investors should continue to have the right to hold physical certificates, that right should not come at the expense of increasing the safety of the markets. Therefore, the Task Force strongly encourages the SEC to explore the possibility of requiring retail investors to return their certificates to the system before trading can occur.

Requiring that certificates be in the system before trading occurs does not eliminate certificates; however, it does eliminate the need for broker/dealers to borrow stock to meet street-side delivery requirements where customers have not delivered their securities. This requirement should reduce the use of certificates since immobilization will be less expensive as well as more

convenient and safer for customers in terms of reducing the number of lost or stolen certificates which, as estimated by the Securities and Exchange Commission (SEC), represented $2.6 billion in certificates in 1990.

The Task Force recognizes that the use of physical certificates has a long-standing history in the U.S. securities markets and that requiring retail investors to return their certificates to the system before they can be sold represents a cultural change. The Task Force believes, as with adopting an electronic payment option, that an information and education drive to inform retail investors of changes in well-established retail practices is necessary to ensure a smooth implementation of such a requirement.

Dual Input of Institutional Trades

The Task Force believes that the implementation of an interactive ID system not only permits the affirmation of institutional trades on T+1, as required to shorten the settlement cycle, but also provides the opportunity to enhance the institutional settlement process by permitting dual input of trade information by brokers and investment managers. Dual input of trade information increases the certainty of the trade confirmation process between the broker and investment manager and as a result brings greater surety to the institutional settlement process. Because of the greater certainty provided by dual input, the Task Force strongly recommends that the industry and appropriate regulatory agencies work toward adopting dual input for institutional trades.

The Task Force has reviewed DTC's proposal for an interactive ID system and believes, based on consultation with experts familiar with the proposed system, that the system can be modified to accommodate dual input.

PROJECTS IN THE INDUSTRY

The Task Force also reviewed a number of projects in the industry that would impact the clearance and settlement process. The Task Force strongly believes that these projects, which would further reduce risk and harmonize markets, should be encouraged.

Book-Entry Settlement

The U.S. Working Committee of the Group of Thirty Clearance and Settlement Project has recommended that settlement among financial intermediaries and between financial intermediaries and their institutional clients occur in a book-entry environment and has distributed a series of proposed rule changes that would enable the implementation of this recommendation to the appropriate organizations for review and comment. The Task Force strongly supports this recommendation.

The Task Force believes the need to implement this recommendation in the United States was made clear by the demise of Drexel Burnham Lambert Incorporated. During the workout, physical deliveries could only be made on a cash basis and were often completed on an ex-clearing basis. Those items that could be settled on a book-entry basis were largely unaffected.

The Task Force believes that the street-side book-entry settlement recommendation enjoys widespread support in the industry since it reduces risk and cost and will improve the efficiency of the street-side settlement process. Book-entry settlement is a productive change for the industry that improves the safety and soundness of the system at little or no cost to the industry. The Task Force believes that appropriate self-regulatory organizations should review the proposed rule changes and implement the recommendation as soon as practical.

Depository Eligibility for New Issues

The U.S. Working Committee of the Group of Thirty Clearance and Settlement Project has also recommended that all new corporate or municipal securities coming to market be eligible for depository processing. The Task Force supports the implementation of this recommendation. DTC reports that in the first five months of 1991, only 29 of the 11,941 new issues submitted to the Underwriting Department failed to meet DTC's eligibility criteria. Of the 29 issues, 8 were uniquely denominated bonds having a partial call feature which were rejected because DTC does not currently have a procedure for allocating called securities for such issues. The Underwriting Department at DTC believes that the remaining issues that were rejected could have been made eligible had the deadlines for bringing the issues to market been less severe.

One obstacle to achieving depository eligibility for new issues is the current use of physical certificates to track potential inappropriate trading of initial public offerings back to the syndicate during the stabilization period. This inappropriate trading, commonly known in the industry as "flipping", occurs during the new issue stabilization period when an investor sells the stock back to the syndicate or to another investor who in turn sells it back to the syndicate at the offering price. Syndicate managers rely on the certificate number to identify which member of the syndicate sold the issue to the investor who "flipped" it back to the syndicate so that they can recoup a portion of the seller's concession paid to that syndicate member.

While quantitative information on how often new issues are flipped, or traded to the syndicate at the offering price, is not readily available since initial public offerings are not always tracked particularly in a rising market, lead managers, in certain situations, may have chosen to withhold depository eligibility for certain issues because of flipping concerns. During the first

five months of 1991, DTC was requested to defer the eligibility of 35 issues during the underwriting period because of flipping concerns. All of these issues met DTC's eligibility criteria.

The Task Force reviewed the research of the Flipping Focus Group of the U.S. Working Committee of the Group of Thirty Clearance and Settlement Project and its proposal for an automated tracking system that would eliminate the need for physical certificates to track issues during the underwriting period. In the proposed sub-account tracking system, DTC would establish an NSCC omnibus account for each initial public offering and an initial public offering account for each syndicate participant that collectively balances to NSCC's omnibus account. In turn, NSCC would have a sub-account tracking system to which the lead manager would provide detailed information about the initial distribution while participants in the syndicate would provide information about redistribution of the issue. Any change in a syndicate participant's position in its DTC account would be reported to NSCC's sub-account tracking system. NSCC would then notify the lead manager and syndicate participant that a possible flip occurred. Participation in new procedures to track potential flipping would be part of the "Agreement Among Underwriters" and tracking information from DTC and NSCC would be available to the lead manager upon request.

Because the use of physical certificates during the initial public offering stands in the way of achieving depository eligibility of new issues, the Task Force strongly supports the development and implementation of a solution to the flipping problem. The Task Force believes that the flipping issue cannot be a stumbling block to depository eligibility and book-entry processing and recommends that all participants in the corporate securities clearance and settlement process give serious consideration to the flipping proposal when it is released for comment.

