Briefing Note

November 18, 2013

OTC FX Options Analysis Results

Executive Summary

The Foreign Exchange (FX) market underpins **international commerce and investment** by allowing governments, businesses, investors and individuals to convert one currency to another. Participants transact in various over-the-counter (OTC) FX products to have certainty over the exchange rate and therefore the value of the transaction, whether for issuing a bond to international investors, purchasing raw materials abroad, exporting goods overseas, or protecting the value of pension investments made in other currencies.

In contrast to other markets, the FX market – as a global payments system – is fundamentally about liquidity, i.e., **ensuring funds in the correct (needed) currency are received when they are expected to be received by transacting parties**. CCPs must understand the **size and nature** of the same day liquidity risk in order to **guarantee full and timely settlement** of the currencies traded for this product, and ensure this guarantee is **credible**, in satisfaction of global regulatory expectations reflected in the ***Principles for financial market infrastructures*** jointly published by the BIS CPSS and IOSCO in April 2012 (FMI Principles). In contrast, most other OTC derivatives are traded and settled on the basis of net cash settlement in a single currency that only reflects the mark-to-market value of the trade.

Completion of Quantitative Study to Size Same-Day Liquidity Challenge for Clearing and Settlement of OTC FX Options. The GFMA Global FX Division, with its 22 global FX member firms representing over 90% of the FX dealer flow, has completed a year-long study to understand the scale of transactions in the physically-settled OTC FX options market to size the same day liquidity challenge associated with clearing this market using detailed trade information from January 2007 through Dec 2011.

Key Question Answered

Question: **"What is the size of the same day liquidity shortfall which could have resulted from the failure of the two clearing firms representing the largest combined settlement obligation in each currency on any given settlement date with respect to executed OTC FX options that were exercised and due for settlement on that date – which a CCP must be capable of managing?"** These are the minimum capabilities CCPs must demonstrate for converting funds, same day, into the currencies which its other (non-failing) clearing firms were expecting to receive on that date in satisfaction of the FMI Principles "cover 2" liquidity requirement.

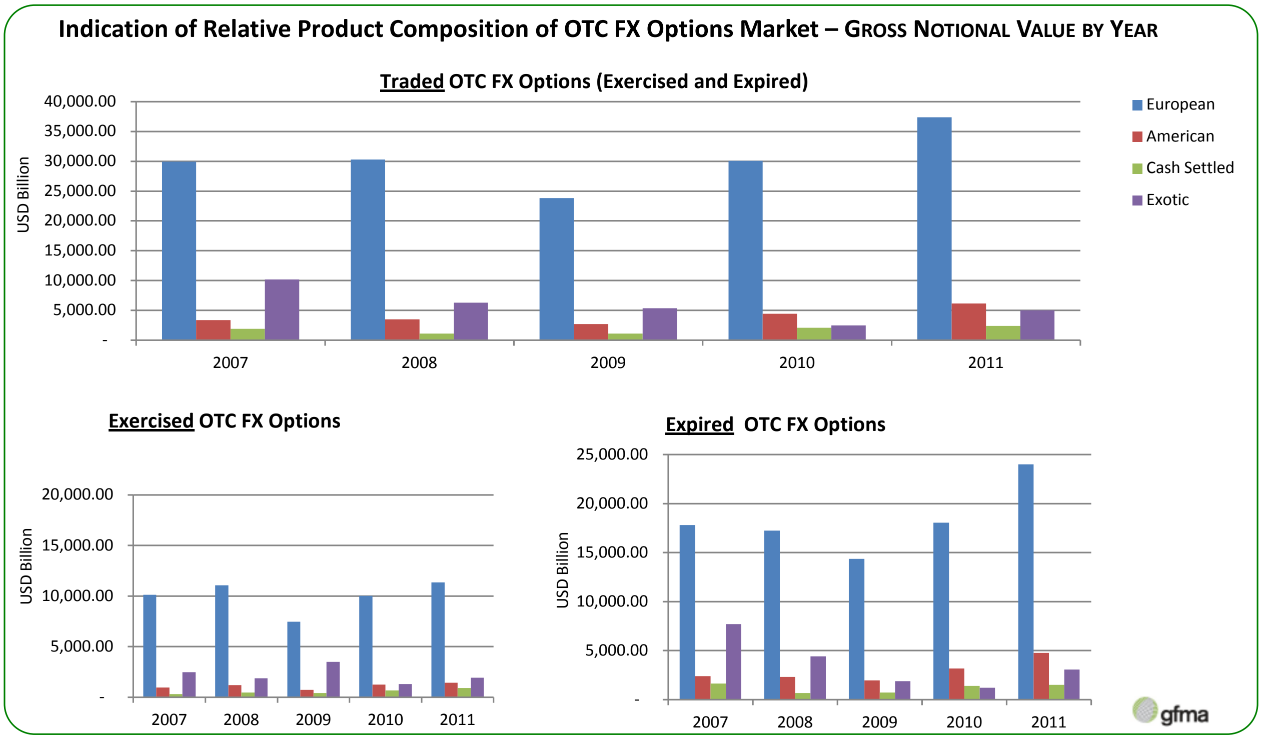
Answer: Results from the analysis indicate that, based on historical OTC FX options traded globally and exercised, the size of the same day liquidity shortfall which the CCPs must demonstrate they are capable of managing could have been as high as **161 billion** (USD equivalent) in total, across 17 currencies.

