

Trends in the Global Capital Markets Industry: Financial Intermediary Firms

Key emerging trends across financial intermediary firms and their implications on the global capital markets industry

Contents

1 Highlights	3
2 Introduction	4
2.1 Global Capital Markets Performance	4
2.2 Global Capital Markets Players	5
3 Emerging Trends in Global Capital Markets: Financial Intermediaries	6
4 Trend 1: Increased Regulatory Reforms Are Impacting Financial Intermediary Firms	7
5 Trend 2: High Frequency and Dark Pool Trading Will Likely Drive Future Trading Volumes for Financial Intermediaries	9
6 Trend 3: Increased Consolidation in the Financial Intermediary Industry	11
7 Trend 4: Technology Infrastructure Upgrades Have Become a Focus of Financial Intermediary Firms	13
References	15

1 Highlights

Global capital markets continued their recovery in 2010, with the global financial stock of debt and equity surpassing 2007 levels and improved investor confidence leading to increased trading volumes. However, recovery was not uniform across all asset classes as bond trading grew by 19.8% by value, whereas equities trading grew by only 1.8% by value. The discrepancy highlights the skepticism of investors towards relatively riskier asset classes. On the backdrop of the increase in trading activities during 2010, financial intermediaries' top and bottom line improved significantly in 2010.

In 2010, emerging markets were the key drivers for growth in the financial intermediary industry as firms continued expanding in high-growth emerging markets, especially Asia-Pacific. Asia-Pacific trading venues such as Hong Kong, Singapore, and Shanghai out-performed the trading venues in developed markets such as New York and London, and it is expected that financial intermediary firms will continue their expansion in emerging markets.

In 2010 and through the first half of 2011, merger and acquisition (M&A) activities significantly increased for financial intermediary firms, especially stock exchanges. The rise in M&A activity has mainly been driven by the need to gain scale, raise capital for meeting new regulatory requirements, and increase a foothold in emerging markets to tap growth. Financial intermediaries are likely to continue to focus on growth in emerging markets, which will lead to further consolidation in the industry, especially in Asia-Pacific, due to intensifying competition.

Financial intermediary firms' spending on upgrading their IT systems and communications technology grew in 2010 and is expected to grow in both the short- term and mid-term. The main drivers behind this growth are:

- Regulatory pressures.
- Improving risk management.
- Gaining a competitive edge.
- Increased integration activities due to the increase in M&A.

Exchanges are increasingly adopting new technologies such as straight through processing (STP) for secure trade execution and SWIFT technology to communicate financial messages with minimal latency.

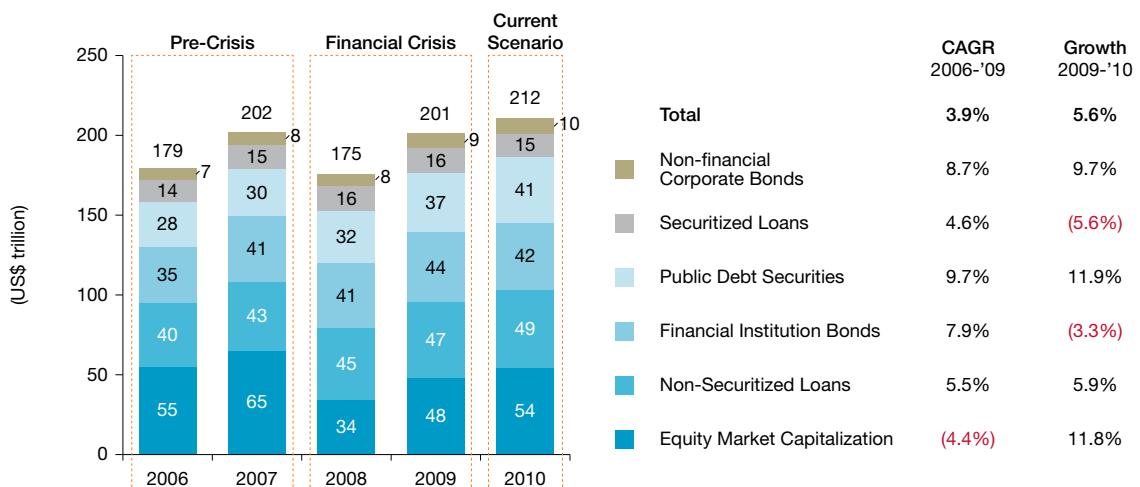
In the future, growth in trading volumes on exchanges will depend on the growth of high frequency and dark pools trading. High frequency trading is currently growing rapidly across all geographies, increasing the number of transactions on exchanges and clearing houses. Dark pools trading, which involves only big banks and institutional players and is carried out outside exchanges, is also gradually gaining momentum in the industry.