Same-Day Funds Payment

In addition to book-entry settlement and depository eligibility of new issues, the U.S. Working Committee has also recommended that payments among financial intermediaries and between financial intermediaries and their institutional clients be made in same-day funds. NSCC and DTC, in conjunction with the Federal Reserve Bank of New York and the SEC, are currently developing a model for a same-day funds payment system. The Task Force reviewed presentations by NSCC and DTC on the status of their design which will be released for public comment shortly.

The proposed same-day funds system is a closed, collateralized system to ensure adequate liquidity. The proposed system would not allow withdrawal of securities or the free pledge or free delivery of securities. Participants would only be able to re-deliver securities against payment. DTC has completed simulations to ensure that the proposed system can operate in a high-volume environment without gridlock as increased numbers of transactions pass through the risk management controls.

The Task Force believes that same-day funds represents a safer payment methodology that eliminates the overnight credit risk in the current next-day funds environment. The Task Force recommends that the industry support the implementation of a same-day funds payment system as one step toward harmonizing the payment process across all U.S. clearance and settlement systems and improving the efficiency of the settlement process.

Cross-Margining

OCC has developed several cross-margining programs, as referenced earlier, whereby options and futures clearinghouses share position information on common

clearing members and calculate the margin requirement based on the combined positions to avoid over-collateralization of the risk of intermarket hedged positions at the clearinghouse level. OCC's cross-margining programs reduce clearing system risk by substituting correlated positions for cash or cash equivalent margins and provide financing relief and settlement harmonization. The Task Force reviewed OCC's presentation on its current cross-margining arrangements and believes that OCC and relevant futures exchanges should be encouraged to continue to expand their programs.

Coordinated Payments

The U.S. Working Committee of the Group of Thirty Clearance and Settlement Project formed a Coordinated Payments Focus Group to explore coordinating payments within securities markets with the eventual possibility of netting payments across all domestic markets. The Focus Group is in the process of defining the requirements and attributes of a netting scheme. The Task Force believes that the industry should encourage the development of a scheme that would net settlement payments, at a minimum, within the U.S. securities markets.

The Task Force believes that the industry and appropriate regulatory organizations should encourage and actively support these ongoing industry efforts.

TASK FORCE RECOMMENDATIONS AND TIME FRAMES FOR IMPLEMENTATION

The Task Force believes that it has accomplished its goal of evaluating systemic risk in the current securities clearance and settlement system and determining changes that are needed to achieve safer and more efficient markets. After reviewing quantitative data and hearing expert

opinion on risk in the securities clearance and settlement system, the Task Force proposes the following recommendation and time frame for implementation:

- The current settlement period should be shortened to T+3 in the interest of reducing settlement exposure and increasing the safety and soundness of the securities clearance and settlement system. The Task Force believes the retail and institutional issues involved can be resolved by early 1994 allowing implementation of T+3 settlement for securities by mid 1994.

Risk in the securities clearance and settlement system has been studied and discussed by other industry participants and organizations over the past four years. The Task Force strongly believes that the industry knows what needs to be done to reduce systemic risk and understands the universal benefit to be gained from improving the safety and soundness of the securities clearance and settlement system. The Task Force believes that it is time to make the proposed recommendations for reducing risk a reality.

The Task Force recognizes, however, that there are limits to what the private sector can accomplish in terms of timing and uniformity of results. It is clear that regulatory support for these private-sector efforts is critical. The Task Force believes that the private sector working with the regulatory organizations can effectively implement these recommendations within the proposed time frames and recommends that these cooperative efforts begin as soon as possible for time equals risk - the longer the industry waits to implement these changes, the greater the potential exposure in the securities clearance and settlement system.

ACKNOWLEDGEMENTS

The Task Force would like to extend its thanks to the Federal Reserve Bank of New York, the staff of the Board of Governors of the Federal Reserve System, National Securities Clearing Corporation, The Depository Trust Company, the U.S. Working Committee of the Group of Thirty Clearance & Settlement Project and its associated Focus Groups, The Options Clearing Corporation, Municipal Securities Rulemaking Board, National Automated Clearing House Association and the Securities Industry Association for their time and contributions to the Task Force.

APPENDIX I
QUANTIFYING THE RISK REDUCTION BENEFIT OF FASTER SETTLEMENT

The Task Force, in an attempt to statistically test the concepts discussed in relation to "Time = Risk", requested that National Securities Clearing Corporation (NSCC) analyze the impact of a shortened settlement cycle within the framework of its own Risk Assessment Program. All SEC-registered clearing agencies are required to perform periodic risk assessments and accordingly it was within this framework that the NSCC analysis was done for the Task Force.

In performing the analysis, market volatility data over a three-year time frame was collected and position data from eleven large firms was accumulated for selected dates encompassing periods of both high and low market volatility. This latter data on the eleven firms was then used to create a composite "average large firm." The volatility and position data was then entered into a model which produced estimates of expected exposure in the event of a failure of an average large firm, the largest observed potential exposure and a worst-case scenario (i.e., the worst market movement in the sample days and the largest CNS position on the days observed. The worst case is thus an artificial construct that did not actually occur.).

In measuring market risk on transactions pending prior to normal T+5 settlement (i.e., T+1, T+2, T+3 and T+4), the market differential of each of the pending trades was contrasted with the original contract price. To determine the impact of an earlier T+3 settlement, the T+3 and T+4 pending trades were removed from the model (i.e., the positions and the market movement factor was eliminated).

The results of this analysis reported to the Task Force were as follows: Based upon NSCC's current risk assessment program, a move from T+5 settlement to T+3 for the composite average large member reduced the CNS market risk component as follows:

Chart 1

	CNS Market Risk Exposure Component	Reduction in Risk
T+5	$11.2 million	
T+3	$ 4.7 million	$ 6.5 million or 58%

And in the worst-case scenario, the results were:

Chart 2

	CNS Market Risk Exposure Component	Reduction in Risk
T+5	$381.5 million	
T+3	$173.5 million	$208 million or 55%

While most clearing agencies base risk assessment programs upon the insolvency of only one large member, the magnitude system wide of the reduction in risk by moving to the earlier T+3 settlement can be better appreciated by viewing the combined risk reduction if all eleven firms used in the composite average large member became temporarily insolvent. The eleven firms, as reported by NSCC, represented 40% of the dollar value and

37% of the share volume of NSCC's net CNS volume. The results for the expected market loss and worst-case market loss in the event of the simultaneous failure of eleven average large firms are shown in Charts 3 and 4, respectively.

