

THE PAYMENTS RISK COMMITTEE

FOREIGN EXCHANGE SETTLEMENT RISK

Report by the FX Settlement Risk Task Force

**New York
February 2005**

The Payments Risk Committee is a private sector group comprising senior managers from several major banks in the US, sponsored by the Federal Reserve Bank of New York. The Committee identifies and analyzes issues of mutual interest related to risk in payment and settlement systems. Where appropriate, it seeks to foster broader industry awareness and discussion, and to develop input on public and private sector initiatives. Current members of the Committee are Bank of America N.A., The Bank of New York, Bank of Tokyo-Mitsubishi, Citibank N.A., Deutsche Bank AG, HSBC Bank USA, J P Morgan-Chase, State Street Bank and Trust Company, UBS AG, and Wachovia Corporation.

1. PREFACE

The Federal Reserve Bank of New York established the Payments Risk Committee in 1993 as a means of inviting the input of commercial bankers in formulating recommendations for improving the quality of risk management in payment and securities settlement systems. Senior executives with broad payments systems experience from banks active in the payments business were invited to participate in the Committee. In addition to its primary role of formulating risk reduction recommendations, the Committee's objectives are to promote better understanding of payments risk issues among market participants; enhance knowledge of the workings of particular payments systems in the U.S. and internationally and to circulate research on payment systems to participants and the public; promote better communication between private sector institutions and the Federal Reserve Bank and, where appropriate, other bank supervisors within the U.S. and internationally; and provide a forum for discussion of technical issues in payments systems.

The Committee is sponsored by the Federal Reserve Bank of New York and is composed of representatives of Bank of America N.A., The Bank of New York, Citibank N.A., Deutsche Bank AG, HSBC Bank USA, J P Morgan-Chase, State Street Bank and Trust Company, UBS AG, and Wachovia Corporation. There is also participation by the Federal Reserve Bank of New York and the staff of the Board of Governors of the Federal Reserve System. The Committee is supported by a Working Group of mid-level executives, which conducts research regarding topics designated by the Committee and drafts reports and studies for Committee approval.

1.1 The Working Group and Foreign Exchange Reduction in Settlement Risk Task Force

In 2004, the Committee requested that the Working Group undertake a survey among its members to assess the impact of CLS and overall progress in reducing foreign exchange settlement risk (i.e. the risk of paying the currency sold but not receiving the currency bought). CLS is a private sector industry utility which went live in September of 2002 for the express purpose of reducing the risk associated with foreign exchange transactions by ensuring that one leg of the currency transaction will settle if, and only if, the other leg also settles. CLS includes CLS Services which provides the trade matching and payin schedules and CLS Bank, a limited purpose bank regulated by the Federal Reserve Bank of New York, which provides for settlement.

The Committee reasoned that enough time had elapsed from the inception of CLS to have an appropriate amount of experience with the new utility to understand its impact. In addition, the Committee determined that it made sense to conduct the survey at a point in time that would be consistent with the BIS Triennial Survey.

The Working Group assembled a Task Force to draft a survey, the results of which would be compiled by the Federal Reserve Bank of New York. The Working Group recognized the need for a simple questionnaire so as not to unnecessarily burden the participant institutions which were also compiling significant amounts of data for the Triennial Survey. However, the Task Force also determined that certain quantitative data would be

required to substantiate the findings. As a result, the Task Force called upon the resources of CLS to provide certain generic information. A full list of the members of the Task Force follows this preface.

1.2 Acknowledgements

Valuable guidance and support was provided by the members of the Payments Risk Committee and the Working Group. Additionally, considerable assistance was furnished by the Operations Managers Working Group of the Foreign Exchange Committee and CLS Bank.

The conclusions and recommendations set forth in this Report do not necessarily represent policies of the institutions represented nor the policies or views of the Federal Reserve System.

