Factors Influencing Liquidity in Emerging Markets

Report of the IOSCO Emerging Markets Committee

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Table of Contents

CHAPTER 1: Objective and Approach

Background

The Emerging Markets Committee (EMC) approved a mandate to examine the factors that affect liquidity in emerging markets to be conducted by the EMC Working Group on Regulation of Secondary Markets. The detailed terms of reference of this mandate were subsequently approved by the EMC Advisory Board during its meeting in February 2006.

This report, aims to examine closely the relationships between market liquidity and factors such as market structures, financial policies, regulatory framework, trading infrastructure, the level of financial innovation and the breadth of a varied investor base. It seeks to identify and highlight initiatives by the various emerging markets to enhance liquidity and the success of such initiatives in achieving their objectives.

It is also the intention of this report to provide emerging market regulators with a greater understanding of the factors affecting market liquidity—i.e. those that typically lower transaction costs, facilitate trading and timely settlement, and ensure that large trades have only limited impact on market prices. Additionally, this report provides a review of the perspectives and experiences of other regulators in formulating policy and operational initiatives to enhance liquidity in their markets.

Survey Coverage and Responses

Information for this report was gathered via a survey questionnaire distributed to all IOSCO Emerging Markets Committee members in July 2006.

The survey questionnaire comprised 19 questions which broadly covered macro drivers of liquidity, market micro-structure, regulatory reforms and products and services.

The survey questionnaire was formulated with a view to ascertain the impact various factors had on the issue of liquidity in emerging markets. These include:

- **Macro Drivers of Liquidity.** The survey sought to identify the drivers of liquidity or factors that may enhance or reduce liquidity in emerging markets. This area focused on the implications of the structures and design of financial systems in emerging markets on liquidity.

- **Market Microstructure.** Market microstructure issues encapsulate a variety of elements such as trade execution systems, transaction costs and price discovery mechanisms which include the transparency of trading information and general information dissemination. Issues relating to the behaviour and business conduct of market participants that may influence liquidity were also reviewed.

- **Regulatory reforms**. The survey sought to gather information from emerging market regulators on regulatory issues that may arise in relation to managing the process of deepening liquidity in the various market segments. It sought to identify the regulatory challenges that may arise from a broad range of reform measures on regulations and market structures to enhance liquidity.

- **Products and services.** The survey explored the impact of various products and services on liquidity. Within this context, the survey questionnaire sought to ascertain the impact of different types of market players as well as their investment strategies and styles on liquidity. For example, the use of hedging strategies has been perceived to have had a substantial impact on market liquidity.

Responses were received from 21 jurisdictions[1]. In terms of geographical spread, there were 3 responses from Asia, 6 from Europe, 5 from South America, 5 from Africa and 2 from the Middle East. A summary of the survey responses was discussed at the EMC Meeting in Shanghai in October 2006.

[1] Responses were received from the IOSCO ordinary members from Bosnia Herzegovina, Brazil, Chinese Taipei, Costa Rica, El Salvador, Israel, Lithuania, Former Yugoslav Republic of Macedonia, Malaysia, Morocco, Nigeria, Oman, Panama, Peru, Poland, Romania, South Africa, Tanzania, Thailand, Turkey and Uganda.

Chapter 2: Market Liquidity

While not always easy to define and measure, liquidity is typically understood as the market's ability to absorb large amount of trades without causing excessive price movements. In addition, liquid markets are characterized by narrow bid and ask spreads. This means that transactions are carried out in a cost effective manner.

Liquidity in secondary markets determines the success of public offerings, reduces the cost and risk for underwriters and market makers. It also reduces the cost for investors via ensuring lower volatility and transaction cost. Thus, from a macro perspective, liquid capital markets are essential for the efficient allocation of capital, which results in lower cost of capital for issuers. At the micro level, a liquid market ensures access to a diverse range of investors with various trading strategies.

In general, it can be said that liquidity refers to the depth, breadth, degree of resiliency as well as trading speed present in a market:

- **Depth of the Market** – the impact of large trade volumes on price movements;

- **Breadth of the Market** – the fraction of the overall market that is participating in the market's upward or downward move. In other words, it refers to the degree of tightness of the market and hence reflects the cost of changing positions. The bid-ask spread is a common indication of market breadth i.e. in a liquid market, spreads should be thin enough to prevent excessive price movements;

- **Market resilience** – the period of time taken to reach equilibrium in the event of significant price fluctuations. Such fluctuations are typically caused by either news-flows (normally negative news) or large trade volumes. A resilient market is a robust market where prices revert to mean or fair value within a short period of time;

- **Time** – the speed at which trades are absorbed by the market. In a liquid market, trades are executed with a minimal time lag.

Traditional measures of market liquidity include trade volume (or the number of trades), market turnover, bid-ask spreads and trading velocity. Additionally, liquidity also depends on many macroeconomic and market fundamentals. These include a country's fiscal policy, exchange rate regime as well the overall regulatory environment. Market sentiment and investor confidence are also key to improving liquidity conditions. On a more micro level, the type of instruments traded, the nature of participants involved as well as the structure of the market will have a significant impact on market liquidity.

Market liquidity, an important factor that affects market efficiency, is primarily determined by the effectiveness and efficiency of the market's price discovery function. For instance, the uncertainty as to the execution price is low for liquid markets. This does not necessarily imply that the execution price is identical to the mid-price of the bid-ask spread; but rather that the deviation between the two should be predictable and minimal. In practice, this is likely to be associated with low and stable bid-ask spreads.

Liquid markets should therefore facilitate entry and exit in a manner that is least disruptive i.e. at minimal loss to nominal values, low transaction costs, and within a short time frame. The more liquid a market, the wider the set of potential counter offers for any outstanding transaction, and hence the higher the probability of a favourable match. Thus, investors are generally attracted to markets with higher levels of liquidity. Therefore, liquidity is crucial to both the growth and development of markets.

Market liquidity is also crucial to financial system stability as a liquid market is able to better absorb systemic shocks. For instance, a liquid market is able to cushion the price volatility brought about by sudden shifts in investor risk appetite. This in turn helps to limit the potential adverse knock-on effects on the rest of the financial system as well as the broad economy.

Given its importance, it is therefore understandable why regulators place such a strong emphasis on improving overall market liquidity. Indeed, many regulatory, developmental and reform efforts within emerging markets are seen as having the key objective of establishing deep and liquid markets. The presence of liquid markets would in turn ensure a higher degree of investor confidence and market efficiency, and hence render the market more resilient.

Factors Impacting Liquidity in Emerging Markets

Liquidity is becoming a critical issue in capital market development initiatives. As markets become global, an accompanying threat to small and less developed markets is the drying up of liquidity in domestic markets with a concurrent transfer of that liquidity to other major markets in the region.

An important point to note is the adverse impact of financial crises such as the Asian financial crisis, as well as the Russian and Brazilian financial crises that ensued thereafter. The occurrence of these financial crises brought about significant market reforms across emerging markets. With significant measures put in place over the last decade, emerging markets have become more integrated into the global economic structure. Some emerging markets jurisdictions have intensified their momentum in adopting more sophisticated market structures and regulatory standards. This has resulted in sustained growth and greater stability due to increasing investor confidence in these markets. The obvious and imperative consequence of this is the positive bearing it has had on liquidity within such markets.