Chart 3

	CNS Market Risk Exposure Component for 11 large firm insolvencies	Reduction in Risk
T+5	$123 million	
T+3	$ 51 million	$ 72 million or 59%

And in the worst case scenario:

Chart 4

	CNS Market Risk Exposure Component for 11 large firm insolvencies	Reduction in Risk
T+5	$ 4.2 billion	
T+3	$ 1.9 billion	$ 2.3 billion or 55%

At the request of the Task Force, a similar analysis of the movement to a T+1 settlement was prepared even though the Task Force, recognizing that such a move at the present may in actuality create other risks, is not recommending movement at this time to the earlier T+1 time frame for settlement. The following charts indicate that while additional benefits could be gained, the greatest impact is from T+5 to T+3 rather than T+3 to T+1. Chart 5 indicates average expected exposure in a T+1 settlement environment if an average large member became insolvent and Chart 6 details worst-case exposure if that member were to fail.

Chart 5

	CNS Market Risk Exposure	% Change
T+5	$11.2 million	
T+3	$ 4.7 million	58%
T+1	$2.5 million	47%

Chart 6

	CNS Market Risk Exposure	% Change
T+5	$381.5 million	
T+3	$173.5 million	55%
T+1	$103.2 million	40%

APPENDIX II
EXAMINING "MARK-TO-MARKET" AS AN ALTERNATIVE

To analyze the comparative benefits of T+5 with a mark-to-market and T+3 settlement without a mark, the Task Force asked NSCC to expand the results of its previous study. It was reported to the Task Force that even if a daily mark-to-market were instituted for pending trades and settlement remained at T+5, and assuming the members paid their marks on the day of insolvency (more times than not this proves not to be the case), that the net reduction in risk remains significantly less than a movement to a T+3 settlement. The reason for this is that while the number of days of potential market exposure would be the same, i.e., one day, the total amount of guaranteed positions in a T+3 settlement environment would be almost half that in a T+5 environment. Chart 7 depicts the results of the NSCC analysis:

Chart 7

	T+5 Without MTM	T+5 With MTM	T+3 Without MTM
Average Large Firm's Expected Loss	$11.2 million	$6.1 million	$4.7 million
Average Large Firm's Worst Case Loss	$381.5 million	$220.6 million	$173.5 million
Eleven Large Firms' Expected Loss	$123 million	$67.1 million	$51 million
Eleven Large Firms' Worst Case Loss	$4.2 billion	$2.4 billion	$1.9 billion

While the above chart indicates the system risk reduction from a clearing agency's perspective, it does not indicate the costs to clearing agency participants and other affected parties of a mark-to-market alternative.

APPENDIX III

NATIONAL AUTOMATED CLEARING HOUSE ASSOCIATION

REQUEST FOR COMMENT
on Proposed Amendment to the
NACHA Operating Rules & Guidelines

New Standard Entry Class Code for Retail Securities and Commodities Transactions

The purpose of this request for comment is to determine the impact to Originating Depository Financial Institutions (ODFIs) and Receiving Depository Financial Institutions (RDFIs) of a proposed ACH Rule change for the addition of a new Standard Entry Class Code for the purchase of retail securities and commodities by individuals.

NACHA is seeking comments from all interested parties on this issue. These comments will be considered by the NACHA Rules & Operations Committee before making a final recommendation as to the addition of such an amendment to the NACHA Rules. Comments should be submitted to NACHA by Tuesday, March 31, 1992.

SUMMARY:

The NACHA Rules & Operations Committee is currently examining the feasibility of developing a new Standard Entry Class Code for transactions (primarily ACH debits) sent via the ACH network specifically for the settlement of retail securities and commodities purchases made by individuals. This amendment has been requested by the New York Automated Clearing House (NYACH) and the Securities Industry Association (SIA) in order to differentiate retail securities transactions from other ACH items. By creating this new Standard Entry Class Code, it is anticipated that the ACH network can enter into a largely untapped market found in the retail securities, mutual fund, and commodities business.

It is the desire of the securities industry to use an efficient, cost-effective method of electronic funds transfer to settle retail customer purchases and sales of securities and commodities. One possibility currently available, Fedwire, is too expensive and cumbersome to suit the industry's purpose. The Automated Clearing House Network could provide an attractive, low-cost alternative to other payment systems for this type of transaction. However, according to the securities industry, use of the ACH today is impractical for two specific reasons:

1. **The ability of a retail client to initiate an ACH credit entry (a Customer Initiated Entry [CIE]) for payment of a securities or commodities purchase is limited to the use of home banking products. While this method of payment would be preferred as it provides the retail customer with control over the funds, the use of home banking products is simply not prevalent enough at this time to support widespread use of it for securities and commodities purchases.**

2. **Alternatively, the use of preauthorized ACH debits, as the ACH Rules are currently defined, is also unsuitable due to the nature of the retail securities or commodities trade. The primary objection to using ACH debits is the right provided the consumer and the RDFI to ultimately return the entry to the ODFI within 60 days when the consumer claims the entry is not authorized. It should also be noted that securities and commodities transactions are exempt from Regulation E, and therefore are not subject to error resolution procedures defined therein. Although current NACHA rules do allow for the consumer to waive his right concerning the recrediting of his account for unauthorized entries, the process to obtain such a waiver for each retail securities or commodities transaction would be a cumbersome one.**

Anticipated ACH Volume

The Securities Industry Association (SIA) estimates that the industry currently receives approximately 160 million checks per year, with a total value of $802 billion, resulting in an average check value of $5,012. It estimates a conversion rate of 7% in the first year, 23% in the second year, and so forth until 55% of checks have been converted in year 5. Based on a savings of $.52 per entry (Federal Reserve's $.52 cost spread between checks and ACH payments), use of the ACH would save the industry millions of dollars a year. (See charts on page 4.)

