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FX Trading:
A Changing Landscape

FX Trading and Technology Trends in 2011

[1] This report is based on an online survey conducted by StreamBase Systems in 2011.

Overview

Rules of swap trading regulations in the Dodd-Frank Act are expected to be finalized in 2011. As the initial deadline (July, 2011) has passed[1], market participants continue to express their skepticism on the timing of these rules implementations, the technical costs associated with implementing them, and the impact of the regulations on their business and market liquidity. Nevertheless, Congress has set a strong tone by granting the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC) full authority to oversee financial institutions and their trading activities. These activities include pre-trade risk controls, collateral and margin requirements, over-the-counter (OTC) trading, clearing, proprietary trading, and high frequency trading.

During this time of regulatory change, much attention has also centered on the global foreign exchange (FX) market, which has a $4 trillion daily turnover according to the latest Triennial Central Bank Survey conducted by the Bank for International Settlements[2]. Surprisingly, the 20% increase in daily turnover since 2007 is not driven by the global commercial banks, but instead by non-reporting banks, hedge funds, pension funds, mutual funds, insurance companies and institutional investors. The growing participation in the FX market from these so-called "non-financial institutions" is a result of fast-adopted electronic execution methods. Aite Group estimates the use of electronic trading to exceed 70% by the end of 2012.[3]

In early 2011, StreamBase Systems carried out its 3rd annual online survey to explore the latest trends and developments in FX trading and technology. A total of 135 respondents participated in the survey – 55% identified themselves as buy-side firms and 36% on the sell side. Some 84% were from the Americas, 10% were from the Europe, Middle East and Africa (EMEA) region, and the remaining 6% were from other regions (see Figure 1).

Some 31% of respondents use a custodian bank to handle their FX transactions, 8% use a currency overlay management firm, and 60% do not use services provided by either type of organization.

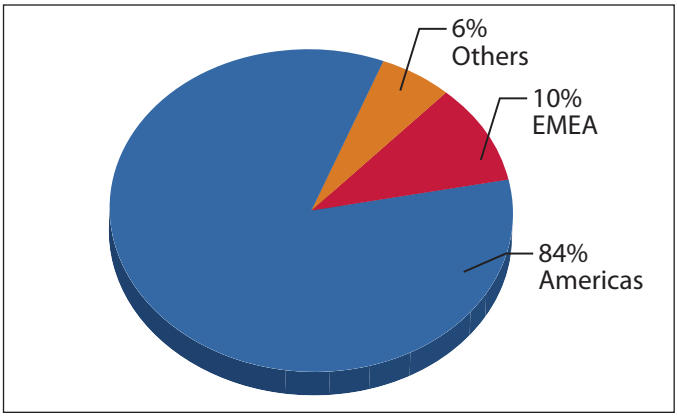

Figure 1 – Survey Participants by Region

[1] "Dealers see delay for swaps reforms", The Financial Times, Aline van Duyn, May 1, 2010.

[2] According to the Dow Jones Newswires analysis "Global Forex Turnover Continues to Increase" on July 26, 2011, the average daily global foreign exchange turnover has grown to $4.71 trillion.

[3] High Frequency Trading in FX: Open to Business, Aite, April 2010.

FX Products and Currency Management

As expected, majors were the most traded currency pair. Some 95% of respondents traded the majors, some 67% traded crosses[4] and some 25% traded exotics or emerging markets pairs. With regard to FX products, the most noticeable difference between this year's survey and last year's was the 23% increase in trading of emerging markets pairs.[5]

Spot transactions were the most traded instrument among all respondents, with almost 91% involved in FX spot trading. About 56% of respondents traded outright forwards, some 48% traded FX swaps, some 48% traded currency swaps and about 50% traded FX options and other products (see Figure 2).

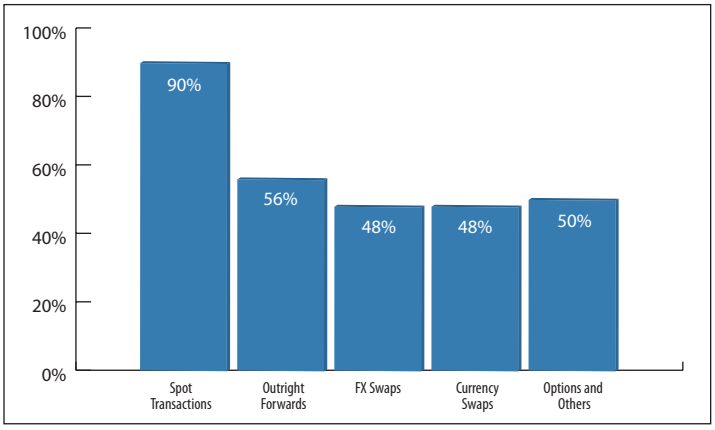

Figure 2 – Primary FX Instruments Traded

A range of different products were traded by over 60% of sell-side firms while buy-side firms mainly focused on FX spot trading. About 54% of buy-side respondents also traded outright forwards. Less than 40% of buy-side respondents traded FX swaps, currency swaps, options, and other FX products.