2 Introduction

2.1. Global Capital Markets Performance

After the severe financial crisis of 2008 and 2009, global capital markets have resumed growth. The global financial stock (debt and equity outstanding) grew by \$11 trillion in 2010 to reach \$212 trillion, which was above the 2007 peak level. The increase in the global financial stock was partly due to the recovery of global equity markets in 2009 and 2010, and largely due to growth in government debt securities (the latter is 14.6% above the 2007 levels while equities are still 17% below the level of 2007). Cross-border capital rose for the first time since the financial crisis in 2010, but still remains below the 2007 level.

Exhibit 1: Global Financial Stock (US\$ trillion), 2006–2010



Source: Capgemini analysis, 2011; Bank for International Settlements Statistics, 2006-2010

However, the recovery in global capital markets has been unevenly distributed across geographies. Developed markets such as North America, Western Europe, and Japan were the major absolute contributors to growth in the global financial stock with a market capitalization of \$6.6 trillion. Growth in emerging markets (up 13.5%) was much faster than in mature markets (up only 3.9%), and speaks to a shift in the global capital markets.

At the local market level, China contributed \$2.1 trillion to the growth of the emerging market financial stock which was up \$4.4 trillion in 2010¹, mainly due to an increase in equity valuations and lending. Global debt outstanding grew by approximately \$5 trillion in 2010, with government bonds rising by \$4 trillion. While corporate bonds grew, bonds issued by financial institutions declined in 2010 mainly due to low investor confidence.

¹ Bank for International Settlements Statistics, 2010

Globally, investors continued to diversify their portfolios geographically, with global foreign investments increasing to an all-time high of \$96 trillion in 2010. Increased cross-border lending, debt issuance, and foreign reserves fuelled the growth in foreign investments; with foreign direct investments also attaining a new high of \$21 trillion in 2010².

With the focus of investors and investment firms shifting to high growth emerging markets, global imbalances have increased further. For example, most developed economies are now net debtors, with their debt funded by emerging markets. Emerging markets, with high growth potential and rising income levels, have become the new centers for raising capital.

Going forward, the growth in the capital markets of emerging countries will likely remain strong as their long-term fundamentals look solid. However, global uncertainty and volatility have the potential to affect all markets and are key risk factors for the industry over the next few years.

2.2. Global Capital Markets Players³

Global capital markets players can be broadly divided into three core categories:

- **Buy-Side Firms:** Mutual funds, hedge funds, pension funds, unit trusts, proprietary trading firms, and private equity
- **Sell-Side Firms:** Investment banks, brokerage houses, and independent analysts
- **Financial Intermediaries:** Stock exchanges, clearing houses, and custodian banks

This paper explores the key trends prevalent across financial intermediary firms and their implications on the global capital markets industry.

