Foreign Exchange Committee
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Overview of the OTC Foreign Exchange Market: 2009

I. Introduction

Following the recent period of financial market disruption, over-the-counter (OTC) markets have garnered significant attention. The Foreign Exchange Committee (FXC) and its Buy-Side Subcommittee have prepared this paper to provide a concise overview of the wholesale over-the-counter foreign exchange (FX) market[1] and to highlight various features of the marketplace that can help investors and corporations more effectively manage the risks associated with maintaining an international portfolio. The foreign exchange market is one of the most mature and transparent of the OTC markets, and its depth and transparency are important to investors, borrowers, and corporations. Historically, the FX market has withstood a number of disruptions, including various currency crises in the 1990s; the adjustment in global equity markets in 2000; a series of corporate events, including the bankruptcies of Worldcom, Enron, and Refco; and the most recent financial crisis, which included the bankruptcy of Lehman Brothers.

The FXC and its Buy-Side Subcommittee believe that the FX market functioned well and remained transparent, accessible, and relatively liquid during the most recent crisis. (This conclusion is consistent with findings of the Foreign Exchange Joint Standing Committee in a September 2009 paper.[2]) Participants were able to execute trades and manage their currency exposure on an uninterrupted, twenty-four-hour basis in a relatively liquid market. The forward FX market was affected by the challenges in the wholesale U.S. dollar (USD) funding markets, leading to significantly higher funding costs for USD positions, and elevated FX implied and actual volatility, leading to a widening of bid/offer spreads. Nevertheless, the market continued to function—prices were made, deals were transacted, and trades were settled. Still, the crisis highlights opportunities to further bolster the strength of the OTC FX market. This paper contains a discussion of some of those opportunities, many of which are being actively pursued by various industry groups, including the FXC and its counterparts abroad.

II. Brief Overview of FX Market

a. Liquidity of the Global Foreign Exchange Market

The global foreign exchange market is one of the most liquid financial markets in the world. According to the most recent Bank for International Settlements (BIS) survey of global foreign exchange volume, conducted in April 2007, global daily average turnover in traditional foreign exchange instruments was estimated to total $3.2 trillion.[3]

Liquidity in the foreign exchange market stems in part from the vast number of participants located around the globe and from the availability of a wide range of electronic communication networks that provide brokerage services and direct-dealing capabilities. The wide variety of trading venues, which range from telephone contact with dealer trading desks to single-dealer electronic portals or multi-bank portals, captures and reflects the total liquidity of the market and allows nontraditional institutions,

[1] The wholesale OTC FX market is composed of spot FX, forward FX, FX swap (equivalent to a spot and forward deal conducted simultaneously), and FX option transactions. FX forward contracts may settle through exchange of the underlying currencies (that is, on a deliverable basis) or by payment of the "in-the-money" amount calculated in accordance with the terms of the contract (that is, on a non-deliverable basis). In a non-deliverable forward contract (NDF), one of the currencies is typically that of an emerging market and the party purchasing the currency has no need to take physical possession of it. NDF and deliverable forward contracts serve as important hedging instruments in the market.
[2] The paper is available at <http://www.bankofengland.co.uk/markets/forex/fxjsc/fxpaper090923.pdf>.
[3] The survey is available at <http://www.bis.org/publ/rpfxf07t.pdf?noframes=1>.

investment managers, and corporations direct access to the market and significant price transparency. These institutions have augmented the liquidity that has traditionally been provided by large commercial and investment banks, resulting in deeper, more consistent liquidity virtually twenty-four hours a day during the business week.

Moreover, the depth of continuous liquidity throughout the twenty-four-hour foreign exchange trading day is a critical component of the efficient functioning of other U.S. capital markets. These features significantly reduce the risk that a reduction in trading activity could leave an investor unable to liquidate, fund, or offset a position at or near the market value of the asset.

b. Use of the Foreign Exchange Market by Corporations and Investors

Each day, FX market participants enter into millions of transactions across the globe. The growth of global investing and internationally diversified corporations has contributed to significant expansion of the foreign exchange market in recent years. Corporations and investors require access to the FX marketplace for a number of reasons.

Corporations regularly participate in the foreign exchange market to:

- repatriate earnings from abroad;
- export goods abroad/import goods to the domestic market;
- make payments to nonlocal suppliers and service providers;
- invest in plant, equipment and businesses abroad;
- fund cross-currency balance-sheet needs;
- hedge net investment exposure or foreign balance-sheet/income statement positions;
- hedge net income, bid-to-award risk, and flows associated with royalties and dividends.