In terms of hedging strategies, 78% of all respondents applied active management strategies, about 60% used dynamic approaches, and 53% used passive approaches.

About 78% of sell-side firms applied dynamic strategies, but only 40% of buy-side firms applied these types of strategies (see Figure 3).

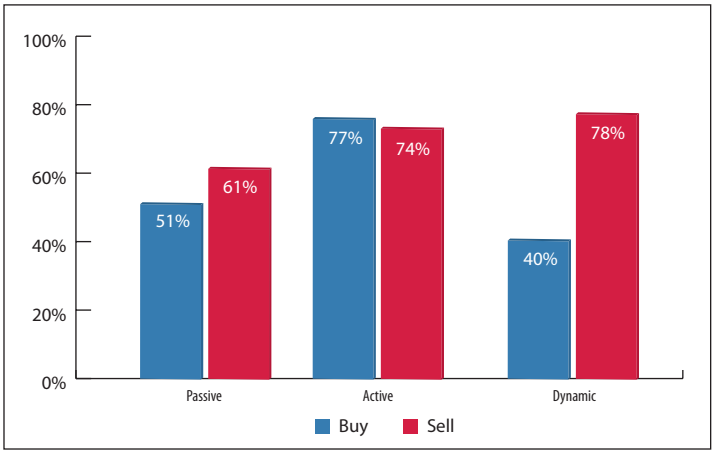

Figure 3 – FX Trading Strategies

[4] Crosses are major currency pairs that do not involve the US dollar.

[5] According to BIS Triennial Central Bank Survey 2010, the most significant increases in emerging market currencies were seen for the Turkish lira, Chinese renminbi, Korean won, Brazilian real, and Singapore dollar.

Electronic FX Trading

The survey results indicated a wide adoption of electronic trading in the FX market. About 93% of participants executed their trades via automated order matching systems, single bank proprietary platforms, or multi-bank dealing systems. However, some 26% of respondents still execute their trades through telephone communication with an FX voice broker (see Figure 4).[6]

26% say they execute their trades with an FX voice broker

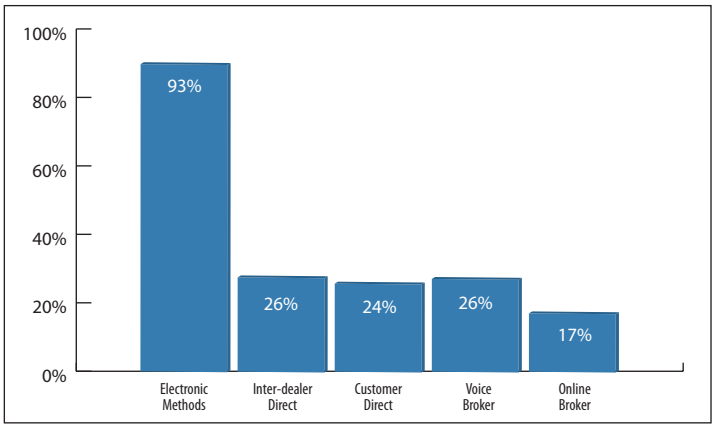

Figure 4 – FX Execution Methods

Specifically, 55% used single bank platforms, some 44% used multi-bank platforms, another 37% used third party platforms, and 32% had in-house built FX platforms (see Figure 5).

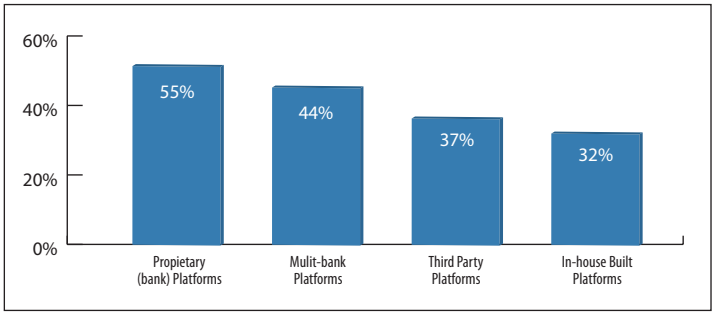

Figure 5 – Electronic FX Trading Platforms

Some 41% of buy-side firms used third party or independent platforms, 38% used multi-bank platforms and about 34% used single bank platforms. Although the percentage of in-house built platforms is the lowest, the survey still found a moderate 31% of buy-side firms built their FX trading systems internally.

According to the survey, Citibank's proprietary platform was being used by the largest number of respondents, replacing Deutsche Bank, which slipped to number two this year (see Figure 6). The most used multi-bank platforms are FX Connect, Thomson Reuters, Bloomberg, and Currenex (see Figure 7).