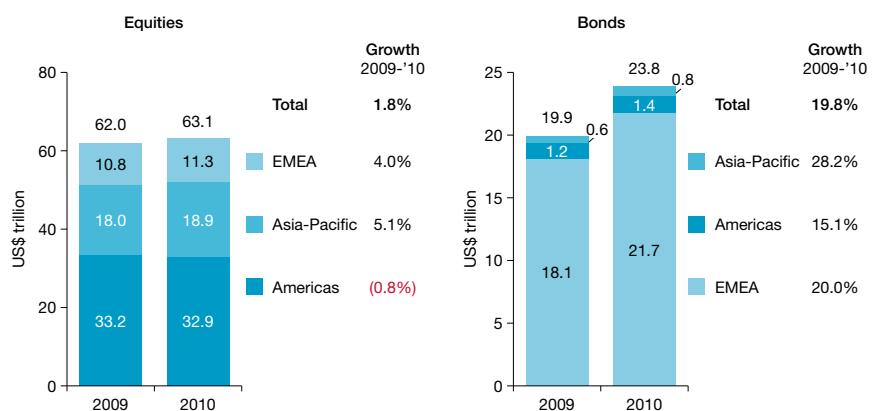
² International Monetary Fund Statistics, 2010

³ Wealth management and private banking are covered in a separate paper within our *What You Need to Know* series

3 Emerging Trends in Global Capital Markets: Financial Intermediaries

Against the backdrop of economic recovery, trading activities increased in 2010 even in riskier asset classes such as equities. In 2010, the total trading value of equities across all stock exchanges (electronic trading) increased by 1.8% to US\$63.1 trillion. The Americas' contribution to the equity trading value was the highest, but it was also the only region where the growth of equity trading value marginally decreased.

Exhibit 2: Equity and Bond Trading Value Performance (US\$ trillion), 2010



Note: Numbers may not add up due to rounding

Source: Capgemini analysis, 2011; WFE market Highlights - World Federation of Exchanges, 2010

On the other hand, the value of bond trading rose by 19.8% to US\$23.8 trillion in 2010. The increase signifies that investors remained skeptical about investing in riskier assets such as equities and prefer investing in relatively safer fixed income asset classes such as bonds. The EMEA region emerged as the highest contributor in absolute value and also grew by 20% in 2010, while Asia-Pacific grew at a rate of 28.2% but from a smaller base.

With high growth rates in Asia-Pacific, financial intermediaries such as exchanges and clearing houses are focusing on strengthening their base in the region, and expanding their portfolio of Asia-Pacific services.

These developments have led to the emergence of the following key trends in financial intermediary firms globally⁴:

1. Increased regulatory reforms are impacting financial intermediary firms.
2. High frequency and dark pool trading will likely drive trading volumes in financial intermediary firms.
3. Increased consolidation in the financial intermediary industry.
4. Technology infrastructure upgrades have become a focus of financial intermediary firms.

⁴ Trends shown are not necessarily comprehensive, but have been highlighted due to their relevance and potential impact on the industry

4 Trend 1: Increased Regulatory Reforms Are Impacting Financial Intermediary Firms

4.1. Background and Key Drivers

Post-crisis, the regulatory environment for financial intermediaries has toughened and further tightening is expected. Different regulatory structures have developed in the U.S. and Europe. In the U.S., the Dodd-Frank Act has been passed and the Commodity Futures Trading Commission (CFTC) and SEC have been given additional regulatory powers. In Europe, the EU has created new entities such as the European Securities and Markets Authority (ESMA) and introduced European Markets Infrastructure Regulation (EMIR) to regulate financial intermediary firms.

The regulatory environment is expected to tighten further in the future, with the EU planning to propose a ban on short-selling of financial shares, thereby impacting trade volumes on stock exchanges.

The key drivers for increased regulatory legislation impacting financial intermediary firms' activities are:

- Regulators are looking to enhance transparency in the financial markets, especially in the over-the-counter (OTC) market with OTC derivatives.
- Regulators are focusing on reducing risk and removing too-big-to-fail concerns. Central counterparty clearing houses (CCPs) are considered to be the next too-big-to-fail entities.
- Regulators are looking to streamline the clearing process by introducing regulation that enhances interoperability between CCPs.
- With market volatility increased in the third quarter of 2011 especially in European banking stocks, regulators are proposing ban on short-selling (to control volatility).