MEMBERS OF THE TASK FORCE

Chairman	Ms. Kathleen Voigt, State Street Bank and Trust Company
Bank of America	Ms. Susan Hutchison
The Bank of New York	Mr. William Koleba Mr. Philip Scott Mr. Timothy Hallett
Bank of Tokyo-Mitsubishi	Mr. Paul Duddy
Citibank	Mr. Patrick Perella
CLS Bank	Mr. Jim Hughes
The Federal Reserve Bank of New York	Mr. Lawrence Sweet Mr. Morten Bech Ms. Lindsay Dratch Ms. Radhika Mithal
HSBC	Mr. Wayne Ferguson
J P Morgan Chase	Mr. Gary Smeal
State Street Bank and Trust	Ms. Kathleen Voigt
UBS AG	Mr. George Meaders Mr. Roland Roetheli
Wachovia Bank	Ms. Yoko Horio

2. EXECUTIVE SUMMARY

The foreign exchange settlement process has undergone a radical change since September 2002 when CLS began live operation. This paper addresses the experience of the Payments Risk Committee members as participants in the CLS process. Issues relating to participation, credit, liquidity, and operations were addressed. Overall, the experience has been positive and participants note a reduction in settlement risk as a result of CLS. There has been some replacement of settlement risk with other risks but these risks have proved to be manageable. Liquidity risk remains an area of concern and may require further review. While CLS has been recognized as a major industry utility, work remains to be done. The marketplace in general would benefit from additional participants in the CLS process. Efforts to encourage additional participation should be ongoing.

3. CHARTER AND SURVEY APPROACH

The mandate of the task force was twofold. First, the task force was to examine to what extent and how effectively banks have used CLS to reduce their foreign exchange settlement risk exposures and whether or not there was potential to further reduce settlement risk by using CLS. Second, the task force was to explore, if in the course of reducing settlement risk by using CLS, whether other risks, such as operational or liquidity, had been introduced into the payments environment.

The task force reviewed possible approaches to drafting the survey, including dissemination of a quantitative-based survey approach similar to the one originally used to gather data in support of the 1996 and 1998 reports issued by the Committee on Payment and Settlement Systems of the Bank for International Settlements. While members agreed this approach would provide significant quantitative data, members were concerned that the work load associated with completing this type of survey would be overly burdensome to the participating institutions especially since they were already involved in compiling data for the Triennial Survey. As a result, the task force members opted to draft a more qualitative survey which could be augmented by certain generic quantitative data furnished by CLS. Once the survey was in draft form, the task force also consulted with the Operations Managers Working Group of the Foreign Exchange Committee to solicit their buy-in and cooperation.

The task force elected to focus on four main areas and allow a fifth section for open ended discussion of any topics participants felt had not been adequately addressed in the survey document. The task force further determined that only those institutions represented on the Payments Risk Committee would be requested to complete the survey.

4. SURVEY RESULTS

4.1 OVERVIEW

The task force concentrated on utilization of the CLS system by the participants, changes in measurement of credit risk since the inception of CLS, changes in intraday liquidity patterns and management thereof, and the operational impact of CLS. Additionally,

participants were encouraged to provide additional commentary on any aspect of CLS which may have created additional risk or cause for concern. The survey was returned to the Federal Reserve Bank of New York in order to ensure confidentiality of proprietary data. The data was then compiled and preliminary analysis shared with the task force. All nine of the institutions which participate in the PRC responded although given that one member was still in testing its responses were limited by its lack of a live implementation. The task force reviewed the preliminary analysis and a discussion on each of the findings follows.

4.2 DISCUSSION OF SURVEY FINDINGS

4.2.1 Participation

Each of the respondent institutions is participating in CLS and all but one is a settlement member. There was no discussion relative to the non-settlement member's decision to participate in CLS as a third party.

While each respondent is participating in CLS, the value and volume of the foreign exchange trades settling through CLS varies significantly. Only one institution indicated it is submitting all of its eligible foreign exchange trades to CLS including those done between the institution's own branches. Of the remaining institutions, approximately 40 branches across all seven institutions are participating in CLS. The primary reasons for branches not submitting to CLS are insufficient volumes in the branch to justify the required infrastructure and procedural changes, the ineligibility of same day trades, and competing priorities with other bank initiatives.

In terms of the value of the trades being submitted, the majority of institutions were submitting in excess of 25% of the gross value of their eligible trades while three institutions were above the 75% value including the one institution that submits all of its eligible deals to CLS.

The respondents had mixed experiences with regard to increased trading values since CLS began operations, with more than half reporting no change and the remaining reporting an increase. Only one institution believed the increase was due to the introduction of CLS while the others cited more favorable business conditions.

Many of the institutions have actively pursued offering third and fourth party services to their customer base. Some are experiencing 50% of their third party clients' activity settling in CLS and there is a major push by these institutions to build on this in the near term. There was some discussion that third party activity has allowed some institutions to meet their committed volumes to CLS even though their own branches are not fully participating in CLS.