[6] BIS Triennial Central Bank Survey 2010 indicated that 41% of FX market turnover is conducted by electronic methods, 24% by customer direct, 19% by inter-dealer direct, and 16% by voice broker.

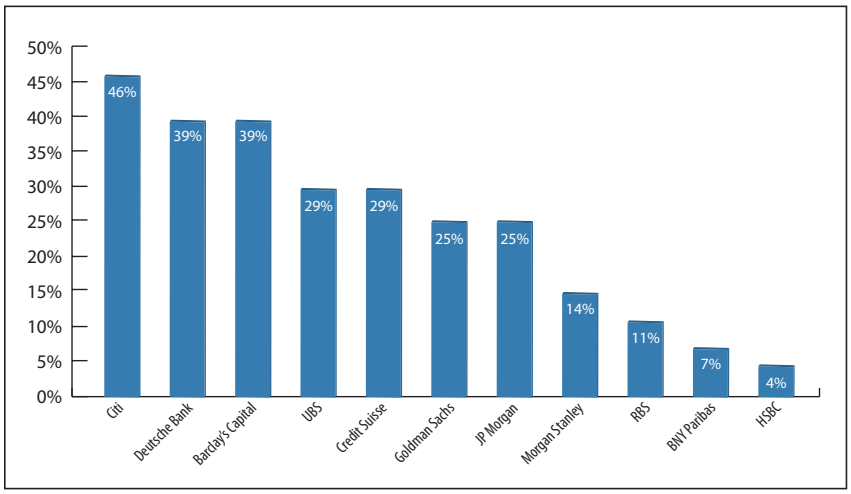

Figure 6 – Primary Proprietary (Bank) Platforms Used

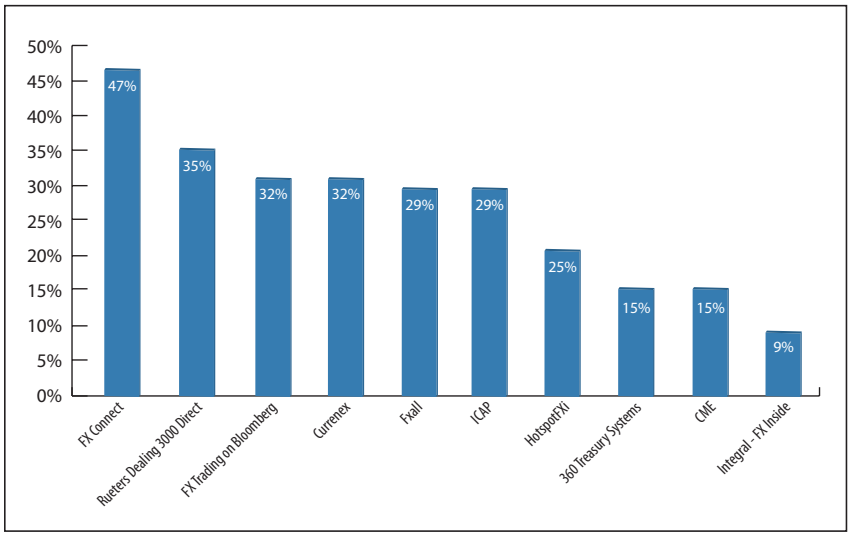

Figure 7 – Primary Multi-bank and Independent Platforms Used

The study found little difference in the usage of single bank platforms – Citibank, Deutsche Bank, and Barclays Capital topped the list among both buy and sell sides (see Table 1 and Table 2).

However, the study indicated some differences between the buy and sell side regarding the usage of multi-bank platforms (see Table 3 and Table 4).

RANKING	BUY-SIDE
1	Deutsche Bank
2	Citibank
3	Barclay's Capital
3	UBS
5	Credit Suisse
5=	Goldman Sachs
5=	JP Morgan
8	RBS
9	Morgan Stanley

Table 1 – Primary Propietary (Bank) Platforms Used by Buy-Side Respondents

RANKING	SELL-SIDE
1	Citibank
2	Barclay's Capital
3	Deutsche Bank
4	Credit Suisse
5	Goldman Sachs
5=	JP Morgan
5=	UBS
8	Morgan Stanley
9	BNP Paribas
10	HSBC
10=	RBS

Table 2 – Primary Propietary (Bank) Platforms Used by Sell-Side Respondents

RANKING	BUY-SIDE
1	FX Connect
2	FXall
3	Currenex
4	Bloomberg
4=	HotSpotFXi
4=	ICAP (EBS)
4=	Thomson Reuters
8	360 Treasury Systems
9	CME

Table 3 – Primary Multi-Bank and Independent Platforms Used by Buy-Side Firms

RANKING	SELL-SIDE
1	Thomson Reuters
2	Bloomberg
3	ICAP (EBS)
4	Currenex
5	FX Connect
6	CME
6=	FXall
6=	HotspotFXi
6=	Integral – FX Inside
10	360 Treasury Systems

Table 4 – Primary Multi-Bank and Independent Platforms Used by Sell-Side Firms

Customer Satisfaction

Overall, 95% of respondents were satisfied with the services received from banks and electronic brokers. Although some 14% of buy-side respondents were not satisfied with the prices they received from the multi-bank and independent platforms. Respondents believed that improvements in pricing, venue and counterparty selections would secure better prices. However, the study found that only 40% of buy-side firms had benchmarks or mechanisms in place to compare prices.