Investors regularly participate in the foreign exchange market to:

- repatriate earnings from abroad;
- ensure adequate liquidity to meet obligations to pension owners, 401(k) owners, and other investors;
- settle the purchase or sale of foreign assets, for example, by allowing foreign investors to purchase U.S. assets;
- hedge the currency risk associated with holding foreign assets;
- offset sovereign risk;
- take currency views to manage portfolio risk and return.

Given the diversity of these needs, it is critical for corporations and investors to access a wide range of OTC FX products and to tailor the settlement dates of such products to their business requirements. The flexibility of OTC FX markets and products allows these corporations and investors to manage their risk, and their day-to-day business operations, more effectively.

c. The Role of the U.S. Dollar in the Global Foreign Exchange Market

The U.S. dollar is widely viewed as the world's premier reserve currency. It plays a critical role in facilitating global trade and investment:

- More international contracts are denominated in USD than in any other currency.
- Commodities and many other globally traded goods are typically priced in USD.

- The United States is historically a recipient of "safe-haven" flows during crises and times of global economic and market disruptions.

This critical role played by the dollar underscores the importance of maintaining an accessible and efficient marketplace. Additionally, the USD's central role in currency markets makes it easier for investors to hold dollar-based assets and results in lower borrowing costs for dollar-based debtors. It also provides a competitive advantage for U.S.-based corporations (which have correspondingly less FX risk than comparable firms based outside the United States). Therefore, the special role of the U.S. dollar, coupled with the transparent and liquid nature of foreign exchange markets, is a major factor underpinning global trade and capital markets.

Although more than 80 percent of all FX trades are estimated to involve the USD,[4] the United States is eclipsed by the United Kingdom as the largest FX trading center. According to the most recent regional foreign exchange committee turnover surveys, conducted in April 2009, average daily turnover in OTC foreign exchange products in North America was less than half the turnover reported in the United Kingdom.[5]

III. Selected Tools for Effective Risk Management in the Global Foreign Exchange Market

The FXC would like to highlight some of the features of the foreign exchange market that contributed to its robust function and that served to mitigate some of the core risks, including settlement risk, counterparty credit risk, and operational risk.

a. Availability of Continuous Linked Settlement (CLS)

To reduce systemic settlement risk, the industry created CLS Bank in 2002 at the behest of central banks around the world. Settlement risk refers to the capital at risk from the time an institution meets its obligation under a contract (through the advance of funds or securities) until the counterparty fulfills its side of the transaction, which can occur many hours later in a different jurisdiction. CLS Bank dramatically reduces settlement risk for FX payments by performing settlement on a payment-versus-payment basis. Settlement of both legs of each FX trade is simultaneous, thus eliminating any time lag between the flows of the two settlement currencies that gives rise to settlement risk. CLS does not guarantee settlement, but instead protects against loss of principal by ensuring that neither leg of the FX trade will settle unless both legs can be settled at the same time. CLS currently settles seventeen currencies and settles payments arising from a range of foreign exchange products, including FX spot, forwards, swaps, non-deliverable forwards, and the exercise of options. In May 2008, the BIS released "Progress in Reducing Foreign Exchange Settlement Risk," a report drafted by the Committee on Payment and Settlement Systems.[6] The report surveyed foreign exchange trading activity across 109 institutions and estimated average daily FX settlement obligations for those institutions at $3.8 trillion. Of that amount, $2.1 trillion, or 55 percent, was estimated to settle through CLS Bank.

The importance of settlement risk in the foreign exchange market reflects certain key characteristics. First, FX spot and forward contracts are full notional contracts that require settlement of full cash

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[4] According to the April 2007 BIS triennial survey, approximately 86 percent of reported FX spot, swap, and outright forward market turnover included the USD. The survey is available at <http://www.bis.org/publ/rpfxf07t.pdf?noframes=1>.

[5] Average daily turnover in total OTC FX products was $1,269 billion in the U.K. market, according to a report issued by the Foreign Exchange Joint Standing Committee, compared with $527 billion in the North American market, as reported in the Foreign Exchange Committee's turnover survey.

[6] The report is available at <http://www.bis.org/publ/cpss83.pdf>.

amounts; they are not contracts for differences that require settlement of net profit or loss. For investors and corporations that make payments in foreign currency and hedge FX exposures, the ability to physically settle contracts is central to their use of the FX market. Second, each currency transaction involves more than one sovereign currency, so there is often a time-zone difference in the settlement of the two sides of the transaction. Given the scale of the FX market, any one participant could have settlement risk exposure to many hundreds of millions of dollars between the time the Asian currencies are settled locally and the time payment is made on the USD legs in New York. In the aggregate, systemic risk exists because a breakdown in FX settlement could produce a chain reaction in which firms fail to receive payments, causing them to be unable or unwilling to make payments to others. The industry created CLS Bank to better manage this risk within the FX market. Additionally, CLS is supported by a robust legal framework that ensures finality of settlement and funding in its system.