Retail securities and commodities purchases by individuals are unique for several reasons:

(1) the typically high dollar value of these transactions;

(2) the greater potential for dissatisfaction with such a purchase (the value of the stock, etc., goes down after purchase); and

(3) the fact that the Securities Exchange Commission has the authority to dictate rules dealing with this type of transaction.

In an effort to satisfy the needs of the retail securities and commodities industry with regard to the use of the ACH network, the NACHA Rules & Operations Committee has developed a rule amendment that uniquely identifies this type of transaction and provides for specific rights and provisions related to it.

PARAMETERS OF THE PROPOSED RULE

New Standard Entry Class Code

A new Standard Entry Class Code (SCT) has been designated specifically for use in the settlement of retail securities and commodities trades. The primary difference between this and other consumer debits is that a debit for the purchase of retail securities or commodities would not be allowed the extended right of adjustment (60 days from settlement date) currently available to other types of consumer debits (PPD). This new code allows both the ODFI and the RDFI to readily identify this type of transaction in order that they may comply with the requirements associated with it.

ODFI Requirements

1. The ODFI must ensure that use of this Code is limited to its express purpose. This Code may not be utilized for any ACH transaction other than that which is intended to settle a retail securities or commodities trade.

2. All of the warranties that are in place for other types of ACH entries also apply to this new application. Since the ODFI warrants that ACH entries are authorized, the lack of an appropriate authorization would afford the RDFI and the Receiver the right to some manner of reimbursement.

3. All other rules relating to returns, dishonored returns, etc. apply to the ODFI. Therefore, the ODFI must accept the return of an SCT entry for valid reasons; i.e., account closed, insufficient funds, etc., provided the RDFI has fulfilled its traditional requirements for initiating the return (timeliness, correctness of data, etc.).

4. The ODFI may be called upon by the RDFI to accept a return (R31 - Permissible Return Entry) if the RDFI's customer claims that the entry is not authorized. It is the ODFI's responsibility to determine whether or not such an entry was, in fact, authorized, and, if no such authorization exists, the ODFI should agree to accept this type of return. If the ODFI does not agree to accept the return, it may be required to provide a copy of the applicable authorization.

RDFI Requirements

1. The RDFI must ensure that it is able to recognize this type of ACH entry (receiving ACH software should identify this unique Standard Entry Class Code [SCT]).

2. The RDFI must be aware of its rights and responsibilities regarding the return of an SCT entry. The following examples illustrate these rights and responsibilities.

   Example A

   An SCT entry has rejected for insufficient funds, account closed, etc. The RDFI may return the entry within the parameters established for such returns (timeliness, correctness of data, etc.). The RDFI should be aware that the ODFI's right to dishonor an SCT return entry is the same as its right to dishonor other returns (PPD, CCD, etc.).

   Example B

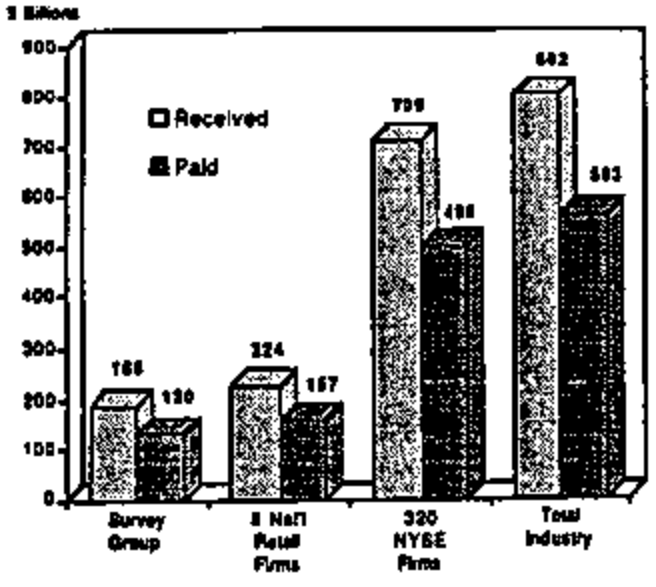
   Upon receipt of a statement, an RDFI's customer has contacted the RDFI and indicated that an ACH debit reflected on the account is unauthorized. The RDFI must research the entry to identify the Standard Entry Class Code. If the Code is not SCT, typical provisions apply (may be returned by using R07 or R10 within 60 days). If the Code is SCT, the RDFI may not automatically return the entry. The RDFI should discuss the nature of the entry (retail securities or commodities trade) with its customer to ensure that the claim of unauthorization is correct. If the consumer continues to claim that the entry is unauthorized, the RDFI may contact the ODFI and request that the ODFI accept a return. If the ODFI agrees to accept the return, the RDFI may credit its customer and return the entry using the Return Reason Code R31 -Permissible Return Entry. If the ODFI does not agree to accept the return, the RDFI may not return the entry; however, the RDFI may request a copy of the authorization.

3. The RDFI must be aware that any SCT entry that is returned (R31 - Permissible Return Entry) without the permission of the ODFI may be dishonored by the ODFI (R70 -Permissible Return Entry Not Accepted).