FX Execution

Algorithmic Trading in FX

There was a 3% decrease year-over-year in using algorithms for FX execution; some 43% of respondents used algorithms in their FX trading and among those, 64% developed their algos internally.

57% of sell-side firms used algos for FX trading and about a quarter of respondents planned to do so. The number is slightly lower on the buy side as only 34% used algos for FX trading, and some 17% planned to do so. However, among those buy-side firms who used algos for FX trading, 92% developed them internally. Only 39% of sell-side firms used in-house developed FX algos.

The different behaviors in algorithmic trading between the buy and sell side were also reflected in the types of FX algos they used. 92% of buy-side firms used alpha seeking algos, 42% used algos for liquidity aggregating, and about a quarter of them used algos for smart order routing, time-slicing and FX hedging.

About 92% of sell-side respondents used algos for smart order routing, 46% of them used algos for liquidity aggregating, some 39% used algos for alpha seeking and FX hedging, and only 15% used time slice algos (see Figure 8).

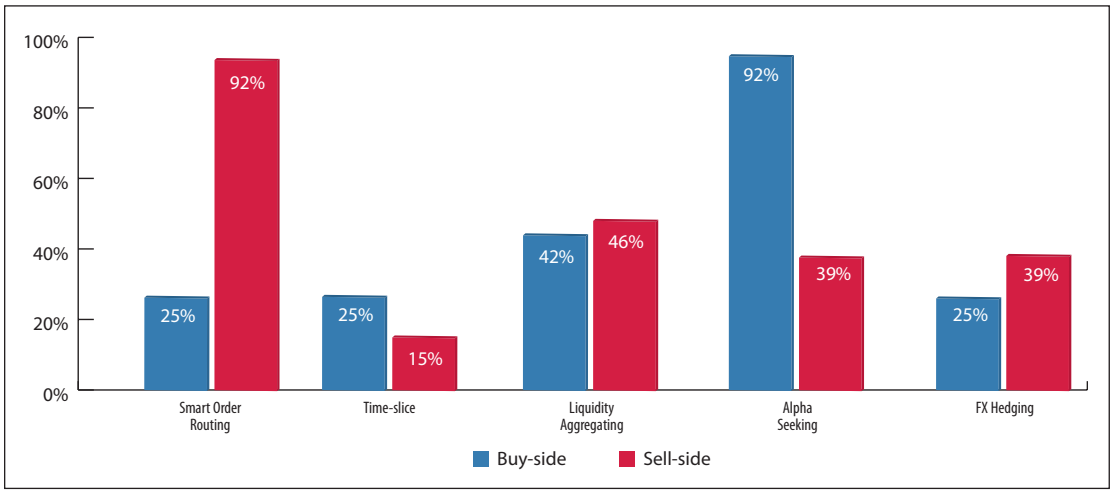

Figure 8 – Primary FX Algo Functionality

Quality of execution is measured by various parameters. The study found that the importance of different criteria was varied between buy and sell sides. On the buy side, "implicit cost of execution" was ranked the most important criterion, followed by "speed of execution". "Fill rates" and "minimizing market impact" were cited the third and the fourth most important, respectively, and were scored much lower than the first two items (see Table 5).

On the sell side, "fill rates" was the most important measure regarding the quality of execution, followed by "implicit cost of execution". "Speed of execution" and "minimizing market impact" were ranked third and forth respectively (see Table 6).

Other measurements mentioned by the respondents included "ease and accuracy of confirmation and clearing", and "slippage rates". Several participants noted that the consistency of speed is more important than the absolute speed.

	TOTAL SCORE	OVERALL RANK
Implicit Cost of Execution	91	1
Speed of Execution	90	2
Fill Rates	78	3
Minimizing Market Impact	65	4

Table 5 – Measurements of FX Execution (Buy-side)

	TOTAL SCORE	OVERALL RANK
Fill Rates	53	1
Implicit Cost of Execution	52	2
Speed of Execution	48	3
Minimizing Market Impact	46	4

Table 6 – Measurements of FX Execution (Sell-side)

FX Market Data

Due to the fragmented nature of the FX market, effectively integrating different feed formats from various liquidity providers was top of mind. "Integrating feed/data formats from different liquidity providers" was cited as the biggest data challenge to optimize algo trading. In second place was "accessing low-latency sources for high-speed algo trading". In third was "reducing cost of direct feeds" for FX trading (see Figure 9).