Because the size of the settlement obligation is a function of the settlement mechanism used, the way the settlement mechanism is structured and designed can affect and, in some cases, limit the size of the liquidity risk shortfall which is presented to, and must be must be managed by, a CCP. Analysis results indicate that this 161 billion liquidity risk shortfall, which is based on CCPs using a gross settlement mechanism, is potentially reduced by nearly 75 percent, to 44 billion, if a net settlement mechanism were used instead.

Currency specific peak figures, individual and total, and overall peak figures are *both* relevant to the design of a clearing and settlement solution. While a CCP must be prepared for these potential same-day liquidity needs in *each* currency, a CCP would not draw fully (i.e., 100%) on its capabilities in each currency if a settlement failure were to occur.

Settlement Obligations – Single Day (in billions, USD equivalent)

	Interdealer Market with Client Clearing	
	Net	**Gross**
Overall Peaks		
	11	**81**
Currency Specific Peaks		
AUD	1.94	6.89
CAD	1.38	9.62
CHF	3.69	21.15
DKK	0.27	0.27
EUR	10.44	29.71
GBP	3.04	7.35
HKD	1.70	3.46
ILS	1.33	6.83
JPY	3.41	18.89
KRW	1.62	2.81
MXN	1.45	5.03
NOK	0.99	4.00
NZD	1.17	2.85
SEK	1.15	4.11
SGD	0.99	3.17
USD	8.20	33.02
ZAR	0.93	1.56
TOTAL	***43.70***	***160.72***



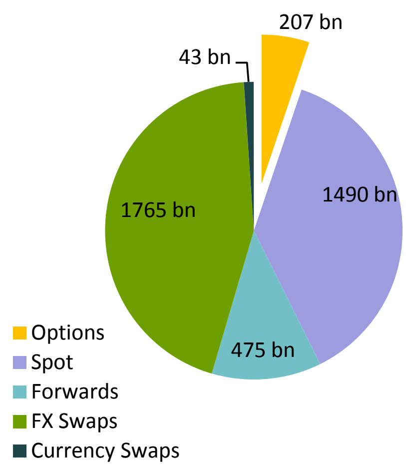
Results of Analysis Represent Significant Step Forward in Responding to Regulatory Expectations

The G-20 commitments include a requirement to clear all standardized OTC derivatives through CCPs where appropriate. Each country or region continues to assess the mechanism by which asset classes are captured by this commitment and determine which products within such asset classes will be subject to a "mandatory" clearing requirement.

The primary OTC FX options clearing challenge is to ensure that all participants accurately identify, understand and manage their credit and liquidity risks individually and to a CCP, and that the CCP can also identify, understand and manage its credit and liquidity risks. **For physically-settled FX products, the FMI Principles are widely understood to require a "guaranteed, on-time clearing and settlement model."** Separately, central banks have expressed their need, from a broad policy perspective, to receive more information about FX-related clearing proposals of each individual CCP in order to understand and review potential implications for their currencies and for the FX market.

Due to insufficient understanding in the industry of the size and nature of the risks for which a solution is being sought, no OTC FX options clearing model put forward by CCPs and considered by industry has demonstrated the ability to implement safe and sound measures that (i) address the OTC FX options clearing challenge; and (ii) ensure the market can appropriately manage its liquidity and credit risks.

BIS Triennial Survey 2010
OTC FX Market Turnover[1][2]
(in USD equivalent)



[1] from "Triennial Central Bank Survey: Report on global foreign exchange market activity in 2010" published by the Bank for International Settlements (BIS) in Dec 2010.
[2] preliminary results have been released for 2013, but 2010 statistics are represented for ease of comparison with data collected by GFMA Global FX Division; 2013 results indicate growth in options to 337 bn (representing a one percent increase).

While the objective of this analysis was not to provide a solution, by shedding light on the size and nature of the same-day liquidity risk shortfall for physically-settled OTC FX options, the GFMA Global FX Division and its members believe the results of this analysis will inform and shape *how* CCPs, with industry, develop clearing models for physically-settled OTC FX options and the manner in which regulatory authorities might assess the robustness and resiliency of these solutions against the FMI Principles. Detailed analysis results are available at www.gfma.org/fx.

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