The worst-affected countries during the 1997/98 crisis experienced a liquidity crunch that raised profound questions regarding the functions of the financial systems in these economies, as well as the sufficiency of the institutional framework that underlies them. The reaction since then has been to address relevant weaknesses not only to return confidence to the markets, but also to ensure that market structures were sufficiently resilient to impel any negative factors that may impact liquidity. One of the key lessons learnt was perhaps the immediate and in some cases, prolonged, effects that a reversal of investor confidence may have in a given market. Such reversals are almost always accompanied by a significant deterioration in market liquidity, with ensuing adverse consequences on the financial system and broad economy as a whole.

Regulatory authorities have thus begun to actively explore initiatives that will encourage the long term development of the different dimensions that contribute towards deepening markets. More often than not, the regulators' objective is to achieve a sustainable degree of liquidity in the markets, as well as to manage incidences of extreme trading activity. In other words, the regulators seek to ensure that the market is able to absorb and withstand any adverse impact that may arise in the event of a financial crisis. Thus, regulatory efforts are targeted to lend support to developing a structural framework that can ensure deep, broad and robust markets.

Chapter 3: Factors Influencing Liquidity

Introduction

This chapter discusses factors which have been cited to impact market liquidity. The discussion below is primarily based on information collated from the survey responses as well as additional observations made in formulating the report.

Using the five year average of stock market capitalization as a percentage of GDP as a measurement (data from the World Bank), the smallest respondent markets were Uganda, Former Yugoslav Republic of Macedonia and Tanzania. The larger emerging markets in the sample were South Africa, Malaysia, and Chinese Taipei.

In relation to the survey responses, a few issues should be noted:

- Firstly, many responses provided information and qualitative insights unique to the responding jurisdiction.
- Secondly, in many cases, the success of the initiatives implemented by regulators was dependent on the overall domestic operating environment.
- Thirdly, responses suggested that instead of a dominant single factor, liquidity levels tend to be influenced by a combination of factors.
- Fourthly, while there has been no direct correlation observed, investor protection related initiatives have been critical measures in improving overall liquidity levels.
- And lastly, factors driving liquidity vary according to the individual market's level of development, given that the markets under review varied significantly in terms of size and sophistication.

More than 25 factors were highlighted. This report discusses the most significant of these measures.

1. Concentration of Ownership

There is a very high degree of share ownership concentration in many emerging market jurisdictions, to the tune of up to 70% as cited by one jurisdiction. The survey suggested that the concentration of share ownership is highly connected with the share's free-float levels. Reasons cited for the high concentration observed are as follows:

- In many jurisdictions, the majority stake (in many public listed companies) is still tightly held by its controlling or founding shareholders. While public spread requirements are in place, many controlling shareholders are reluctant to allow large amounts of their company shares to be freely tradable. One of the reasons cited for this was their vulnerability to takeovers.

  By and large, enhancing liquidity requires that there be sufficient free float in the market for the stock to be traded actively by investors – particularly institutional investors. The rising importance of free float is reflected by the fact that it is increasingly being used for determining the weighting of a stock on an index.

  Free float was an issue for, among others, Malaysia, where the average free float is approximately 30 per cent of paid-up capital. Many companies in Malaysia are majority controlled by a small group of related parties and managed by owner-managers. However, efforts to enhance liquidity in the capital market were intensified with a series of measures introduced by the government and the regulator. These included the gradual relaxation of exchange control measures, divestment of government holdings to increase the free float of shares and the liberalization of foreign equity limitation policy to new investments.

- Governments in emerging markets typically play a significant role in economic development, especially in the “strategic sectors”. However, there is a visible trend towards divestment of government holdings in the more developed emerging markets, thereby allowing the private sector to play a more critical role.

  A study conducted by Oman suggested that an increase in government holdings had an adverse effect on trading volume. Oman highlighted that their government’s investment strategy tend to be long term in nature. The study found that market liquidity was negatively impacted by a substantial decline in the market’s free float levels. Similarly, a study conducted by Hong Kong on the government’s intervention in the market during 1998 showed that intervention had adversely affected the liquidity in the Hang Seng Index component stocks.[2]

- Another issue plaguing liquidity is the investor profile dominating a particular market. It was highlighted that investors are unable to take opposing positions in a trade when there is a lack of diversity in the investor universe. In such cases, several respondents highlighted that foreign participation was introduced to diversify the investor base.

- Lastly, pension funds as a “passive investors” with sizeable presence in a capital market may have significant impact on market liquidity because they often adopt a long-term investment strategy. This may have a negative influence on the level of shareholding concentration, and overall market liquidity. In an effort to improve liquidity in the

[2] *Free Float and Market Liquidity: Evidence from Hong Kong Government’s Intervention*, Kalok Chan, Yue-Cheong Chan & Wai-Ming Fong, 1 March 2002

capital market, the Employees Provident Fund in Malaysia significantly increased its allocation of funds to external fund managers.

2. Level of Free Float

Free float levels were commonly cited by respondents as having an impact on liquidity. The MSCI defines free float as a proportion of share capital that is deemed to be available for purchase in the public equity market by international investors. The FTSE describes it as a measure to reflect the actual availability of stock in the market for public investment. In general, the free-float refers to the proportion of total shares issued by a company that is readily available for trading in the market. Many factors may impact the free float of a market, the more common ones being shareholdings by strategic shareholders who are not likely to trade the stock, limits in foreign ownership as well as other restrictions on ownership of shares.

In general, companies with the highest free float levels also generate the highest level of liquidity. This was clearly observed in Romania and Poland. To address this, minimum free float requirements are generally set at 25 per cent, although this figure varies between jurisdictions. Slightly less than 50 per cent of the survey respondents noted that there was a minimum free float requirement in their jurisdiction and the aim of this was to ensure that the markets function efficiently. In one market, Thailand, there was a concerted effort to increase free float levels – both through direct engagement with listed companies and offering incentives (for e.g. the SET is considering the possibility of reducing listing fees for firms with greater free floats).

In Malaysia, Bursa Malaysia introduced a free float adjusted index to, among other factors, encourage public listed companies to observe certain free float thresholds. In addition, a conscious effort is being made in Malaysia to engage with both public listed and government-linked companies (GLCs) to encourage greater levels of available free float. For example, Khazanah Nasional, Malaysia's government investment arm, has recently issued exchangeable bonds which were exchangeable into shares of public listed companies owned by Khazanah as part of its commitment to divest progressively stakes in its core holdings to increase market liquidity.

Public listed companies have also been encouraged to consider initiatives that can help increase the level of free float through the use of equity linked products such as warrants, as well as exchange traded funds. Such measures are aimed at promoting greater retail participation in the equity market, as well as allowing government-linked investment companies to be able to pare down their stakes in GLCs in exchange for units in exchange traded funds, without exerting selling pressure on the respective shares and the overall market. This in turn helps to increase free-float and liquidity for listed GLC companies.

3. Foreign Intermediaries

The liberalization of the intermediary sector by allowing foreign players to establish operations in their markets was also cited as an important factor in influencing market liquidity. The presence of foreign intermediaries and the ensuing higher number of players led to greater competition and indirectly enhanced the degree of market vibrancy. Malaysia highlighted that the liberalisation of intermediation services was driven primarily by the eventual need to compete with global players. However, Malaysia also recognized that an efficient intermediation sector would also help facilitate, to a certain extent, a deepening of liquidity in the market. Furthermore, the resultant greater global connectivity of intermediaries also allowed for greater access to international liquidity pools.

Responses indicated that regulators have been liberalizing their licensing regimes to increasingly include foreign players. Almost all respondents said that they permit the participation of foreign intermediaries in their market, although with some variations in the levels of licensing and domestic establishment or partnership requirements.