36% cited "integrating feed/data formats from different liquidity providers" as the biggest data challenge to optimize algo trading.

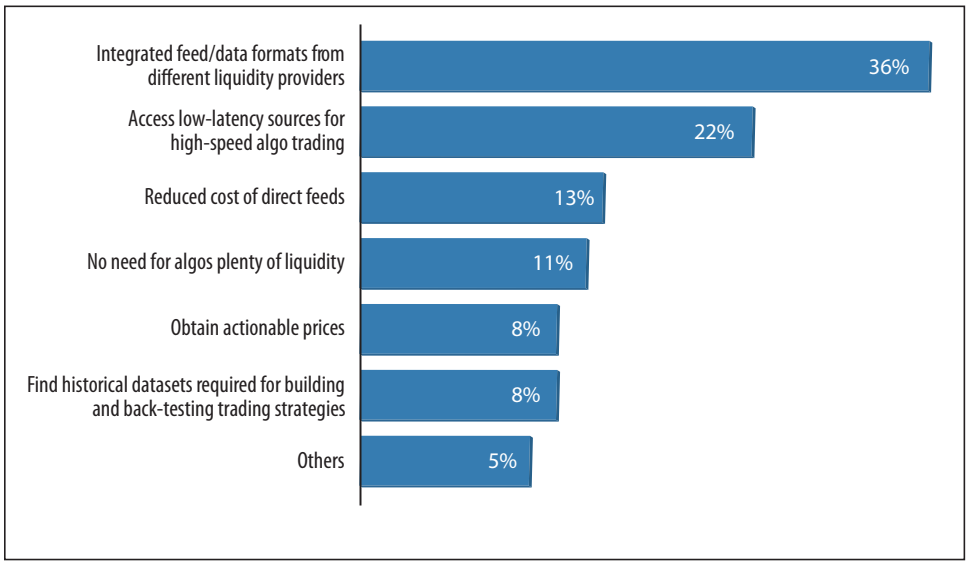

Figure 9 – Biggest Data Challenge for Effective Algo Trading in FX

The increased participation of high frequency traders and hedge funds in the FX market drives the demand for low-latency market data. Respondents were less concerned about accessing low-latency sources for high-speed algo trading compared to 2010. It might be a result of increased competition between different

electronic platforms that provides more accessible and cheaper real-time, indicative pricing.

However, the proliferation of liquidity venues also highlights the challenge of developing a flexible and extensible infrastructure within which one can more easily add and maintain components. A robust FX trading system should perform consistently in obtaining competitive and executable quotes with low slippage rates during highly volatile market conditions.

FX Trading Systems

Liquidity Aggregation

This year's survey found a substantial increase in the implementation and satisfaction with liquidity aggregation services. A year ago, about 35% of respondents were unable to aggregate prices and volumes electronically across various venues, and 26% of firms who had liquidity aggregation thought the systems needed to be improved.

This year, the study found a 29% difference regarding the usage of liquidity aggregation services between 2010 and 2011. This year, 89% of buy-side firms used some liquidity aggregation services and all sell-side respondents had some liquidity aggregation capabilities in their current trading systems.

Respondents were generally satisfied with their current liquidity aggregation capabilities, particularly among sell-side firms. Nevertheless, both buy and sell sides expressed their plans to further improve their liquidity aggregation in 2011 and 2012.

Low Latency Sources for high-speed trading are More Accessible

Algorithmic Signal Generation, Algorithmic Order Execution and Management

Among all FX trading capabilities, "algorithmic signal generation" and "algorithmic order execution and management" scored the lowest in the satisfaction questions from both buy and sell sides. About 22% of sell-side respondents expressed directly that they were "not satisfied" with their current algorithmic signal generation systems, and 17% of them were not satisfied with their current algorithmic OEM systems (see Figure 10 and Figure 11).

Auto Hedging and Risk Management

The majority of respondents currently have auto hedging and risk management capabilities in place, 71% on the buy side and 83% on the sell side. More sell-side firms than buy-side firms inclined to improve the current auto hedging and risk management systems in the upcoming year.

Pricing and Rates Engines (sell-side specific)

About 52% of sell-side firms had neutral opinions about their current pricing and rates engines; some 44% of sell-side firms were satisfied, but 4% of them were not. The study also found that 30% of sell-side firms were planning to improve or add pricing and rates engines capabilities in 2011 and 2012.