IMPACT OF THE PROPOSED RULE

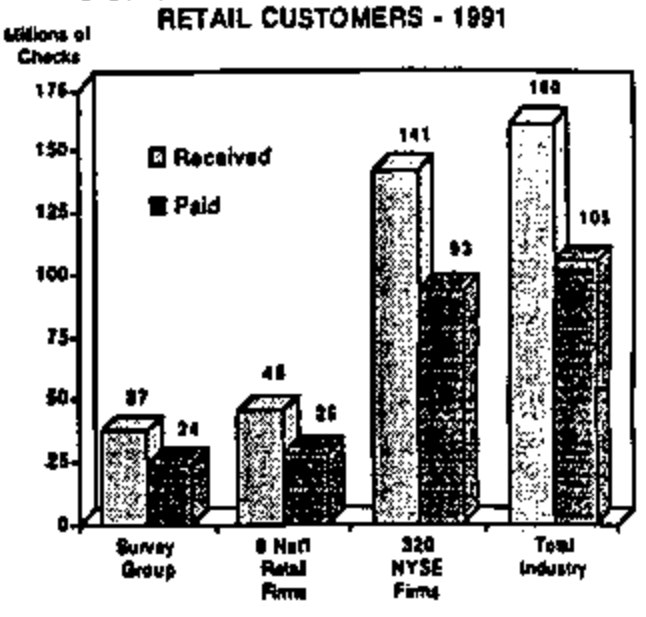
The proposed rule amendment to facilitate use of the ACH for the purchase of securities and commodities by individuals affords certain potential advantages and disadvantages to participants. The primary benefit is the anticipated increase in ACH volume that would be generated by the addition of a new payment application to NACHA Rules. The primary disadvantage is the variation of traditional rights and responsibilities regarding return procedures, which may be confusing to financial institutions.

$ AMOUNT OF CHECKS PAID & RECEIVED FROM RETAIL CUSTOMERS - 1991



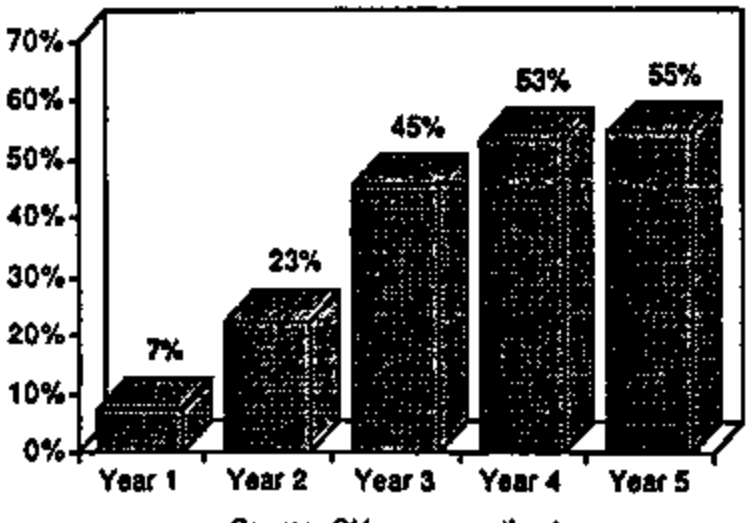
Source: Securities Industry Association

OF CHECKS PAID & RECEIVED FROM RETAIL CUSTOMERS - 1991



Source: Securities Industry Association

ESTIMATED CONVERSION RATE
Retail Paper Checks to ACH



Source: SIA survey estimates

Attached for your information are pages from the NACHA Operating Rules which have been drafted to accommodate this new application.

To assist the Rules & Operations Committee in its review of the above issues, please respond to the attached questions and return to Linda O'Hara, Director of Rules & Operations, NACHA, 607 Herndon Parkway, Suite 200, Herndon, VA 22070. Questions may be directed to the NACHA Rules & Operations staff at (703) 742-9190.

ARTICLE SEVEN -- RECALL, CORRECTING ENTRY, STOP PAYMENT, RECREDIT AND ADJUSTMENT

7.1 Recall by ODFI or Originator -- Subject to section 2.4, 2.5 and subsection 3.3.4, neither an Originator nor an ODFI shall have a right to recall, require the return of or adjustment to, or stop the payment or posting of any entry, or recall any file after such entry or file has been received by the Originating ACH Operator.

7.2 ODFI Request for Return -- An ODFI may, orally or in writing, request an RDFI to return or adjust an erroneous entry originated by such ODFI. For purposes of this section only, an erroneous entry is an entry (i) that is a duplicate of an entry previously issued by the originator or ODFI, (ii) that orders payment to a Receiver not intended to receive payment from the Originator, or (iii) that orders payment in an amount different than the Receiver was entitled to receive from the Originator. An RDFI may, but is not obligated to, comply with such a request. An ODFI making such a request indemnifies an RDFI from and against any and all claims, demands, loss, liability or expense, including attorneys' fees and costs, resulting directly or indirectly from compliance by an RDFI with such request.

7.3 ODFI Agrees To Accept Return -- In the event that (1) the RDFI receives written notice from the Receiver that a debit entry debited to the Receiver's account was, in whole or in part, not authorized by the Receiver, (2) such notice is received by the RDFI after the expiration of the time period within which it is permitted to send a returned entry pursuant to section 5.1 or, if applicable, an adjustment entry pursuant to section 7.8, and (3) the ODFI agrees orally or in writing to accept a late return entry or adjustment entry, as applicable, then the RDFI may deliver or send a permissible return entry in the amount of the debit entry and in compliance with the requirements of section 5.1 and Appendix Six with respect to return entries to its ACH Operator for transmittal to the ODFI and settlement.

7.34 Correcting Entries -- An Originator may initiate an entry for the purpose of correcting an erroneous credit entry previously initiated to a Receiver's account, provided (i) the correcting entry is transmitted to the Receiving ACH Operator in such time as to be delivered or made available to the RDFI by midnight of the fifth banking day next following settlement for the erroneous entry, (ii) the Receiver has authorized the initiation of such correcting entry, and (iii) prior to the time the correcting entry is transmitted to the Originating ACH Operator, the Originator has sent or delivered to the Receiver written notification of such correction and the reason therefore.