Meanwhile, the European jurisdictions adhere to EU regulations, which permit the freedom of establishment and movement. Some jurisdictions are also considering further relaxation of licensing requirements. Israel, for example, is considering allowing certain investment advisory and mutual fund management firms to market products and services without the need for a local license.

Although there is no strong evidence demonstrating a clear link between the establishment of foreign firms and liquidity, the general response nonetheless suggests that foreign participation may have helped enhance the standards and profile of the market as a whole. Furthermore, it is believed that the presence of global players leads to an injection of expertise and innovation especially in areas of product development and corporate services. Developments in such areas have generally been critical to ensure further growth and maturity in the domestic markets. This in turn would have a long term impact on enhancing investor access and confidence in domestic emerging markets.

4. Market Access

As emerging markets mature, many are exploring technological solutions to enhance efficiency and investor access to the market. More often than not, such measures seek to facilitate the channeling of global investment flows into domestic markets. Particular regard is normally given to global institutional and sophisticated investors who tend to demand greater control over their trades. This may require stock exchanges to re-configure their access granted to market participants, going beyond the traditional broker-dealers.

With rapid globalisation of markets and heightened competition, exchanges are required to secure their market positions as well as to attract order flows from the international investment community. Exchanges in emerging markets have an urgent need to provide an efficient gateway for investors to access their markets. Examples of some mechanisms that has been implemented include Direct Market Access (DMA), development of an open interface technology (API) and as well as permitting remote access.

DMA and remote access are two examples cited by Chinese Taipei, Poland and Malaysia. The implementation of DMA is currently being considered by stock exchanges in Malaysia and Thailand. DMA offers zero touch execution as well as speed and anonymity of trades, These two criteria have increasingly become a necessity for investors such as hedge funds and long-only institutions. DMA is expected to allow access to a more diversified range of investors as it enables the adoption of various trading strategies, including those of algorithmic and programmed trading. Algorithmic and programmed trading allows investors to better align the execution of trades with clients' objectives, as well as allowing clients to have direct control over best execution.

The survey also suggests that that remote access is less developed within emerging markets, with Israel being the only respondent citing this as a development which has had a positive impact on liquidity.

5. Internet Trading

In order to increase domestic retail access to the market, some jurisdictions have introduced the ability to trade via the Internet. Internet or online trading refers to securities trading activities where investors place orders and confirm trading results via electronic communication channels. In its more advanced forms, the process is completely automated. A notable example is that seen in Korea, where the entire process from order placement and routing, order execution, to trade confirmation is fully automated, thus allowing the trade to be executed within the shortest possible timeframe. In less advance models, manual re-input of investors' online orders by the broker may be required.

The success of internet trading initiatives varies significantly from jurisdiction to jurisdiction. In general, its success is highly dependent on the availability of strong broadband infrastructure and high internet penetration levels. It also depends greatly on the differentiation in cost when compared with non-Internet trades. In the case of Malaysia, it was cited that the cost of Internet trades, while at a discount, was still not sufficiently low to encourage widespread trading via the Internet.

Alternatively, in some jurisdictions, the introduction of Internet trading has had a significant impact on enhancing market liquidity, particularly in the derivatives market.

It has been shown that online trading is beneficial to the market. The experience of several markets such as the US, Chinese Taipei and Korea suggest that online trading boosts trading volumes given the speed of execution as well as the ease by which orders can be made. At the same time, studies in Hong Kong and US have also shown that online investors are more aggressive risk-takers, and tend to hold stock for a shorter duration.

More importantly, it has also been shown that online trading enables the integration of different trading functions, thus ultimately reducing the cost per trade. This in turn provides investors with a greater impetus to trade.

The impact of internet trading is particularly significant in Korea, where online trading constitutes more than 50 per cent of total market trading volume. The prevalence of online trading has had a significant impact on transaction costs and hence investors' trading patterns. The lower transaction costs encouraged investors to trade more frequently in pursuit of short swing profits, thus making day trading more prevalent. Day trading now accounts for more than 30 per cent of the total trading value of the Korea Stock Exchange.

The impact of online trading can be seen from two perspectives. Firstly, provided that the internet infrastructure and penetration levels exist, it provides a fast and highly mobile channel for both trading and distribution. This has the capacity to attract large masses of retail investors to the market. At the same time, the competition that it posed to traditional trading channels led to an overall reduction in trading costs. In the Korean experience, traditional brokerage firms have seen their brokerage commissions decline due to online competition. The net effect has been a reduction in trading costs for the investors.

The access to a large pool of retail investors – and those that would actively trade in the market - through the internet would also contribute to greater levels of liquidity to a market.

6. Capital Account Liberalisation

Capital controls or capital restrictions clearly have adverse implications on liquidity. Capital controls introduced by Malaysia in response to the Asian financial crisis in September 1998 had led to an immediate outflow of funds. Since then, Malaysia has been gradually lifting restrictions on capital controls and embarked on various reform measures in line with the objectives of the Financial Sector Master Plan (FSMP)[3] and the Capital Market Master Plan (CMP)[4]. Recent measures of further liberalization have been well received by

[3] Under Bank Negara Malaysia
[4] Under the Securities Commission of Malaysia

foreign investors as some of the restrictions lifted include impediments that were set in place before the Asian financial crisis.

In Israel's case, it was observed that the abolition of foreign currency restrictions in the 1990s resulted in increased market liquidity. This was largely attributed to the greater opportunities for foreign investment, as well as the greater innovation seen in domestic instruments.

However, it should be noted that the lifting of capital controls could have a two-way affect on domestic liquidity. Despite the long term positive effects, the market could experience an outflow of funds in the short term as market players rebalance their portfolios in response to changing market circumstances. The extent of the outflow is highly dependent on the international competitiveness of the country, as well as the degree of friction inherent in the market.

The lifting of capital controls will enhance market integration with global capital markets. The ensuing higher degree of cross-border capital flows will often contribute to a higher correlation between domestic and global markets i.e. domestic share prices will become more volatile and reactive towards development in global markets. Such gyrations may have the adverse side-effect of complicating macroeconomic and exchange rate policies. Higher exchange rate volatility may also potentially deter local companies from longer term investments. However, a higher degree of integration will also act as a push factor for further development of the domestic market. For instance, investors may pressure domestic intermediaries to upgrade their trading systems or domestic regulators to modify existing legal frameworks to support a greater variety of financial instruments.

It is also noted that one of the impediments faced by the Association of South East Asian Nations' (ASEAN) initiative for regional integration is the restricted access for capital. The move towards liberalisation of capital controls will ease the inter-regional flow of capital and also streamline regulatory requirements accordingly.

7. Transaction Costs

In general, as compared with mature/developed markets, emerging markets have higher transaction costs attributable to lower volumes of trading. Furthermore, in some markets, there continues to be regulatory intervention on fees and levies as compared with market driven rate setting.

One of the issues examined was whether the overall cost structures (which include prevalent commission rates and taxes such as stamp duty and transaction tax) posed an adverse impact on trading, thereby affecting liquidity.

Several respondents answered in the affirmative, such as Chinese Taipei and Romania. Chinese Taipei highlighted that by lowering transaction tax, an increase in liquidity was seen. Romania meanwhile, cited its unique experience where a surge in liquidity was experienced as a consequence of the consolidation of its exchanges, which led to lowering of transaction cost.

On the other hand, jurisdictions such as Thailand responded that the lowering of transaction cost in their case did not impact market liquidity. Malaysia and Poland recorded a similar experience. As expected, an observation was made where jurisdictions with no capital gains tax experienced a higher level of trading volume.