Increased for implementations of liquidity aggregation in both buy and sell-side firms

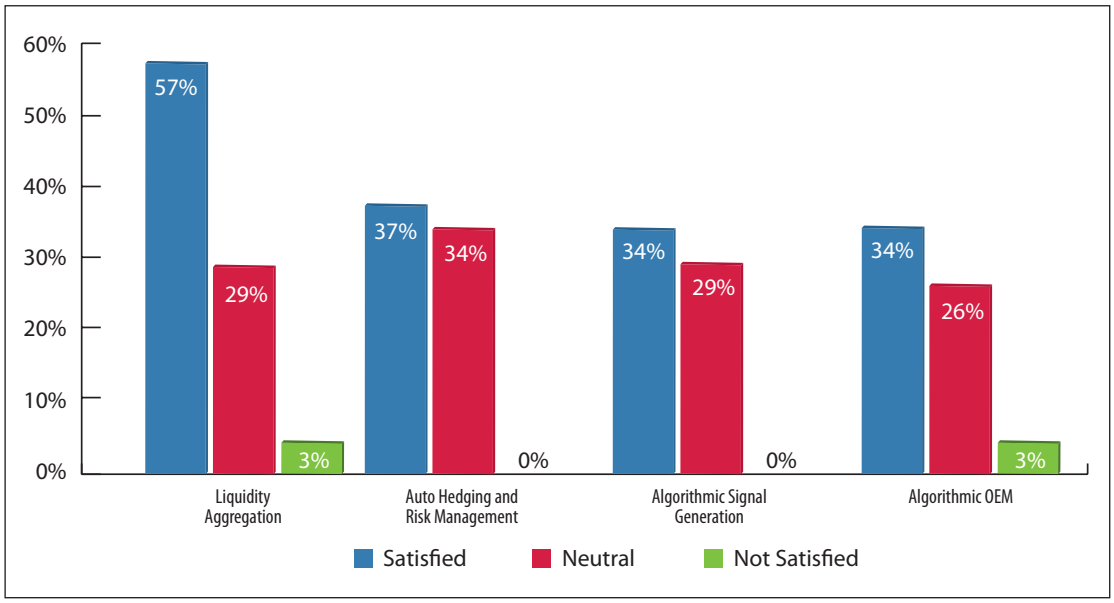

Figure 10 – Buy Side's Satisfaction in Their FX Trading Capabilities

About 20% of sell-side firms are not satisfied with their current algorithmic signal generation and OEM