7.45 Stop Payment Affecting Consumer Accounts -- A Receiver shall have the right to stop payment of a debit entry initiated or to be initiated by an Originator to a consumer account of the Receiver by notifying the RDFI orally or in writing at any time up to three banking days before the scheduled date of the transfer. The RDFI may require written confirmation of any oral stop-payment order to be made within 14 days of the oral notification if, when the oral notification is made, such requirement is disclosed to the Receiver together with the address to which written confirmation should be sent. If written confirmation has been required by the RDFI, the oral stop-payment order shall cease to be binding 14 days after it has been made. An RDFI may honor a stop- payment

order received from a Receiver within the three-banking-day limit referred to above, and, if it does, it shall have no responsibility or liability to any Originator, ODFI or other person having an interest in the entry for having done so. A Receiver may withdraw a stop payment order by giving written notice to the RDFI. A stop payment order shall remain in effect until the earliest of the following occurs: a lapse of six months from the date of the stop payment order, payment of the debit entry has been stopped, or the Receiver withdraws the stop payment order.

7.56 Stop Payment Affecting Non-Consumer Accounts -- A Receiver may, by order to its RDFI, stop payment on any debit entry initiated or to be initiated to a non-consumer account of the Receiver, but such order must be received at such time and in such manner as to afford the RDFI a reasonable opportunity to act on it prior to any action by the RDFI with respect to such debit entry. Such order is binding upon the RDFI with respect to such debit entry. An order is binding upon the RDFI for fourteen calendar days unless confirmed in writing within that period. A written order is effective for only six months unless renewed in writing.

7.67 Receiver's Right to Recredit

7.67.1 Receiver's Right to Recredit -- Upon written notice being sent or delivered by the Receiver to its RDFI within 15 calendar days following the date such RDFI sends or makes available to such Receiver information pertaining to a debit entry debited to the consumer account of such Receiver in accordance with section 4.5 that such debit entry was, in whole or in part, not authorized by the Receiver, such RDFI shall promptly credit the amount of such debit entry to such Receiver's account.

7.67.2 Waiver of Right to Recredit -- An Originator may request a Receiver to waive its right under subsection 4.4.4 with respect to one or more specific debit entries theretofore initiated by such Originator to the Receiver's account. Such waiver shall be in writing, on a document entitled "WAIVER WITH RESPECT TO PRE-ARRANGED DEBIT" and shall set forth the amount of each entry to which it applies, the approximate date each such entry was initiated by the Originator, and the Originator number designated in each such entry, and shall state in substance that the Receiver waives any right to have a designated RDFI credit the amount of such entry or entries to its account because of any error asserted by the Receiver unless the error was made by the RDFI. Except for waivers complying with the requirements of this subsection, no waiver by a Receiver of its rights under subsection 4.4.4 with respect to any one or more entries theretofore or thereafter initiated shall be effective for any purpose. This subsection shall have no application to SHR entries or MTE entries if the ODFI and the RDFI are parties to an agreement (other than these rules) for the provision of services relating to such entries.

7.67.3 Effect of Execution of Waiver -- Subsections 7.67.1, 7.78.1, and 7.78.2 shall have no application to any entry with respect to which a waiver complying with the requirements set forth in subsection 7.67.2 has been executed by a Receiver and received by such Receiver's RDFI in such time and in such manner as to afford such RDFI a reasonable opportunity to act upon it. If an Originator transmits such a waiver, with a copy thereof, to an RDFI, such RDFI upon written request by such Originator shall acknowledge receipt of such waiver upon such copy and promptly deliver or send such copy to such Originator.

7.67.4 Recredit Right Not Exclusive -- The rights provided the Receiver under this section 7.67 are in addition to any rights provided under Regulation E of the Board of Governors of the Federal Reserve System or other applicable law.

7.78 Adjustment Entries

7.78.1 RDFI's Right to Adjustment -- If the entry identified in the notice provided for in subsection 7.67.1 was received by the RDFI through its ACH Operator, and no error was made by the RDFI in the debiting of such entry to such Receiver's account, and if such notice was sent or delivered within 60 calendar days after such entry was debited to such Receiver's account, the RDFI may deliver or send an adjustment entry in the amount of such entry and in compliance with the requirements of section 5.1 and Appendix 6 with respect to return entries to its ACH Operator for transmittal to the ODFI and settlement. An RDFI may treat a notice as timely when, in its reasonable judgment, such notice appears to have been sent within the time periods prescribed above.

7.78.2 Acceptance of Adjustment Entries by ODFI -- Each ODFI shall accept adjustment entries delivered or made available to it in accordance with these rules.

7.89 Application to MTE, and SHR, and SCT Entries -- Sections 7.67 and 7.78 shall have no application to SHR entries or MTE entries if the ODFI and the RDFI are parties to an agreement (other than these rules) for the provision of services relating to such entry. Sections 7.7 and 7.8 shall have no application to SCT entries.

14.1.31 "SCT Entry" means a debit entry initiated to obtain payment for the sale of securities or commodities regulated by the Securities and Exchange Commission or the Commodities Futures Trading Commission.

14.1.31 "Send" means to deposit in the mail or deliver for transmission by any other usual means of communication with postage or cost of transportation provided for and properly addressed.

14.1.32 "Sending Point" means a person that transmits entries to an ACH Operator on behalf of an ODFI. A Sending Point may be an ODFI acting on its own behalf, or a Participating DFI, a commercial data processing service organization or a person operating a data transmission facility, acting on behalf of one or more ODFIs.

14.1.33 "Settlement Date" means the date an exchange of funds with respect to an entry is reflected on the books of the Federal Reserve Bank(s).

14.1.34 "SHR entry" means a debit entry initiated at an electronic terminal as defined in Regulation E of the Board of Governors of the Federal Reserve System to effect a transfer of funds from a consumer account of the Receiver to pay an obligation incurred in a point-of-sale transaction, or to effect a point-of-sale terminal cash withdrawal, and reversing, adjusting, and other credit entries relating to such debit entries, transfer of funds or obligations. SHR entries are initiated in a shared network where the ODFI and RDFI have an agreement in addition to these rules to process such entries.