4.2. Analysis

For financial intermediaries, different regulatory structures are developing in the U.S. and Europe, and this divergence is expected to widen in the future. While the EU has chosen to completely restructure its supervisory framework in response to the gaps highlighted by the crisis, the U.S. has focused on improving the existing regulatory structure. However, both the U.S. and EU have focused on increasing transparency in the over-the-counter derivatives market by introducing the Dodd-Frank Act and European Markets Infrastructure regulation respectively.

In the U.S., instead of creating new regulatory bodies to reduce systemic risks and increase transparency, more powers have been given to the existing supervisory bodies of its regulatory structure such as Commodity Futures Trading Commission (CFTC) and SEC. The Dodd-Frank Act gives more powers to the Federal Reserve and tries to reduce overlaps in authority, as well as competencies.

On the other hand, the EU has created the European Securities and Markets Authority (ESMA) to overlook securities regulators, and other European supervisory authorities competent in the field of banking (EBA) as well as insurance and occupational pensions (EIOPA).

The EU is looking to propose a ban on short selling of financial firms' shares. Though this proposal is facing opposition from various market participants, France, Italy, Spain, and Belgium stock market regulators have already imposed an indefinite ban on short-selling in order to reduce on-going market volatility.

The EU has also been considering the implementation of a financial transaction tax, though this plan has not gained strong momentum because of opposition from local regulatory bodies. The U.K., France, and Germany have imposed a levy on big financial institutions—mainly banks including foreign banks that have operations in these countries.

4.3. Implications

Regulatory measures are focused on increasing transparency and reducing systemic risks, though these reforms are likely to put pressure on the profit margins of financial intermediary firms in the short- to medium-term.

The move to shift over-the-counter derivatives clearing through CCPs will have a positive impact on the revenues of clearing houses, but many analysts believe that the risks associated with over-the-counter derivatives will then shift to clearing houses, as opposed to parties involved in OTC derivatives trade. If over-the-counter derivatives are cleared through central clearing houses, CCPs will have to invest in upgrading their systems to accommodate the increase in trading volume and will also have to enhance their risk management systems so that they can capture risks associated accurately.

If regulation around interoperability between CCPs is implemented, investments will be made in the linking of CCPs. Such linkage will require upgrades to risk management systems in order to effectively and efficiently manage inter-CCP risks.

5 Trend 2: High Frequency and Dark Pool Trading Will Likely Drive Future Trading Volumes for Financial Intermediaries

Banks like Credit Suisse Group AG and Royal Bank of Scotland Group PLC, as well as a growing number of hedge funds, are handing over management of their currency options risks to computers.

Source: *High-Frequency Trading's New Frontier: Currency Derivatives*, by Neil Shah, online.wsj.com, October 18, 2011

5.1. Background and Key Drivers

High frequency trading (HFT) is a computerized algorithm-based trading technique which tries to capture market inefficiencies using quantitative models to analyze market data. HFT is characterized by holding small positions for a short period of time, and typically has no net position at the end of the day. Growth in HFT has a direct positive impact on the increase in trading volume in exchanges and clearing houses.

On the other hand, in dark pools trading, trades are done outside public exchanges between a group of institutional investors or large financial institutions. Financial institutions use dark pools to carry out large trades without revealing their identity and to avoid any impact on markets. Since it is not carried out through exchanges, growth in dark pools trading has a direct negative impact on the trading volumes of financial intermediaries.