It is noteworthy that exchanges today are moving rapidly towards lowering transaction cost to attract greater liquidity. Stock exchanges are selectively identifying areas that require a liquidity boost and where relevant, reduce transaction cost. The case in point is Bursa Malaysia's recent move to reduce transaction cost for its derivatives market. Further, in some markets, the introduction of direct access through online trading has resulted in a move towards disintermediation and generated greater competition with traditional brokerage business, with the effect of lowering commissions and fees, and ultimately costs. In markets such as Korea and Chinese Taipei, this has dramatically increased liquidity levels. Also, the move to liberalize the brokerage sector by allowing foreign players to compete with domestic ones is anticipated to result in a lowering transaction costs, although this may not have been the primary objective of the initiative.

One strategy to encourage vibrancy in the market is to ensure that investors are able to maximize their return on investments. Transaction costs are hence an important element in an investor's stock-picking and decision-making process – all else equal, investors will prefer jurisdictions with the lowest possible transaction costs. As discussed above, lower transaction costs would contribute to higher market liquidity.

8. Trading infrastructure

In general, most respondents highlighted that technological advancement in trading systems have a positive impact on market liquidity. A state of the art and modern trading infrastructure has the following characteristics:

- It allows for more flexible trading systems. This in turn enables market institutions to launch new products and services in a more efficient and cost effective manner;
- It creates a more efficient trading mechanism. This results in a faster execution of orders, whereby the trading engine may, for example, cater for a continuous matching system or an auction mode which enables greater price discovery;
- Modern messaging system which enables future direct connection to other exchanges for strategic alliances or for DMA by foreign intermediaries;

- The system and underlying technology is sufficiently sophisticated, reliable and flexible to adapt to future changes in market volatility and trading volume. This also includes the ability to accommodate extended trading hours;
- Possesses system functionalities such as "*trading at last*" which may potentially increase volume. For example, Euronext experienced a 10% increase in volume by introducing this system functionality. In addition, sophisticated systems allow for more order types and permits user-defined trading strategies i.e. order types will no longer be exchange dictated but can be determined by the investor's trading strategies; and
- In some exchanges, a new trading platform will eventually allow the derivatives and equities market to converge into a single platform thereby allowing access to a greater pool of market players

The aim of technological enhancements in the secondary markets is to improve market access as well as to provide for different trading models. New technology may also act as enablers for the development of other market structures such as market making capacity, specialized models catering for thinly traded stocks or the trading of odd lots, etc. All of these are eventually expected to contribute towards enhancing liquidity in the market.

The technological enhancements that were most commonly cited in the survey were the availability of DMA and internet trading as discussed above. Less common in emerging markets are remote access mechanisms, electronic communication networks or alternative trading platforms.

It has been observed that markets that moved from manual, open outcry systems to automated systems tend to experienced significant positive impact on liquidity. For example, since 2005, trading in Brazil's Bovespa has been conducted exclusively through the electronic market. Floor trading was totally eliminated. This in turn allowed for the introduction of up to 5 million offers a day. It also allowed for the possibility of order managers introducing offers directly into the trading system, through specific gateways. As a result, the market saw an exponential increase in the number of trades, lower volatility in asset prices (thus allowing for greater price continuity) as well as more fluidity in the system.

Poland noted that the introduction of an electronic, quote-driven trading system (the same as Euronext) has had a significant impact on market liquidity. It allowed for the continuous trading of stocks and derivatives, with API interface, which also made Internet trading possible. Internet trading in particular has had a positive impact on liquidity in the derivatives market, due to day-trades conducted on futures contracts.

9. Products

The range of investment instruments available in a market has been cited as an important factor in increasing a market's attractiveness to investors. One of the main characteristic of a developed market is the availability of a broad range of investment products, especially those of derivative instruments. The availability of a diverse and sophisticated range of products provides options to a disparate range of investors with distinct risk appetites. Furthermore, the attractiveness of available investment instruments is also a crucial factor in facilitating the mobilization of savings into the capital market.

Respondents to the survey acknowledged that the breadth, range and degree of sophistication for products offered are crucial in attracting investors. This would in turn contribute to deeper market liquidity for the reasons cited above.

The types of products that are generally already available in emerging markets to enhance liquidity include the following:

- Derivatives products, which may have a direct effect on the trading of the underlying securities;
- Structured and call warrants as hedging instruments;
- Single stock futures (SSF), which has been successfully traded in India (accounting for approximately 50 per cent of trading in derivatives). However the introduction of SSF did not result in an increased level of liquidity for Malaysia. This suggests that the success of such products is not automatically assured but is highly dependent on the overall operating environment and investor profile within a given market;
- Exchange Traded Funds; and
- Hedge funds as an alternative investment option.

The importance of liquid derivatives markets was highlighted in a previous EMC report[5]. The problem emanated from the Asian financial crisis in the 1990s whereby most crisis stricken economies had relatively illiquid futures markets, thus limiting market participants' ability to hedge existing risk exposures. Inadequate understanding of the uses and of derivative instruments further magnified the problem. Since then, measures have been taken by several jurisdictions to further develop and spur the growth of derivatives markets.

Most respondents noted that their regulatory structures were facilitative towards the development of new products and instruments. Thailand, for example, mentioned that it has continually promoted the issuance of new instruments in an attempt to ensure a greater range and variety of available instruments in its capital market.

[5] *Causes, Effects and Regulatory Implications of Financial and Economic Turbulence in Emerging Markets*, Emerging Markets Committee, November 1999.

Israel noted that its market's appetite for sophisticated investment products has grown over the last six years. This has in turn contributed to higher market turnover. For example, investors on the Tel-Aviv Stock Exchange (TASE) currently have access to leading international market indices including those of Dow Jones, Euro-Stoxx, Nikkei, S&P 500, FTSE 100, Nasdaq 100, DAX, Hang Seng and FTSE China. Although the impact of these products on liquidity has not been empirically tested, the trade in these products currently exceeds 20 per cent of average daily turnover.

10. Dual Listings / Cross-listings

Traditionally, firms that seek a secondary foreign listing in addition to a domestic primary listing do so in order to increase investor visibility as well as to benefit from a lower cost of capital (which arises because their shares become accessible to a larger pool of global investors). Furthermore, by cross-listing in a jurisdiction with a higher profile and perceived standards, the firm is also signaling that it is voluntary committing itself to higher standards of corporate governance. In this way, firms attract investors who would otherwise be reluctant to invest.

Chinese Taipei responded that there are five foreign companies currently dual-listed on TSEC in the form of "Taiwan Depositary Receipts". Since these stocks are traded in several jurisdictions, the possibility of arbitrage trades may contribute to higher stock liquidity in the markets where they are listed.

Since Israel has shares which are dual-listed in the US, the TASE has introduced measures to facilitate their trade such as opening an account at the Depository Trust Company (DTC). At the same time, a number of structured products linked to the Israeli TA-25 index are traded in European exchanges, including those of Zurich, Frankfurt, Stuttgart, and Milan.

11. Retail Participation

The survey also examined whether retail participation had an impact on liquidity given that pools of savings in the retail segment are essentially natural sources of liquidity for any given market. Certain jurisdictions reported an increase in retail investor participation through educational programmes such as investor seminars and road-shows. Some jurisdictions have also introduced networks to facilitate retail participation through remisiers or commissioned dealer's representatives who act as agents for retailers. Strong retail participation can be seen in jurisdictions such as Thailand, Malaysia and Chinese Taipei. In these jurisdictions, retail participation can often be a major driver of liquidity. In essence, the contribution of retail clients to market liquidity cannot be discounted.