The task force spent a good deal of time discussing the somewhat limited participation in the CLS process by many of the respondents and the reasons given, including the inability to include same day trades, counterparties not being CLS participants, insufficient volumes to justify the changes required, minimal incentive for the front office, and minimal direct pressure on the part of the regulators. Given the time and resources devoted to the implementation of CLS and the fact that it has become the industry standard for settlement of foreign exchange items, the task force believes that

financial institutions need to be more aggressive in submitting all of their eligible activity to CLS.

4.2.2 Credit

In general, the respondents indicated a decrease in the overall settlement risk for their respective institutions as a result of the CLS process although for those offering third/fourth party services they also noted related increases in certain intraday exposures.

The respondents were also split on the measurement of credit limits for trades settling in CLS. More than half of the institutions responding indicated that they no longer calculate settlement risk for trades settling in CLS although they do maintain a settlement line for each counterparty to accommodate trades that settle outside of CLS. Those institutions continuing to calculate settlement risk on CLS settled trades do so because of system constraints or because the counterparty retains the ability to unilaterally rescind trades leaving them subject to traditional settlement methods.

Most of the institutions participating in the survey also participate in the in/out swap process and maintain settlement lines for these trades. While the institutions acknowledge that the in/out swap process reintroduces settlement risk, most reported that it is less than 10% and is manageable.

Those institutions offering third/fourth party services are selective about their client base, have implemented controls to limit the amount of risk they assume on behalf of the client and have also implemented intraday caps to control their CLS exposure. There was a good deal of discussion relative to the increase in intraday exposure as a result of this activity.

There were two other areas that the task force reviewed relative to credit exposure, one relating to non-CLS settled trades and the other relating to netting arrangements. In general, participants acknowledged that there are dedicated, hard settlement limits in place for non-CLS settled trades and the criteria used is similar to that used for other extensions of credit. Most of the institutions are measuring the lines on a daily basis although a couple noted that they use a time-line methodology and two are planning to migrate to a time-line basis in the future.

As there are numerous currencies not eligible for CLS settlement, most of the participant institutions continue to utilize a bilateral netting process to minimize their exposure. However, they also indicated that there are inherent operational difficulties associated with the netting process. Further, there was no consensus on development of netting capabilities within CLS or reintroducing another utility to accommodate netting of non-CLS currencies.

4.2.3 Liquidity

In reviewing the survey results, the task force noted that the CLS process has had a significant impact on the management of intraday liquidity by virtue of the requirement for timed payments and the availability of liquidity to effect the payments. While gross payouts and receipts are substantially lower, the individual payins and payouts are

generally larger and time critical. Notwithstanding these changes, respondents agreed that liquidity risks were manageable.

It was noted that most of the respondents are clearing only a few currencies themselves and utilize a nostro agent to make their other payments. The two most frequently self-cleared currencies are the USD and the Euro. In discussing the timed payments, task force members noted that there are increased costs as a result of the use of intraday credit at a nostro, increased debit cap usage, or pledged collateral.

The respondent settlement members are all utilizing the in/out swap process to reduce their liquidity needs and have found it to be effective and the risks manageable. Its discontinuance would increase their liquidity risks. Most of the respondents indicated that the in/out swap frequently brings them to the trade-down limits.

Respondents were mixed with regard to the other risks associated with making the timed payments although they were in agreement that the risks were manageable. Most of the respondents indicated that they had experienced late pay-ins with the primary reason for the failure being a systems issue although communications and operations were also cited.

Not all respondents have had a positive experience in all of the currencies but the problems are somewhat isolated. Further, there is no consensus on liquidity constraints as additional currencies are introduced with half indicating that they will experience more pressure while the other half indicate they expect no change.

Most respondents indicated their institutions would benefit from an intraday liquidity market; however, they are not currently using any other liquidity tool to manage their positions.

4.2.4 Operational Impact

The survey indicated some improvements on the operational side particularly with regard to reconciliations, decreases in investigations, and decreases in losses associated with foreign exchange trades. There was no indication that there were corresponding staff reductions as a result of these operational efficiencies.

In fact, most respondents indicated that they have either extended hours or increased staff to accommodate the CLS process. Business continuity was also factored in and a number of institutions utilize multiple branches to perform control branch functions. The model appears to be that one site has primary responsibility with the others serving in a contingency capacity. There was no discussion on a follow the sun approach.