The key drivers supporting the growth in high frequency and dark pools trading are:

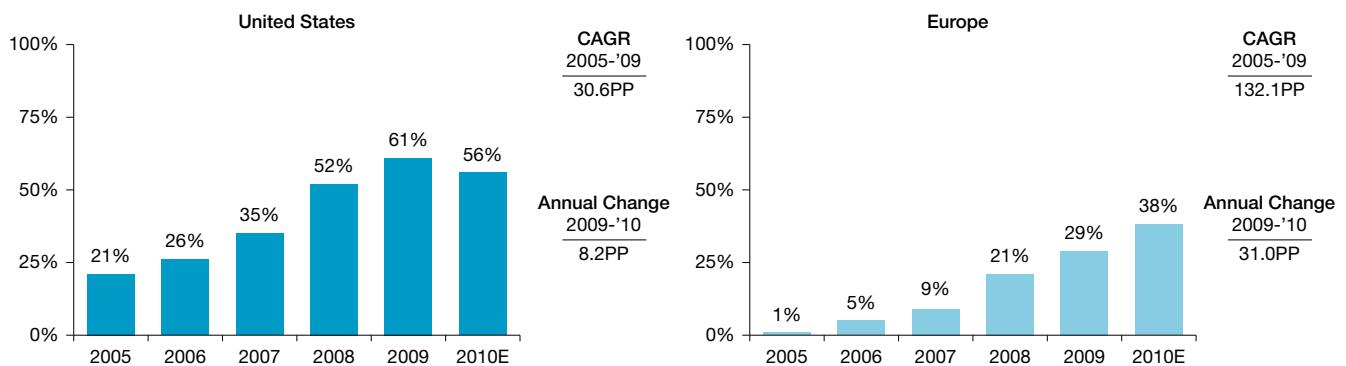
- High frequency trading allows financial institutions to exploit momentary inefficiencies in the market.
- In HFT, traders take small positions for a small period of time, thereby reducing risks associated with bulky trades.
- Advancements in communications and technology have reduced latency significantly, allowing high frequency traders to capture and benefit from market inefficiencies.
- Dark pool trading allows financial institutions and institutional investors to anonymously carry out big trades without affecting the markets.

5.2. Analysis

High frequency trading has gained prominence and now accounts for a significant share of the total volume traded on stock exchanges. For example, in U.S. equity trading, the estimated share of high frequency trading is around 56% by volume and is expected to grow in the future. On the other hand, in Europe the HFT share of equity trading by value has been increasing since 2005 and is estimated to have been around 38% in 2010. Most large investment firms (those that can support the infrastructure required for HFT) use this strategy; however, many quantitative hedge funds are entering this space and are building their own HFT infrastructure.

Apart from the U.S. and Europe, HFT has also made significant progress in other developed markets such as Japan, Australia, and Canada. High frequency trading firms are also showing keen interest in increasing their presence in the emerging markets of Asia-Pacific and Latin America. For example, the Brazilian brokerage house Alpes has signed a deal with an HFT technology provider to use its low-latency trading infrastructure.

Exhibit 3: High Frequency Trading As a Percent of Equity Turnover in the U.S. (by Volume) and Europe (by Value) 2005–2010



Source: Capgemini analysis, 2011; 'High-frequency trading: Up against a bandsaw', ft.com, 2010

Growth in dark pool trading has resulted in exchanges losing market share to dark pools, whose share of total trading volume in U.S. equity has increased from 5% in 2008 to around 14% in 2010⁵. Large financial institutions and many independent platform developers are now investing in developing dark pool trading capabilities to connect with dozens of dark pool trading venues at the same time.

The EU is planning to propose legislation to make dark pools trading more transparent. Large banks have been opposing this proposal as they believe that exchanges are not suitable to execute large orders without impacting market sentiments. If this proposal goes through, dark pools will be considered as a Multi-Lateral Trading Facilities (MTFs) and would comply with similar rules which currently govern exchanges.

5.3. Implications

High frequency and dark pool trading are gaining prominence in the global capital markets. Growth in the adoption of high frequency trading strategies will increase trading volumes for exchanges, whereas growth in dark-pools trading is expected to decrease the trading volumes in exchanges and clearing houses.

More firms are now looking to invest in developing their high frequency trading infrastructure, and exchanges are also upgrading their systems to handle the increase in trading volumes. In the case of dark pools, if the legislation is passed by the EU to restrict dark pool trading and improve transparency, exchanges will be the direct beneficiaries.