The importance of greater retail participation is that it provides a balance against institutional investors – especially those that "buy and hold" – in a market. It has been argued that the diversity of market participants with their differing needs, risk appetite and investment horizons have a positive impact on liquidity. This effect is especially notable in markets such as Chinese Taipei and Korea, whose high levels of retail participant have contributed to high market trade volumes.

Greater trading access brought about by the increase in online trading has been a significant factor in attracting retail investors. However, some markets have since witnessed ensuing excessive volatility in their markets.

Reponses to the survey also suggest that while most regulators encourage a higher degree of retail participation, the effort is primarily focused on attracting "informed" investors i.e. investors who are aware of the risks and benefits of investing. In order to achieve this, most regulators focused on active organizing of seminars and investor education programmes.

12. Pension fund reform and development of collective investment schemes

In some markets, reforms of pension funds and CIS have released a large pool of liquidity into the domestic market. The reforms were necessary to ensure effective de-concentration of investible assets into the capital market. Reform initiatives also often include the establishment of a private pension industry which, unlike government-controlled pension funds, is typically not subjected to stringent and conservative investment policies.

Responses to the survey suggested that some jurisdictions experienced significantly positive post-reform results. In such instances, the reforms led to more flexible investment strategies and hence facilitate the reallocation of funds within the domestic market. One of the issues highlighted was the allocation of a certain proportion of funds to external fund managers and intermediaries. This is often done to tap into the wider and deeper array of available investment management skills, while at the same time enhancing competition, vibrancy and liquidity within the market.

However, there was evidence that pension fund and CIS reforms in certain jurisdictions have not led to the desired results. The Lithuanian Securities Commission said that the reforms of Lithuanian pension funds and collective investment undertakings (CIU) have not released a large pool of liquidity into the domestic market. One of the reasons cited for this was that a significant majority (i.e. 75%) of funds were invested abroad instead.

In general, institutional investors tend to be long term strategic investors and do not trade as frequently as retail investors. While institutional investors do carry out large trades, they are often not frequent enough to improve overall market liquidity. In some cases, such trades may even mop up liquidity. In such instances, reforms should instead focus on channels that promote trading e.g. via distributing funds to licensed fund management companies.

13. Exchange Restructuring

Emerging markets are currently facing a more competitive environment which often requires them to be more aggressive in attracting global order flows. The existence of multiple exchanges within one jurisdiction may also have the effect of fragmenting market liquidity. This in turn often results in economic inefficiencies given the different sets of intermediaries, front-end trading systems and compliance requirements required.

Exchange restructuring and/or demutualisation is a strategy that seeks to transform an exchange’s business model so that it is able to respond more effectively to the rising competition for global order flow. It also provides an opportunity to reorganize the exchange’s operations within the jurisdiction so as to consolidate liquidity within the existing market-place. A demutualised exchange (which migrates from a membership regime to an ownership model) is able to concentrate its efforts on building sufficient capacity to respond swiftly to demand changes on both the domestic and international scene.

International market institutions are operating in highly competitive and dynamic environment. Issuance and investment activities are increasingly being directed to exchanges that are able to accommodate their constituents’ various needs not only in terms of liquidity, products reach and diversity but also in terms of speed, cost and diversity.

Of the 21 respondents surveyed, 6 had demutualised exchanges operating within their jurisdictions, while 5 respondents noted that their exchanges have been considering/studying the possibility of demutualization. Regulators acknowledged that a demutualised exchange could enhance performance and attract greater trading volume, thereby increasing liquidity in the market. In one jurisdiction, the demutualised and (subsequently) listed exchange, focused a significant part of its efforts on enhancing market liquidity and have since embarked on a series of initiatives to achieve this end. For instance, as part of its measures to enhance liquidity, Bursa Malaysia introduced a research scheme to generate investors' interest in stocks, particularly smaller capitalised ones.

14. Corporate Governance

An issue that was raised in the survey is the role of corporate governance and disclosure standards in attracting investors. Although the responses did not reveal a direct correlation between corporate governance and liquidity, regulators generally recognized that good corporate governance on the part listed companies enhances investors' confidence and hence attracts a higher degree of investor participation in the market. One jurisdiction revealed that there was an increase in market participation following its introduction of new corporate governance provisions for listed entities. However, there is no evidence of a direct correlation between corporate governance initiatives and the subsequent growth in market capitalization as other factors may have also contributed to the general growth of the particular market.

Survey respondents also cited that the degree of disclosure on the part of issuers is important to market liquidity. In general, a high degree of disclosure allows the investor to make an informed decision without fear of selective information practices. In the case of Israel, regulation requiring mutual fund managers to actively vote on issues that have a bearing on shareholder welfare has led to a migration of mutual fund investments away from less liquid / small cap shares to more liquid large cap stocks.

15. Inter-market Linkages

Market linkages have developed in many forms over the years. Views on its relationship with liquidity are currently still not conclusive. However, the formation of linkages and access between markets are generally believed to have contributed towards significant cost reduction – investors taking cross-border positions have led to the opening of new market opportunities and hence increased overall market turnover. This has in turn generated a higher volume of order flows and therefore created greater liquidity. For example, Lithuania's integration into the OMX group (the largest integrated securities market in Northern Europe) resulted in its securities market becoming considerably more open and attractive to both local and foreign investors. It its response, Lithuania highlighted that its integration into the OMX had positively impacted liquidity.

Bursa Malaysia is currently considering a trading link with its neighbour, the Singapore Stock Exchange in an attempt to enhance its investor base as well as the range of investments available in both markets. However, the experience of the SGX-Australian Stock Exchange Market Linkage has shown that liquidity need not necessarily flow from such linkages.

The Association of South East Asian Nations or ASEAN is also exploring a regional exchange linkage. The first related initiative was the ASEAN Exchange Traded Fund, an initiative aimed at profiling ASEAN investments as an asset class to foreign investors. Efforts are also underway to harmonise existing rules and regulations to ensure that similar standards are applied across the region.

Mutual recognition is another tool to establish links between markets. Dubai International Financial Centre has entered into a mutual recognition agreement with Malaysia for the cross-border marketing and distribution of Islamic funds. The aim of the agreement is to widen each market's investor base as well as to encourage greater innovation of products and services in Islamic finance.

16. Quality of Public Listed Companies

Increasing the number of high-quality listed companies is viewed as one of the mechanisms to enhance market liquidity as investors are currently demanding greater shareholder value recognition from their invested companies. This tendency – underscoring a return to the basic rationale for investing in a company – is a central issue in portfolio investment decisions.

In certain markets, one of the problems commonly cited by fund managers is the lack of quality companies to invest in i.e. there are insufficient companies that are well managed and which offer a good return on investment. This affects the supply of “attractive” securities in a market and therefore diminishes the overall attractiveness of a market. As a result, market liquidity is dampened. The potential marginalization from global capital will in turn limit the fund-raising capacity of domestic issuers as they will have to rely primarily on the considerably smaller pool domestic funds.

At the same time, markets that are sufficiently liquid are likely to attract a greater pool of issuers given that funds can be raised at a lower cost. The regulators can improve the quality of companies through a number of ways such e.g. tighter gate keeping functions at point of listing as well as via the de-listing of non-performing public companies. An active market for corporate control will also facilitate the building of large and high quality companies. The aim is to maintain a transparent, accountable, and performance-oriented corporate sector that presents efficient and value-focused investment opportunities for investors. However, market participants must also recognize their responsibilities in this regard – for instance, stakeholders must exercise their rights to ensure good corporate governance, while management and directors should seek to maximize shareholder value.