14.1.35 "Single Entry Authorization" means an authorization for the initiation of one or more entries other than on a recurring basis, without further authorization from the Receiver.

14.1.36 "Standing Authorization" means an authorization for the initiation of entries on a recurring basis, without further authorization from the Receiver.

14.1.37 "TRC entry" means a debit entry initiated pursuant to the check truncation program of the National Association for Check Safekeeping.

14.1.38 "Truncation" means a process whereby checks are presented to a payor by transmission of an image of the check or information describing the check, rather than the delivery of the check itself, in accordance with the agreement of the payor.

14.1.39 "TRX entry" means an entry initiated pursuant to the check truncation program of the National Association for Check Safekeeping. Multiple checks are placed in the Payment Related Information section of the Special Addenda Record in accordance with the syntax approved by the National Association for Check Safekeeping.

14.1.40 Zero Dollar Entry means an entry which carries a zero amount but does include payment related remittance data. Zero dollar entries are limited to CTP, CTX, and CCD entries that carry remittance data related to the payment. For example, pre-advice entries that carry remittance data that indicates a credit position of the Originator to the Receiver, or entries relating to a period of time during which no funds are owed by the Originator to the Receiver.

Service Class Codes

Record Format Location: Company/Batch Header Record and Company/Batch Control Record

200 ACH Entries Mixed Debits and Credits
220 ACH Credits Only
225 ACH Debits Only
280 ACH Automated Accounting Advices

Standard Entry Class Codes

Record Format Location: Company/Batch Header Record

ADV Automated Accounting Advices
CCD Cash Concentration or Disbursement
CIE Customer Initiated Entries
COR Automated Notifications of Change and Automated Refused Notifications of Change
CTP Corporate Trade Payments
CTX Corporate Trade Exchanges
MTE Machine Transfer Entries
POS Point of Sale Entries
PPD Prearranged Payments and Deposits
RET Automated Returns (limited to use by ACH operator)
SCT Securities/Commodities Transactions
SHR Shared Network Transactions
TRC Truncated Entries
TRX Truncated Entries Exchange

Transaction Codes

Record Format Location: Entry Detail Record

Demand Credit Records (for checking, NOW, and share draft accounts)
20 Reserved
21 Automated Return or Notification of Change for original transaction code 22, 23, or 24
22 Automated Deposit
23 Prenotification of Demand Credit Authorization (non-dollar)
24 Zero dollar with remittance data (for CCD, CTP, and CTX entries only)

Demand Debit Records (for checking, NOW, and share draft accounts)
25 Reserved
26 Automated Return or Notification of Change for original transaction code 27, 28, or 29
27 Automated Payment
28 Prenotification of Demand Debit Authorization (non-dollar)
29 Zero dollar with remittance data (for CCD, CTP, and CTX entries only)

***MTE**: Machine Transfer Entries* - The alphabetic mnemonic to identify credit or debit entries initiated at an electronic terminal, as defined in Regulation E of The Board of Governors of the Federal Reserve System, to effect a transfer of funds to or from a deposit account of an Originator maintained with a RDFI, i.e., ATM cash deposits and withdrawals. NOTE: Credit entries so initiated to the accounts of third parties are CIE entries and are to be formatted as such. A MTE entry must be accompanied by an Entry Detail Addenda Record to provide terminal location, city, state and other required information.

***POS**: Point of Sale Entries* - The alphabetic mnemonic used to identify debit entries initiated at an electronic terminal as defined in Regulation E of The Board of Governors of the Federal Reserve System to pay an obligation incurred in a point-of-sale transaction, or to effect a transfer of funds from a deposit account (i.e., a point-of-sale terminal cash withdrawal), and reversing, adjusting, and other credit entries relating to such debit entries, transfer of funds or obligations. POS entries are originated in a non-shared system in which no agreement other than these Rules exists between the ODFI and the RDFI, and in which transactions are typically initiated by use of a merchant issued plastic card. A POS entry must be accompanied by an Entry Detail Addenda Record to provide terminal location, city, state, and other required information.

***PPD**: Prearranged Payment and Deposit Entries* - The alphabetic mnemonic to identify credit or debit entries (other than MTE or POS entries) initiated by an Originator (usually a business entity) pursuant to a standing or single entry authorization from its customer or employee (usually, in the case of debit entries, to pay an obligation owed by such customer). A PPD entry may be accompanied by one Special Addenda Record that relays information using data segments of the ANSI ASC X12.4 standard or NACHA endorsed banking conventions.

***RET**: Return Entries (generated by ACH Operator)* - The alphabetic mnemonic to identify an automated return generated from an ACH Paper Returned Entry by the ACH Operator when the original Standard Entry Class code is not available. The ACH Operator can be identified by the code in the Company Entry Description Field. An RET entry must be accompanied by an Entry Detail Addenda Record to specify the reason for the return. This SEC code is available to ACH Operators only. An exception occurs when the original return item carries "RET" as the Standard Entry Class code; therefore a DFI may use "RET" to generate Automated Dishonored Return and Automated Contested Dishonored Return entries. An RDFI initiating automated returns must conform to the requirements of Appendix 6, wherein the original SEC code is used.

SCT: Securities/Commodities Transaction - The alphabetic mnemonic used to identify debit entries initiated to obtain payment for the sale of securities or commodities regulated by the Securities and Exchange Commission or the Commodities Futures Trading Commission.

***SHR**: Shared Network Transactions* - The alphabetic mnemonic used to identify debit entries initiated at an electronic terminal as defined in Regulation E of The Board of Governors of the Federal Reserve System to pay an obligation incurred in a point-of-sale transaction, or to effect a transfer of funds from a deposit account (i.e., point-of-sale terminal cash withdrawal), and reversing, adjusting, and other credit entries relating to

- The Return Reason Code field for return entries, the Dishonored Return Reason Code field for dishonored returns, or the Contested Dishonored Return Reason Code field for contested dishonored returns is blank or the codes are not specified in Appendix 6.