Overall, the net impact on exchanges and other intermediaries remains to be seen, as this depends on the relative increase in HFT trading volumes weighed against the potential decrease from dark pool competition.

⁵ Trading in Financial Instruments – Dark Pools; Committee on Economic and Monetary Affairs, European Parliament, 2010

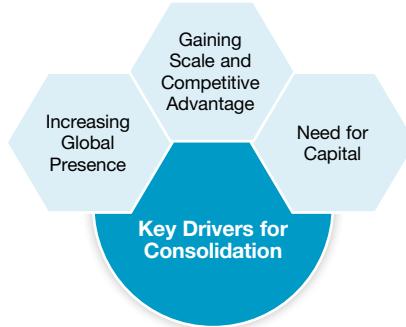
6 Trend 3: Increased Consolidation in the Financial Intermediary Industry

6.1. Background and Key Drivers

With the expansion of global capital markets in emerging economies such as Asia-Pacific (including Singapore, Hong Kong, and Shanghai) and Latin America, trading venues in these markets are gaining importance. A middle-class base in these emerging markets is growing rapidly and these individuals are looking to invest their wealth, providing significant opportunities for firms.

Globally, financial intermediaries based in developed markets are acquiring other developed market players in order to benefit from economies of scale. However, the acquisitions made in emerging markets by global players are predominantly driven by their desire to gain access within these markets.

Exhibit 4: Key Drivers for Consolidation of Financial Intermediaries



Source: Capgemini analysis, 2011

There are many drivers leading to the increased mergers and acquisitions in financial intermediary industry:

- Global financial intermediary firms are looking to expand inorganically to gain scale.
- Financial intermediaries are acquiring other market players to gain competitive advantage.
- Financial intermediaries are focusing on expanding operations in high-growth markets—especially emerging markets—but local emerging market firms are also expanding their operations and reach in developed markets.
- New regulations around capital requirements and liquidity are pushing financial intermediaries to consider mergers to raise capital for compliance purposes.
- Increased competition, especially in emerging markets, is making it difficult for small and medium players to survive and they are becoming easy targets for the big players who are acquiring other market players to gain scale and competitive advantage.

6.2. Analysis

Gaining scale and a competitive advantage have been the key drivers for developed market players. For example, in early 2011 Deutsche Borse AG's US\$9.53 billion all-stock purchase of New York Stock Exchange created the world's largest owner of equities and derivatives markets. The group is expected to have 2010 combined net revenues of \$5.4 billion and profit of \$2.7 billion, making it the world's largest exchange group by total revenues and profits⁶.

The London Stock Exchange (LSE) merged with TMX Group, which operates the Toronto Stock Exchange, in order to enhance their offerings and gain expertise in mining firms' listings. Both groups believe that synergies created by the merger will help the combined entity in raising capital for compliance.

Even smaller regional players have been focusing on acquisitions to gain scale and competitive edge in the market. In the U.S., CBOE Stock Exchange acquired the National Stock Exchange (the last two independent stock exchanges in the U.S.) in 2011. Financial intermediary firms from the emerging markets are also looking to expand their footprint in developed markets. For example, Singapore Exchange Limited (SGX) acquired the complete operations of Australian stock exchange and clearing house ASX in December 2010.

Regulatory authorities believe that the consolidation in the financial intermediary industry will be beneficial for investors and traders, as firms who have presence in multiple markets will be subjected to multiple regulatory systems resulting in better controls; firms will have to comply with the regulations of the markets where they are operating.

6.3. Implications

The consolidation of stock exchanges in the recent past has created a few large players who will now control the major share of trading activities within the global financial intermediary industry. As these players start to realize the benefits of economies of scale, these benefits are expected to be passed on to traders and investors in the form of trade discounts. Exchanges are already operating in a competitive pricing environment, and through massive consolidation competition is expected to further increase in the future.