17. Others

Other factors cited by survey respondents to have an impact on liquidity include:

- Longer trading hours has been cited as having an impact on liquidity. For instance, the Taiwan Stock Exchange Corporation experienced significant increase in liquidity when it extended its trading hours;

- Arbitrage trading opportunities are provided through allowing shortselling of stocks. El Salvador, for example, is in the process of amending its securities laws to permit these activities in the market. However, the Thai SEC said that its experience of allowing investors to short sell may not necessarily lead to increased liquidity. Thailand's regulatory framework has allowed short selling since 1997. However, there is no short selling in practice and thus, the impact of short-selling in not known. Similar issues arise in Malaysia where short-selling was re-introduced in 2007;

- Market makers are often seen to contribute to higher liquidity levels in a market, with several jurisdictions introducing market making facilities to further enhance trading, particularly in less liquid stocks. Proponents of the official market making system argue that market makers add to liquidity by taking opposing (i.e. both short and long) positions in a stock when necessary. This in turn ensures that the stock's bid-ask spread remains within acceptable ranges. By doing so, they provide the capital needed to facilitate a stock's liquidity;

- Dividend policy is another factor that should to be taken into account when evaluating a stock's liquidity. Stocks with high dividend yields tend to be bought and held by their investors and are hence thinly traded;

- A conducive regulatory framework to encourage foreign investment participation. This may include the incorporation of minimum standards of investor protection as well as global standards for e.g. accounting standards;

- The regulatory approval process for issuance of securities. Although there has been no indication of a direct correlation, several respondents such as Malaysia, Israel and Oman highlighted that reforms to speed up the approval process would allow for a faster time-to- market of securities, thus increasing supply at a faster rate to meet investors' demands. Israel, in particular, observed that the reforms on the regulatory approval process could have a positive impact on liquidity; and

- For less developed markets, the focus is still on forming the critical mass such as increasing the number of listed companies. For such markets, the lack of listed companies on the exchange has adversely impacted liquidity. Costa Rica noted that private companies were unaware of the advantages of capital markets. There was also a general lack awareness regarding the risk and return characteristics inherent in investment instruments. Furthermore, intermediaries did not provide adequate advisory services. Most of their investment strategies also tend to be passive in nature, thereby encouraging further buy and hold attitudes.

Chapter 4: Summary and Conclusion

Liquidity is an increasingly important area for consideration in emerging markets. Firstly, as a fundamental component of development, the absence of market liquidity has major consequential impacts on price formation and discovery, the building blocks of an efficient market. An efficient market will in turn attract both issuers (as a source of low-cost funding) and investors (as a source of investment opportunities). However, more importantly, liquidity is crucial to a market's stability and strength. A liquid market is generally able to better cushion and weather adverse external shocks.

Secondly, the competition for global order flows is becoming keener, especially for markets at the more developed end of the spectrum. For individual markets, there is hence a need to enhance both the market's overall value proposition as well as the value recognition of individual listed entities. As a result, individual markets are increasingly embarking on initiatives to deepen market liquidity, enhance overall market microstructure as well as to widen the available product range offered.

What appears in the paper are a range of initiatives that emerging markets at either end of the development spectrum have taken within a strong regulatory environment benchmarked against IOSCO standards, which are the important building blocks for deepening liquidity. These initiatives include:

- reducing the concentration of ownership in public listed companies and hence increasing free float levels – this is to increase the supply of freely tradable shares in the market;
- liberalizing the intermediary sector to allow for foreign participation in the market, increasing competition to domestic players as well as extending the market's reach into the international liquidity pool;

- Increasing market access, going beyond the traditional broker-dealer set up and allowing more direct access through DMA which correspondingly accommodates a diversified range of investors as well as different trading strategies. The introduction of internet trading allows for greater retail participation, especially from those who actively trade, thus increasing overall market liquidity;
- Actively seeking ways to reduce transaction costs. This includes the lowering of prevalent commission rates and taxes to encourage more frequent trading of equities;
- Improving the trading infrastructure of exchanges, through technological advancement in trading systems;
- Increasing investment products available in the market, particularly those of derivative instruments. The diversity and breadth of products available would provide options to a wide range of investors with different trading strategies, risk appetite and investment horizon. More importantly, investors will be attracted to markets where there is a range of products available to hedge their existing risk positions;
- Increasing the supply of issuances. This can be done through dual- and cross-listings; as well as via promoting quality companies with good value propositions through best practices in supervision and corporate governance. This will attract both investors as well as potential issuers to the markets, thereby increasing both the supply and demand of securities. At the same time, allowing dual listings will encourage domestic companies to adopt international best practices e.g. in disclosures and accounting standards;
- Encouraging higher retail participation to balance the investor profile in the market, especially in markets where retail investors have a high propensity to trade. The heterogeneity of market participants in terms of transaction needs, risk appetites, and investment horizons can enhance market liquidity;

- Reforming the pension fund system as well as developing the collective investment scheme segment of a market. This can help to efficiently mobilize large pools of savings into the market; and
- Developing inter-market linkages, and restructuring exchanges. This allows exchanges to efficiently tap multiple markets for liquidity. As exchanges become for-profit driven, they are also likely to be competitive in competing for global order flows.

Whether the initiatives taken were direct efforts, such as adopting advance technology in their securities trading facility, or indirect ones – such as strengthening corporate governance and enforcement - responses from several markets have shown that some of these initiatives have had a positive effect on liquidity. However, in others markets, it is still a work in progress and remains too early to assess the impact. Nevertheless, the survey highlights that emerging markets have sought to introduce a range of measures to deepen liquidity in their markets.

Annex 1

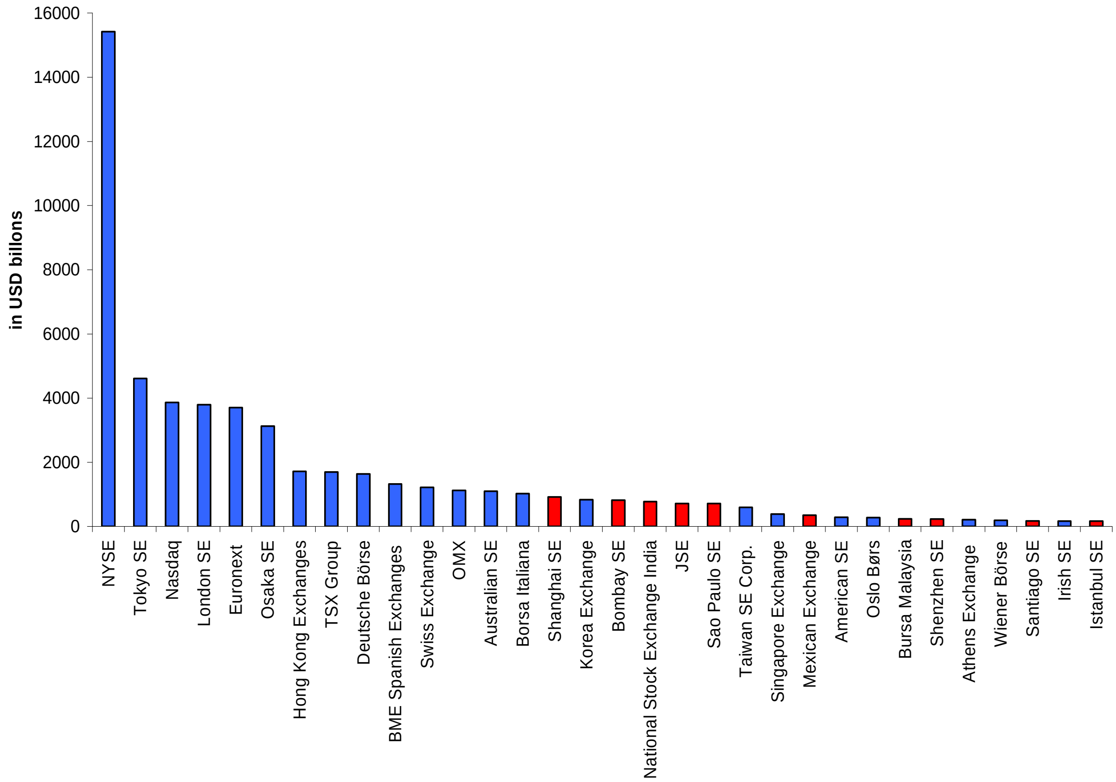
Respondents to the IOSCO EMC Working Group on the Regulation of Secondary Markets Regulation Survey