- The Change Code field for notification of change entries or the Refused COR Code field for refused notification of change entries is blank or the codes are not specified in Appendix 7.

- On a Notification of Change or Refused Notification of Change, the Corrected Data field is blank, or on a Refused Notification of Change, the Change Code is not a currently assigned value (see Appendix 7) or the COR Trace Sequence Number field is not numeric. A Refused Notification of Change is denoted by a valid Refused COR Code in the Refused COR Code field. See Appendix 7 for a list of valid codes.

R27 *Trace Number Error*

- Original Entry Trace Number is not present in the Addenda Record on an automated return.

- Trace Number of an Addenda Record is not the same as the Trace Number of the preceding Entry Detail Record.

- The Entry Detail Sequence Number of the Primary and/or Secondary Corporate Addenda Record is not equal to the last seven digits of the Trace Number of the related Corporate Entry Detail Record (CTP only).

R28 *Transit/Routing Check Digit Error*

- The Check Digit for a Transit/Routing Number is not valid.

R30 *RDFI Not Participant in Check Truncation Program*

R34 *Adjustment Entry Not Permitted*

- An adjustment entry is sent by the RDFI with respect to a SCT entry.

Creation of the resulting automated return entries shall be in accordance with the specifications in Appendix 6.

R20 *Non-Transaction Account*
The ACH entry destined for a non-transaction account, as defined in Regulation D, would include either an account against which transactions are prohibited or limited or a pass-through where the entry is for a credit union or thrift organization and Regulation E descriptive requirements cannot be met.

R21 *Invalid Company Identification*
The identification number used in the Company Identification Field is not valid. This Return Reason Code will normally be used on CIE or CTP transactions.

R22 *Invalid Individual ID Number*
In CIE and CTP entries, the Individual ID Number is used by the Receiver to identify the account. The Receiver has indicated to the RDFI that the number with which the Originator was identified is not correct.

R23 *Payment Refused by Biller*
The Receiver may return a transaction because one of the following conditions exist: (1) a minimum amount required by the Receiver has not been remitted; (2) the exact amount required has not been remitted; (3) the account is subject to litigation and the Receiver will not accept the transaction; or (4) acceptance of the transaction results in an overpayment.

R24 *Duplicate Entry*
The RDFI has received what appears to be a duplicate entry; i.e., the trace number, date, dollar amount and/or other data matches another transaction. This code should be used with extreme care. The RDFI should be aware that if a file has been duplicated, the Originator may have already generated a reversal transaction to handle the situation.

R29 *Corporate Customer Advises Not Authorized*
The RDFI has been notified by the Receiver (non-consumer) that the Originator of a given transaction has not been authorized to debit the Receiver's account.

R31 *Permissible Return Entry*
The RDFI has been notified by the ODFI that the ODFI agrees to accept a late return entry in accordance with Section 7.3.

Codes to be Used by the ODFI for Automated Dishonored Return Entries:

R61 *Misrouted Return*
The financial institution preparing the return entry (the RDFI of the original entry) has placed the incorrect Transit/Routing Number in the Receiving DFI Identification field (positions 04-12, including Check Digit, of the Entry Detail Record).

R62 *Incorrect Trace Number*
The Trace Number found in positions 07-21 in the Addenda Record of the return entry is different from the trace number of the original entry.

R63 *Incorrect Dollar Amount*
The dollar amount in the Entry Detail Record of the return entry is different from the dollar amount of the original entry.

R64 *Incorrect Individual Identification*
The Individual Identification Number reflected in the Entry Detail Record of the return entry is different from the Individual Identification Number used in the original entry.

R65 *Incorrect Transaction Code*
The Transaction Code in the Entry Detail Record of the return entry is not the return equivalent of the Transaction Code in the original entry. (See list of Transaction Codes in Appendix 3. All entries must be returned as received: e.g., credit as credit, debit as debit, demand as demand, savings as savings.)

R66 ***Incorrect Company Identification***
The Company Identification number used in the Company/Batch Header Record of the return entry is different from the Company Identification number used in the original entry.

R67 ***Duplicate Return***
The ODFI has received more than one return for the same entry.

R68 ***Untimely Return***
The return entry has not been sent within the timeframe established by these rules.

R69 ***Multiple Errors***
Two or more of the following fields -- Original Entry Trace Number, Amount, Individual Identification Number, Company Identification, and/or Transaction Code -- are incorrect.

R70 ***Permissible Return Entry Not Accepted***
The ODFI has received a return entry identified by the RDFI as being returned with the permission of the ODFI, but the ODFI has not agreed to accept the entry. This code may be used only to dishonor a return containing an R31 return reason code.

Codes to be used by the RDFI for Automated Contested Dishonored Return Entries:

R71 ***Misrouted Dishonored Return***
The financial institution preparing the dishonored return entry (the ODFI of the original entry) has placed the incorrect Transit/Routing Number in the Receiving DFI Identification field (positions 04-12, including Check Digit, of the Entry Detail Record).

R72 ***Untimely Dishonored Return***
The dishonored return entry has not been sent within the designated timeframe.

R73 ***Timely Original Return***
The RDFI is certifying that the original return entry was sent within the timeframe designated in these rules.

R74 ***Corrected Return***
The RDFI is correcting a previous return entry that was dishonored because it contained incomplete or incorrect information.

Corrected data will be in its defined position in the Company/Batch Header, Entry Detail Record, or Entry Detail Addenda Record, as follows:

- Original Entry Trace (Dishonored Return Reason Code R62) is in the Return Entry Detail Addenda Record, positions 7 - 21;
- Dollar amount (Dishonored Return Reason Code R63) is in the Entry Detail Record, positions 30 - 39;
- Individual Identification Number (Dishonored Return Reason Code R64) is in the Entry Detail Record, positions 40 - 54 for CCD, POS, PPD, and TRC entries, or positions 55 - 76 for CIE and MTE entries;