With mergers and acquisition on the rise in the financial intermediary industry, firms are investing in integrating currently disparate systems such as trading platforms and data management systems. Merged entities will also invest in upgrading their risk management systems to incorporate risk parameters which are specific to the individual firms.

⁶ NYSE, Deutsche Borse merge, form world's biggest exchange: profit.ndtv.com, February 16, 2011

7 Trend 4: Technology Infrastructure Upgrades Have Become a Focus of Financial Intermediary Firms

7.1. Background and Key Drivers

Technology has been the key differentiator for financial intermediary firms, and technology spending for system upgrades has always been a high priority. The growth in high frequency trading has exponentially increased trading volumes, and financial intermediaries are now investing in technology to scale up their existing systems for handling the current elevated trading volumes as well as to ensure future scalability.

Before expanding to newer markets, buy-side firms must have a clear understanding of their resources, capabilities, and the key challenges that they are likely to face in a particular market.

With the emergence of new trading venues in emerging markets, financial intermediary firms are looking to enhance connectivity with these trading venues in order to tap into high-growth prospects. Since high frequency trading requires minimal latency, financial intermediary firms are providing low-latency infrastructure support to HFT firms.

The key drivers for financial intermediaries to invest in developing technology infrastructure are:

- Technology is fast becoming a key differentiator in delivering a better investor experience and service. Therefore, firms are upgrading their IT systems to gain a competitive edge.
- Massive consolidation is taking place in the financial intermediary industry, which is expected to increase the focus around data and system integration initiatives.
- Additional regulatory focus on risk and compliance has forced financial intermediary firms to invest in upgrading their risk management systems.
- With regulators proposing the movement of over-the-counter derivatives trading to exchanges and central clearing, financial intermediary firms must enhance their technology capabilities in order to accommodate the expected increase in trading volumes.
- High frequency trading has grown in prominence and its share in total trading volumes has been increasing, hence financial intermediaries are improving their infrastructure to support this growth.

7.2. Analysis

Significant increases in trade volumes, due to growth in high frequency trading and shifting of OTC derivatives trading to exchange, have put pressure on exchanges and clearing houses to improve their data handling capabilities. Financial intermediaries are also investing in improving connectivity and reducing latency for faster trade execution. This is driving firms to adopt unified STP technology to improve post-trade communications as the number of transactions is increasing. STP technology not only provides reliable and speedy execution of trades, but also reduces latency.

Financial intermediaries are implementing SWIFT⁷ messaging technology to enhance their messaging services. The SWIFT messaging network helps financial institutions transport financial messages in a highly secure manner.

⁷ Society for Worldwide Interbank Financial Telecommunication

Intermediaries who have been involved in merger activities are investing in integrating disparate systems. These firms understand that in order to create synergies from the acquisitions they are making, seamless integration of different platforms and smooth flow of data across the organization will be important.

Competition is increasing in the financial intermediary space with rapid growth in trading venues in emerging markets. Some of these trading venues such as Shanghai, Singapore, and Hong Kong are competing with global financial centers such as New York and London to capture the market share. With a few dominant players controlling the financial intermediary industry, the key differentiating factor will be how firms leverage new and innovative technology to drive investor experience and service.

7.3. Implications

With technology being the back-bone of the financial markets, especially financial intermediaries, firms will continue to spend on developing their communications and technology infrastructure. In the near-term, increased competition along with emergence of high frequency trading is expected to be the key drivers for investments in technology.

Emerging markets, especially Asia-Pacific, will likely drive the major portion of technology spending on enhancing the functionalities of existing systems. Increase in competition in the Asia-Pacific region will lead to some consolidation in financial intermediary industry, resulting in increased spending on system integration.

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About the Author

Rajendra Thakur is a Senior Consultant in Capgemini's Strategic Analysis Group within the Global Financial Services Market Intelligence team. He has four years of experience in the banking and capital markets industry with expertise in fixed income.

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