1. Securities Commission of the Federation of Bosnia and Herzegovina
2. Comissao de Valores Mobiliarios, Brazil
3. Financial Supervisory Commission, Chinese Taipei
4. Superintendcia General de Valores, Costa Rica
5. Superintendencia de Valores, El Salvador
6. Israel Securities Authority
7. Lithuanian Securities Commission
8. Securities Exchange Commission, Former Yugoslav Republic of Macedonia
9. Securities Commission, Malaysia
10. Conseil déontologique des valeurs mobilières, Morocco
11. Securities and Exchange Commission, Nigeria
12. Capital Market Authority, Sultanate of Oman
13. Comisión Nacional de Valores, Panama
14. Comisión Nacional Supervisora de Empresas y Valores, Peru
15. Financial Supervision Authority, Poland
16. Romanian National Securities Commission
17. Financial Services Board, South Africa
18. Capital Markets and Securities Authority, Tanzania
19. Securities and Exchange Commission, Thailand
20. Capital Markets Board, Turkey
21. Capital Markets Authority, Uganda

Annex 2

Key Statistics

Table 1: Average ten-year Market Capitalisation of the 10 largest emerging markets vs Developed markets (1996-2006)



Source: **World Federation of Exchanges**

The table above shows the average markets capitalization levels among the top 30 markets in the world over the past 10 years. It shows that many emerging markets[6] relative to the domestic size of their economies have stock markets as large as those in developed economies.

Emerging markets are an economically diverse group which varies tremendously in size, liquidity and sophistication. As the survey questionnaire highlighted, the breadth of emerging markets cover those that are among the most liquid in the world, with advance trading, clearing and settlement infrastructure together with a sophisticated investor community, to others that are young with rudimentary markets structures.

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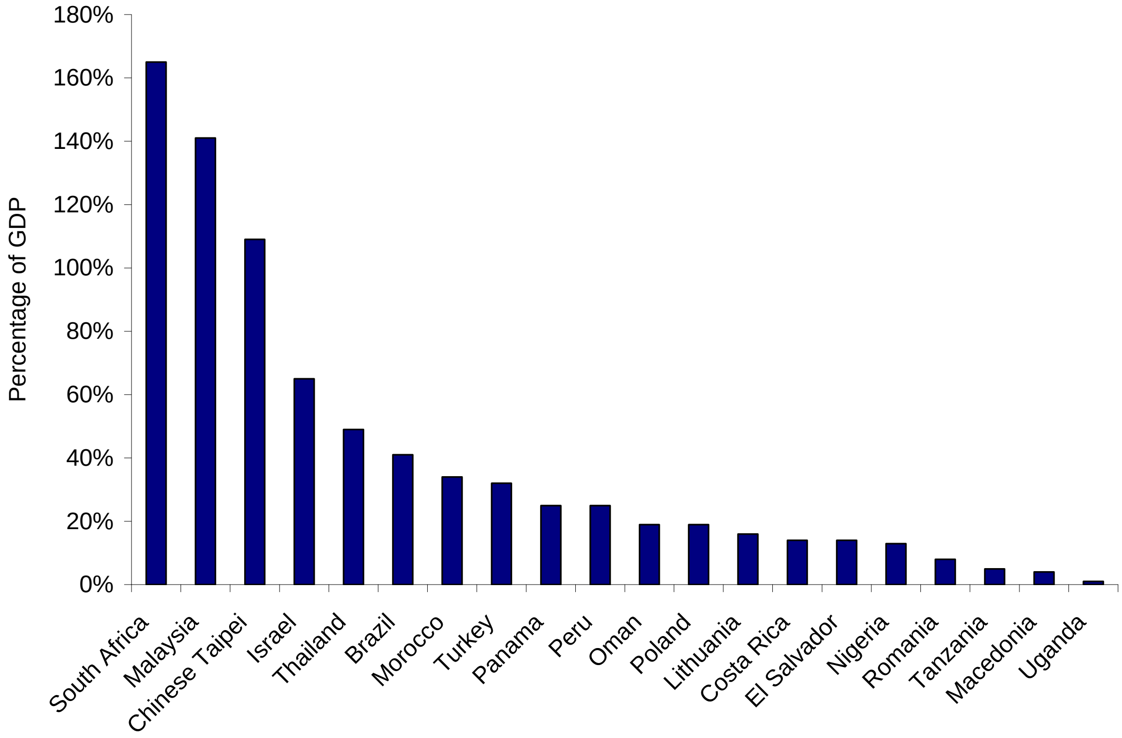
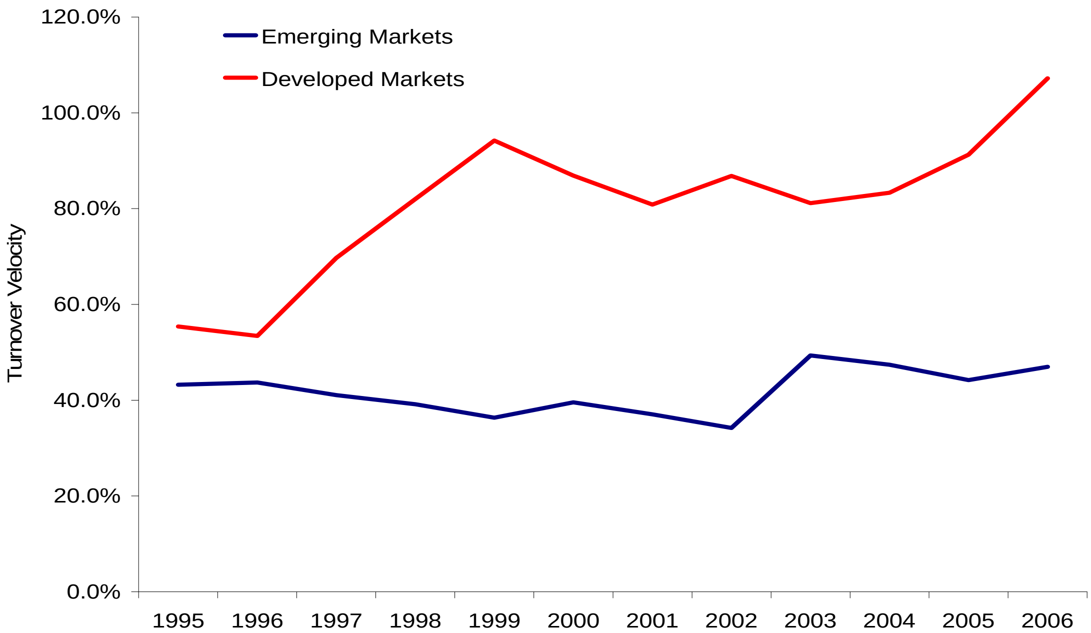
[6] Emerging markets are those markets defined by World Economic Outlook report of the International Monetary Fund.