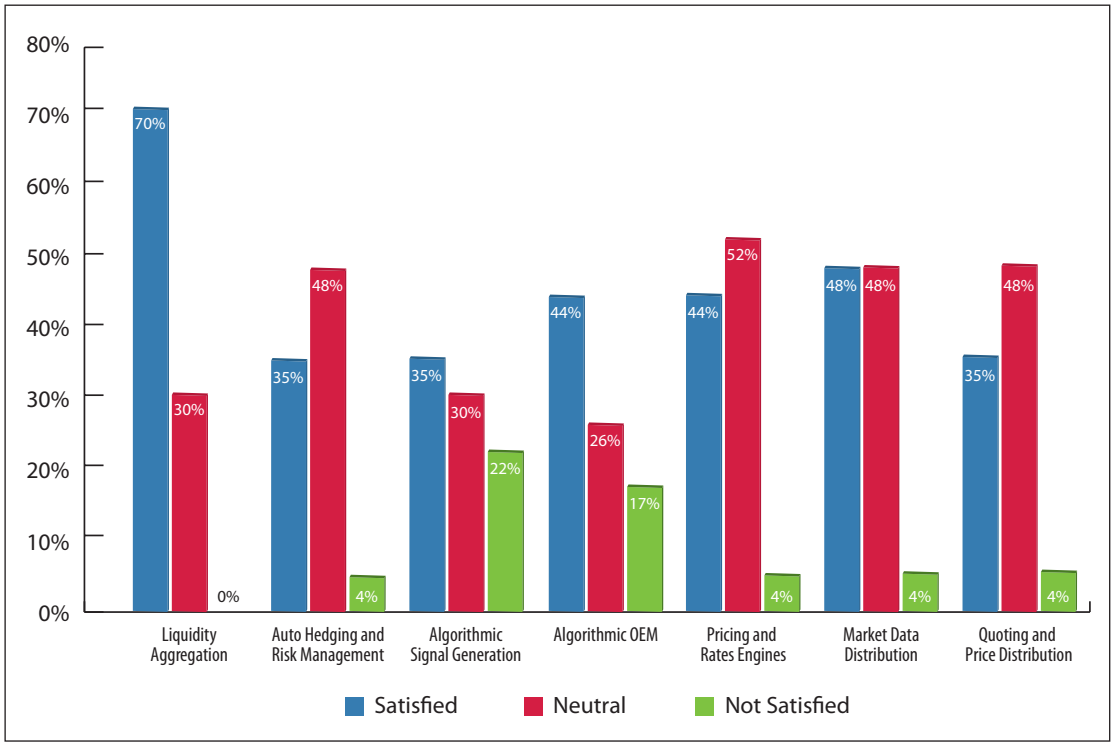

Figure 11 – Sell Side's Satisfaction in Their FX Trading Capabilities

Top Technology Iniatives in 2011/12

1. Liquidity Aggregations
2. Algorithmic OEM
3. Algorithmic Signal Generation

Regulatory Impacts on FX

Regulatory Enforcements Raise Concerns Over FX Transactions

Regulatory uncertainty has not helped an already stressed market. In the U.S., the tension between various state prosecutors and custodian banks has brought unfavorable public attention to the FX market. This is reflected in the survey, with 43% of buy-side respondents expecting increased regulatory scrutiny over the global FX market, and some 37% believing that the market needs more transparency and that firms need to have better price discovery mechanisms in place (see Figure 12).

Additionally, an online poll conducted by the Wall Street Journal in February 2011 showed that 86% of 504 readers think custodian banks should provide transaction-time records for FX traders.[7]

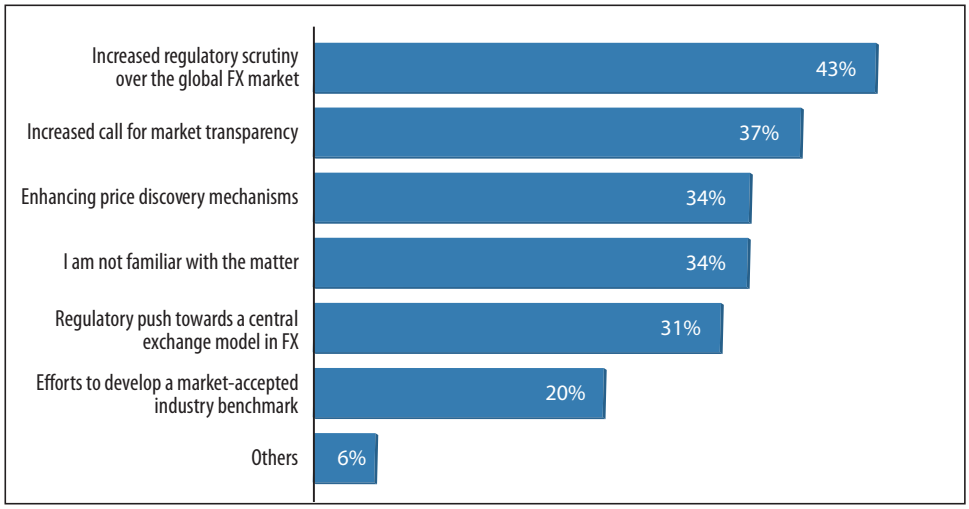

Figure 12 – Potential implications arising from the recent lawsuits against custodian banks regarding their handling of FX transactions (buy-side specific)

On the flip side, over 50% of sell-side firms believe regulatory requirements will have the biggest impact on their FX business and some 22% of sell-side firms thought that high frequency traders would affect their FX business. Financial reform is underway in both Europe and the United States. Many market participants are worried about the upcoming challenges of upgrading their systems while maintaining business profitability in the new regulatory regime (see Figure 13).

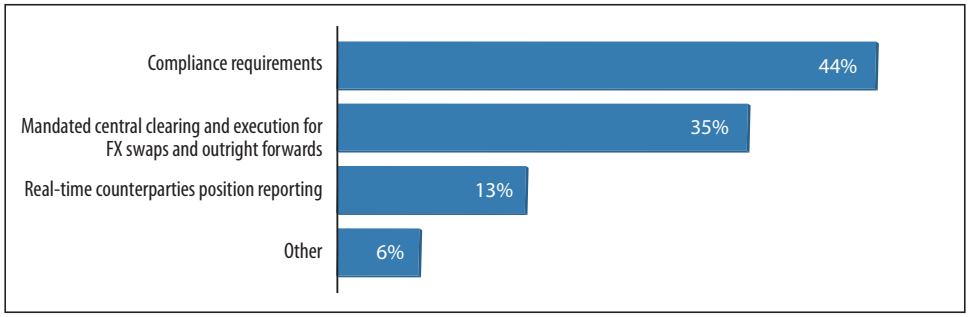

Figure 13 – Concerns regarding the Dodd-Frank rules (sell-side specific)

[7] "Should custody banks be required to provide transaction-time records for FX trades?", http://online.wsj.com/community/groups/market-view-845/topics/should-custody-banks-required-provide, the Wall Street Journal Online

In the latest iteration of the Dodd-Frank Act, the SEC and CFTC intended to include most foreign exchange derivative products into the "swap" category.[8] Foreign exchange swaps, and forwards, foreign currency options, non-deliverable forwards in foreign exchange, and cross-currency swaps all fall into the definition and will need to be traded on the designated venue — Swap Execution Facility (SEF), and centrally cleared. All swap dealers and major swap participants are required to meet certain capital or margin requirements; maintain trade reporting and recordkeeping of counterparties and customers.