Following the September 14, 2008, announcement of the imminent default of Lehman Brothers, payments among financial institutions settling in CLS continued uninterrupted. CLS served its stated function of reducing systemic risk and ensuring that despite the large notional size of FX trades around the world, financial institutions had the confidence to make payments into the system because they were protected against the loss of principal. Indeed, for those active in the OTC FX market over the past two years, it became very clear that use of payment-versus-payment settlement services, such as CLS, was critical to maintaining market integrity and functioning and to preventing further spread of the financial crisis.

In addition, CLS acts as an information repository, providing real-time information to members as well as reports to the central banks whose currencies settle in CLS on the gross and net cash flows per currency that will result from the daily settlement cycle. The repository is currently being enhanced to expand reporting flexibility and the range of instruments captured.

b. Important Factors Mitigating Counterparty Credit Risk in the OTC FX Market

Counterparty credit risk in the OTC FX market, as in markets for other traded products, is managed through counterparty credit analysis and risk management, which often involve instituting appropriate credit support arrangements between the trading parties. It is important to note that because the vast majority of transactions in the OTC FX market are short-dated (under one year in duration), there is relatively less credit risk associated with them compared with that of products whose average tenor is longer. Additionally, the transparency and liquidity of the OTC FX market facilitate accurate calculation of the exposure associated with open OTC FX trading positions, which in turn allows institutions to have a higher level of confidence that collateral posted to secure obligations under these transactions will be sufficient to cover the outstanding exposure.

The efficient exchange of collateral between institutions to offset the risk associated with unrealized gains and losses for open OTC FX contracts is a highly effective tool in managing the credit risk of the transactions. Collateral exchange is typically provided under the terms of credit support annexes (CSAs) to master agreements for FX transactions. In effect, CSAs provide many of the risk-reducing benefits of a central exchange while maintaining the flexibility offered by an OTC market, but without engendering the practical challenges that a country-specific central counterparty model would likely face in a highly international marketplace.

c. Significant Efforts to Manage Operational Risk and Strengthen Legal Documentation Underpinning Foreign Exchange Transactions

Various processes take place between execution and settlement of an FX transaction. These processes are typically supported by the operations division of financial institutions, and the risks associated with that responsibility form the core of operational risk. Managing these risks requires a solid understanding of products as well as processes to confirm and control the lifecycle of a transaction. Similarly, having robust and well-understood legal documentation is central to reducing risks in the FX market. The FX industry—led by various international FX committees and industry groups, such as the International Swaps and Derivatives Association, Inc. (ISDA), EMTA (a trade association for emerging markets), and the FXC—has undertaken considerable work in recent years to improve the operational infrastructure and the legal contracts underpinning transactions within the FX market.

On the operations front, industry participants in the FX market joined representatives from other asset classes in making a series of commitments to regulators in October 2008 to further strengthen the operational infrastructure for OTC derivatives. This effort emerged from the work initiated by the President's Working Group on Financial Market Developments.[7]

The 2008 commitments made to regulators on behalf of the OTC FX market build upon previously completed industry efforts to improve the operational infrastructure of the OTC FX market. Since October 2008, the FX industry has continued to work to meet specific targets related to the increased automation of transaction processing. The commitments also include providing transparency in the form of metrics around OTC FX contract execution and demonstrating increased electronification of those contracts.

On the legal front, FX industry participants have continued to seek opportunities to enhance and standardize trade documentation improvements that would also help facilitate increased automation of the confirmation process. Some key successes include standardization of non-deliverable forward and non-deliverable option confirmations in selected emerging market jurisdictions, creation of common forms of give-up agreements and compensation agreements for use in OTC FX prime brokerage arrangements, and development of master confirmation agreements. These efforts have been further supported by CLS's sponsorship of protocols through which market participants have agreed to best practices for FX and non-deliverable forward trades, practices such as legally binding confirmations and standard terms for trades processed in CLS.

The FX industry's efforts to strengthen documentation are ongoing. The Financial Markets Lawyers Group (FMLG),[8] in collaboration with the FXC's Operations Managers Working Group (OMWG)[9] and ISDA, is currently drafting a standard form of novation protocol for use with FX products. The FMLG, OMWG, ISDA, and EMTA are also working together to develop definitions for new emerging market currency pair combinations as well as a standard form of confirmation for various exotic products. Another FMLG initiative involves the creation of a contractual infrastructure to permit parties using certain trading and settlement platforms to rely on the electronic execution notice generated by those systems as a legally binding confirmation.

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[7] Details on other ongoing efforts to improve the operational infrastructure of the OTC derivatives markets can be found at <http://www.newyorkfed.org/newsevents/otc_derivative.html>.