Table 2: **Average Market Capitalisation as a percentage of GDP (Survey Respondent Jurisdictions)**



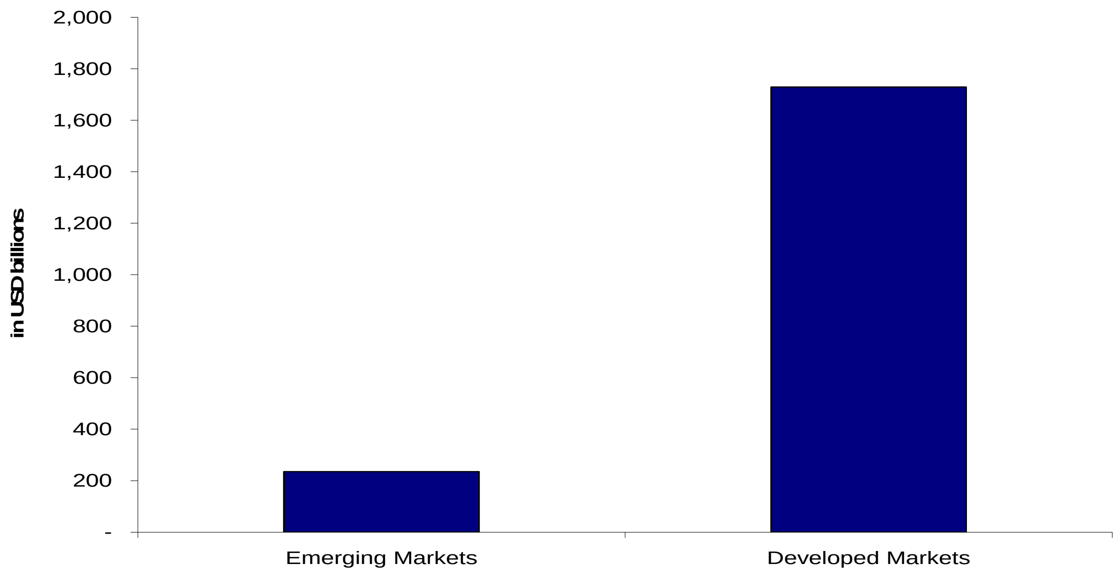
Source: **World Bank**

Table 3: **Average Annual Turnover Velocity of Emerging Markets and Developed Markets**



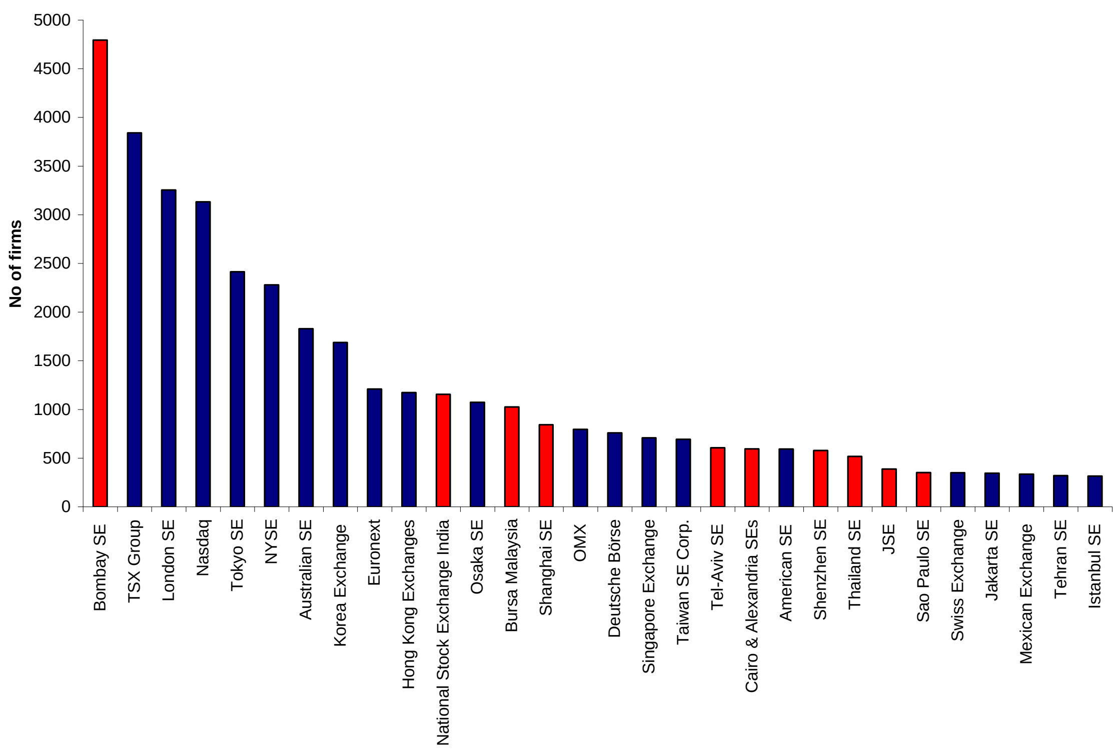
Source: **World Federation of Exchanges**

Table 4: **Average Market Capitalisation per listed companies in emerging vs developed markets, end-2006**



Source: **World Federation of Exchanges**

Table 5: Number of Listed companies in emerging and developed markets, end 2006



Source: **World Federation of Exchanges**

Annex 3

References

Angel. James. J "How Best to Supply Liquidity to a Small-Capitalisation Securities Market"

Bortolotti, Bernado, Frank de Jong, Giovanna Nicodano, Ibolya Schindele, (2006) "Privatisation and Stock Market Liquidity"

Deutsche Bundesbank (2006) "Securities Market Regulation : International Approaches", monthly report

Economides, Nicholas (1993) "How to Enhance Market Liquidity", paper presented at the Conference on Global Equity Markets : Technological, Competitive, and Regulatory Challenges

Giridhar (2004) "Market Microstructure"

Lipsky, John (2007) "Developing Deeper Capital Markets in Emerging Market Economies", remarks at the US Department of the Treasury.

Malaysian Securities Commission, 2001, Capital Market Masterplan

Mares, Arnaud (2001) "Market liquidity and the role of public policy", paper presented for the Autumn Meeting for Central Bank Economists hosted by the Bank for International Settlements.

Muranaga, Jun and Tokiko Shimizu (1999) "Market microstructure and market liquidity"

Ranaldo, Angelo (2005) "Market Liquidity"

Shah, Ajay (1997) "Liquidity in the computerized market"

State Street White Paper (2001) "Securities Lending, Liquidity and Capital Market-Based Finance"

UBS Investment Bank (2006) "The Development of Direct Execution in Stock Exchanges", paper presented to the IOSCO Emerging Markets Committee, Working group on the Regulation of Secondary Markets held in Shanghai

Warsh, Kevin (2007) "Market Liquidity: Definitions and Implications", remarks at the Institute of International Bankers Annual Washington Conference held in Washington D.C.