However, the U.S. Department of the Treasury shortly issued a proposal that aimed to exempt FX swaps and forwards from the definition of swap under the Commodity Exchange Act (CEA).[9] Although the Treasury's position created an agreeable atmosphere among many market participants, there are few signs of how the global FX market will evolve.

Other foreign exchange derivative products including non-deliverable forwards and options might not be exempt from the Dodd-Frank Act and would be regulated to trade and clear on SEFs, which are closer to the existing functionality and infrastructure offered by multi-bank and independent platforms. This might further change the competitive landscape in the FX market while dealing banks currently having the advantage of providing multiple FX products with an integrated service.

Conclusion

Turbulent economic conditions and sovereign debt crisises have put FX in the spotlight, and the call for greater transparency and efficiency has never been greater. With increased demand for more control on FX trades from clients, banks are looking to 1) provide customizable algorithms for their customers that would allow them to execute trades within the bank or route to other venues; and 2) enhance existing trading infrastructure to include a robust pricing engine and internalization capabilities to help manage their risk portfolios in real-time.

The growth of high frequency trading has changed the traditional two-tier market structure in FX. However it is still difficult to pin down the actual percentage of high frequency trading in terms of overall FX trading volume[10]. Participants from both the equities and FX markets may argue that high frequency traders provide only "fake" liquidity to the market, but the fact that they contribute to increased trading volume and tighter spreads is indisputable.

While the intent of U.S. legislation is to increase market transparency and maintain fairness, regulators need to consider the different characteristics between the equities and FX markets, and so do market participants. The percentage of high frequency trading in the FX market is unlikely to reach the same level as the equities market, as most of the trading is still driven by firms who want to hedge the risk in their investment strategies. For those firms, speed is not the most important criteria for achieving best execution, as they must take into account the geographical distance between FX trading centers, fill rates, and the relationships with different counter-parties.

It is also arguable that a more transparent FX market is beneficial to all participants. In general, more transparency will give liquidity takers and arbitragers more information in deciding how and where to execute their trades, but it also puts banks in a tougher position in clearing out their risk.

[8] "SEC Proposes Product Defections for Swaps", U.S. Securities and Exchange Commission, April 27 2011

[9] "Determination of Foreign Exchange Swaps and Foreign Exchange Forwards under the Commodity Exchange Act", Department of the Treasury, April 29, 2011

[10] Aite Group estimated that high frequency trading would account for more than 40% by the end of 2010.

In addition, the adoption of algorithmic trading also changes the customer expectations in terms of how banks should handle their FX trades. Buy-side firms, including traditional fund managers, are requesting ever more sophisticated algorithms and benchmarks to reduce the cost of their execution and improve the prices during illiquid trading periods. The competition between different ECNs also makes low latency data more accessible to firms that wish to build in-house liquidity aggregators.

The inherent complexity of a globally fragmented FX market and the proliferation of FX ECNs are the main challenges in 2011 for building FX trading systems. Coupled with the specter of regulatory oversight from multiple jurisdictions, all firms, sell-side or buy-side, need to build their trading system on technologies that allow for rapid modification as the trading environment continues to evolve.

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About StreamBase Systems, Inc.

StreamBase Systems, Inc, a leader in high-performance Complex Event Processing (CEP), provides software for rapidly building systems that analyze and act on real-time streaming data for instantaneous decision-making. The World Economic Forum recently awarded StreamBase the title of 2010 Technology Pioneer.

StreamBase's Event Processing Platform™ combines a rapid application development environment, an ultra low-latency high-throughput event server, and the broadest connectivity to real-time and historical data. Leading investment banks, hedge funds, and government agencies use StreamBase to power mission-critical applications that increase revenue, lower costs, and reduce risk. Applications in Capital Markets include FX Aggregation and Pricing, Smart Order Routing, Market Data Management and Algorithmic Trading.

StreamBase customers include CME Group, BM&FBOVESPA, SunGard, ConvergEx Group, RBC Capital Markets, CMC Markets, City Index and BlueCrest Capital Management. The company is headquartered in Lexington, Massachusetts with offices in New York and London. For more information, visit www.streambase.com.

Additional Reading and Resources

Visit www.streambase.com/webinar-fx-trends-roundtable-2011.htm to watch the roundtable discussion on FX Trading and Technology Trends in 2011.

Corporate Headquarters
181 Spring Street
Lexington, MA 02421
+1 (866) 787-6227

New York Office
370 Lexington Avenue
20th Floor, Suite 2002
New York, NY 10022
+1 (866) 787-6227

European Headquarters
60 Cannon Street
London, EC4N 6NP
+44 (0) 20 7002 1095