[8] The FMLG comprises lawyers in leading worldwide financial institutions who support foreign exchange and other financial market trading. The FMLG advises on legal issues relevant to OTC foreign exchange and other OTC financial markets.

[9] The OMWG is a standing working group of the FXC that advises on operational issues relevant to OTC FX markets.

Additionally, the FXC and similar committees abroad produce best-practice recommendations for the FX industry that cover trading as well as operational activities. These best-practice recommendations are cited as a benchmarking tool.[10]

IV. Looking Ahead: Priorities for the Industry

For many years, the global foreign exchange marketplace has helped foster the growth of international business and the prudent management of risks associated with global business and investment portfolios. Because the foreign exchange market is so central to the global economy, ensuring a liquid and robust marketplace is of utmost importance.

Of course, more can and will be done by the industry. In some cases, industry efforts are already under way; in others, the FXC and its Buy-Side Subcommittee believe that particular initiatives need to be identified and prioritized.

First, payment-versus-payment settlement services, such as CLS, proved very effective in mitigating systemic risk. We believe that further expansion of such services is warranted and in the best interest of both the industry and the regulatory community. In particular, we recommend the following:

- Payment-versus-payment settlement services, such as CLS, should be expanded to cover a greater array of currencies, regions, and products.
- The largest FX market-makers should be encouraged to become direct members of CLS, if eligible to do so.
- Any large and significant counterparties that indirectly participate in CLS through a member institution should, as a best practice, have a collateralized line for the exposure such participation presents to its member.

On this point, a number of efforts are already in progress. For example, CLS currently has efforts under way to implement same-day and next-day settlement within CLS for additional trades, to work with several jurisdictions to add further currencies to the settlement service, and to work with forums involving buy side firms to extend participation. Efforts are focusing on efficiencies in straight-through-processing, FX protocols and standards, and participation in NDFs to enhance industry matching. There is an active campaign under way to educate the broad FX marketplace on the risk-mitigating benefits of utilizing a payment-versus-payment settlement service. The number of participating entities using CLS settlement has grown 35 percent since the beginning of 2009, bringing total CLS use to more than 6,000 third-party participants in addition to the 57 direct settlement members.

Second, the use of CSAs for counterparty risk management should be expanded. Clients that deal in foreign exchange as an asset class and take large speculative or highly leveraged positions should adequately collateralize the positions.

Third, ongoing efforts to standardize documentation and to improve the operational efficiency of the OTC foreign exchange market are critical and must continue to be a priority. Future commitments will likely take the form of higher levels of electronification of vanilla and barrier option products as well as increased standardization and electronification of complex exotic products.

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[10] The FXC website provides more information (<http://www.newyorkfed.org/fxc/>).

Fourth, it is imperative that any efforts to improve the resilience of the marketplace take into account the global and twenty-four-hour nature of the foreign exchange market. Each foreign exchange transaction involves at least two sovereign currencies. The marketplace itself is spread across a series of liquid trading centers in different time zones and operates twenty-four hours a day, each business day. Absent such consideration of these key characteristics of the foreign exchange market, the potential for negative unintended consequences of any efforts to improve market resiliency is quite large.

Fifth, it is important to note that this paper is intended to address the wholesale foreign exchange market. The FXC has been clear in its belief that the retail market for foreign exchange requires prudent regulation.[11]

V. Conclusion

The volatile financial conditions that began in summer 2007 and peaked following the default of Lehman Brothers in September 2008 provided a significant test of the foreign exchange market's ability to withstand major disruptions and continue operating in a manner that protects the end-user. The market functioned well, despite strains seen in international funding and credit markets, and enabled participants to measure and mitigate risk dynamically in a global marketplace. During this time, transaction costs were elevated, owing to the volatility and spillover from U.S. dollar funding challenges. However, systemic risk mitigants built into the OTC FX market structure over the years proved successful in providing a liquid and continuous market despite the volatility, defaults, and disruptions of the last two years.

Despite this success, opportunities exist for further improvement in the FX market. The Foreign Exchange Committee believes that further expansion of the availability of payment-versus-payment services, such as CLS, is a highly effective way to mitigate settlement risk. Similarly, broader use of credit support annexes could lead to sizable reductions in counterparty credit risk. Significantly, both efforts can be accomplished globally without the challenges inherent in a regulatory effort coordinated across countries.

The Foreign Exchange Committee and its subcommittees and working groups remain committed to fostering risk management improvements in the FX market. To that end, we will continue to offer recommendations and guidelines and to support actions that facilitate greater contractual certainties for all parties active in foreign exchange.

[11] Guidance on this matter can be found at <http://www.newyorkfed.org/fxc/2005/fxc051209.pdf>.