Other efficiencies include improvements in straight through processing and the elimination of the MT 300 confirm. Most institutions also reported a decrease in payment activity as a result of CLS with six institutions reporting a decrease of over 10%. There does not seem to be any significant change in the timing of the overall flow of payments.

The survey found that this set of respondents finds the CLS eco-system to be resilient and reliable although there are components which on occasion give rise to operational problems. The survey found that these members are well versed in the best practices

relative to handling trades in terms of outages and can accommodate the practices. Additionally, it was noted that CLS has been responsive to the interagency white paper on business resiliency and members are generally comfortable with the actions taken to address business continuity; however, all of the institutions expressed concern about any potential extended CLS outage in the event of catastrophic failure citing liquidity, communications, and back office processing issues as key factors. The members also noted that the new environment has real time linkages for all of the participating RTGS systems thereby creating increased interdependencies. Consequently, outages in any RTGS have a significant impact on each of the participating institutions relative to operations and liquidity.

The survey requested feedback on vendor concentration risk. While the group acknowledges that the number of suppliers is small and there is a risk that any of the suppliers could exit the business or could have software defects that create havoc within the CLS eco-system, the members were evenly divided on this issue as to the magnitude of the risk and what could be done about it from an industry perspective.

5. CONCLUSIONS AND RECOMMENDATIONS

The task force believes that the CLS system has been effective in reducing settlement risk in the foreign exchange arena. That effectiveness has been somewhat diminished by the lack of full participation in the process both by its own members and by a number of significant counterparties who have not yet subscribed to the CLS process. Task force members indicated their institutions were in various stages of ramp up at the time of the survey and progress is ongoing at a number of institutions. CLS's own data reflects the continued buildup in both value and volume by these institutions. However, a number of large counterparties have yet to subscribe to the CLS process either as a settlement member, user member, or third party.

The task force would like to see increased participation of counterparties by encouraging them to bring their non-CLS trades into the CLS process. However, respondent institutions indicate that there may exist a set of non-CLS settled trades (including proprietary trades and those for corporate and other customers) that may not pose a significant settlement risk, for example, trades that are settled "on us" or those that are bilaterally netted. The members felt that bringing such trades into CLS may not be feasible or warranted, particularly if institutions are able to recognize, manage and control their exposure in settling those trades. However, verifying that the associated settlement risks with these trades are well managed may require central banks to conduct a more in-depth and confidential analysis to assess an institution's effectiveness relative to the nature, size, duration and concentration of these exposures.

Nevertheless, the task force believes there is a significant set of trades that, from a safety and efficiency perspective, could and should be settled through CLS. To this end, the task force believes there are other factors that can significantly improve counterparty participation in the CLS process. The current ineligibility of same-day trades acts as a potential obstacle for transactions to settle through CLS. The task force favors CLS exploring the significance and possibility of additional settlement cycles to bring these trades into CLS. Another recommendation of the task force is to ensure that front offices

are completely engaged in the CLS process. It is essential that traders are fully aware of and internalize the benefits (operational efficiencies) and the risk reduction that results from trading with CLS counterparties. There is a need to develop appropriate incentive structures to encourage the front office to settle trades through CLS (e.g., through pricing, fees, trading limits or other ways to differentiate between trades settling inside or outside CLS).

The members contemplated the effectiveness of individually and collectively pursuing these measures to increase use of CLS. Regulatory support, and possibly pressure, may also be needed to encourage progress.

The task force believes that CLS is a positive and productive process and stands as a testament to the private sector's ability to address and mitigate risk issues. It has resulted in a number of operational efficiencies, such as the elimination of the MT 300 and improvements in the reconciliation process. Members are also encouraged by the reduction in losses as a result of the CLS process. While the task force identified some increased risks, those risks have been manageable. The only risk that remains of concern is liquidity and the downstream impact of increased intraday costs associated with making timed payments when funds are in limited supply and there are competing priorities for them. The participants acknowledged frequent use of the debit cap in the early morning hours in order to fund the CLS payments. While liquidity risk currently appears manageable, the task force believes there should be additional focus on monitoring the evolution of this risk over time for signs of potential pressure on intraday liquidity.

It should be noted that this survey was very limited in nature and the findings presented here may not be indicative of the total CLS experience. The task force believes it would be useful for regulators or other private sector risk committees in non-US locations to perform a similar exercise, the results of which could be shared, to gain a more comprehensive view on this topic.