Economics Bulletin

Volume 37, Issue 4

A note on how to enhance liquidity in emerging markets by levering on trading participants

Stefano Alderighi
Senior Economist, World Federation of Exchanges. Visiting Research Fellow, University of Essex.

Abstract

This note reviews the academic and non-academic literature on the relation between stock market participation and liquidity, with a particular focus on emerging markets. The paper concentrates on the three main investor categories considered relevant to enhance stock market liquidity: domestic institutional, retail and international investors. Based on the review of the literature, the paper concludes that to enhance stock market liquidity, emerging markets should avoid domestic institutional concentration, balance retail and institutional participation and gradually liberalise the market to foreign investors.

This note is one of the outputs of a research project conducted within the Research and Public Policy team at the WFE. I thank Nandini Sukumar and Siobhan Cleary for their valuable comments. The views expressed and the conclusions drawn in the note are those of the author and do not necessarily represent the position of the WFE. All errors are mine.
Citation: Stefano Alderighi, (2017) "A note on how to enhance liquidity in emerging markets by levering on trading participants", *Economics Bulletin*, Volume 37, Issue 4, pages 2526-2532
Contact: Stefano Alderighi - salderighi@world-exchanges.org.
Submitted: August 15, 2017. **Published:** November 19, 2017.

1. Introduction

This note reviews the academic and non-academic literature on the relation between the presence of trading participants and stock market liquidity. It presents the topic from a different angle, and places shoulder to shoulder issues that haven't traditionally being considered together despite being related. The note gives particular attention to emerging markets, where liquidity is generally low when compared to developed markets (Rhee and Wang, 2009; Bekaert, Harvey and Lundblad, 2007). After introducing the topic, the note concentrates on the three main investor categories considered relevant to enhance stock market liquidity (Hargis, 2000; OW and WFE, 2016): domestic institutional (Section 3), retail (Section 4) and international investors (Section 5). Each section contains a brief set of policy recommendations. A short paragraph concludes.

2. Trading participants and market liquidity

Market participation directly and positively influences stock market liquidity (Hargis, 2000). A large number of trading participants limits the influence of liquidity shocks on price volatility, and ensures that asset prices are not influenced by individual transactions (Hargis, 2000). In turn, a market capable to quickly absorb price shocks is able to attract additional investors (Gabrielsen, Marzo and Zagaglia, 2011; Wuyts, 2007; Hargis, 2000). Further increasing the number of trading participants reduces the influence of trades on stock price, enhances market stability and triggers, as a matter of fact, a "virtuous cycle" (Wuyts, 2007). Numerous participants with diverse investment horizons positively influence a market's liquidity, and its ability to actually attract new liquidity (Wuyts, 2007).

The mechanism above works also through more indirect channels. For example, Amihud (2002), Liu (2006) and Bekaert, Campbell and Lundblad (2007) suggest that liquidity risk is priced on the market, and in turn predicts future stock returns. Markets characterised by numerous investors with different horizons should show relatively little influence of stock market liquidity on asset pricing. In emerging markets, where the number of listed companies is generally smaller and the breadth of listed instruments is overall less diverse than in developed ones, scarce liquidity positively influences stock-market returns. This in turn increases the equity cost of capital, eventually discouraging new listings, and reducing diversification opportunities for trading participants.

While increasing the number of trading participants overall is certainly important, different categories of investors impact on stock market liquidity in different ways, and through different channels. Therefore, the rest of this note concentrates on the specificities of the three main specific categories of trading participants identified by the literature: domestic institutional, retail and foreign investors.

3. Expanding the number of local institutional investors

Institutional investors are generally associated with better stock market liquidity. The presence of large institutional investors is overall related to a higher number of trades and higher trading volumes, and as a consequence to lower transaction costs and higher liquidity (Merton, 1987). Moreover, as institutional investors tend to have long investment horizons, their presence reduces market volatility (IOSCO, 2012). Institutional investors play a crucial role in the creation of the necessary levels of trade that would allow a market to properly function, especially during its early stages of development (see Yartey (2008) on the role of institutional ownership in the development of the Johannesburg Stock Exchange).

Given their size, institutional investors also have a better understanding of market trends than smaller intermediaries (Agarwal, 2009). This has two main consequences. On the one hand, institutional investors trigger better corporate governance practices and improve information disclosure on the market (IOSCO, 2012). Moreover, competition among institutional investors creates information flows and enhances market efficiency, with positive effects on liquidity (Spiegel and Subrahmanyam, 1992). On the other hand, concentrated institutional ownership might induce smaller and less informed traders to increase bid/ask spreads, with negative effects on liquidity (Glosten and Milgrom, 1985). Which of the two effects would prevail cannot be determined *a priori*, and depends on the investor composition of the market.

Agarwal (2009), using US data, finds that the outcome depends on the ownership concentration of local institutional investors. He concludes that institutional investment positively influences liquidity for levels of concentration below 40 per cent, and negatively influences liquidity for levels of concentration above 40 per cent. Rubin (2007), still using US data, finds that local institutional ownership is positively related to liquidity, and attributes this finding to the higher levels of trade that characterise institutional investors. He also finds that ownership concentration is negatively related with liquidity, and attributes this result to block-holding and asymmetric information. The empirical evidence points towards the presence of both effects.

Academic evidence on emerging markets is still particularly limited, and concentrates on foreign rather than domestic institutional investors (see Ding, Nillson and Suardi, 2013; Rhee and Wang, 2009). Yet, the findings commented so far point towards a simple policy implication: institutional investment is necessary for the enhancement of stock market liquidity, but an eye should be kept on their ownership concentration. Competition among institutional investors would positively affect liquidity, by enhancing trading volumes and improving information flows and transparent corporate governance (IOSCO, 2012). But too concentrated institutional ownership can have the opposite effect, and potentially result detrimental for a market's liquidity (Agarwal, 2009).

Thanks to improved regulations, better institutions and overall smoother functioning, emerging markets have managed to increase institutional participation over the recent years (IMF, 2016; IMF, 2014). Yet, IOSCO (2012) reports that the level of institutional ownership concentration is rather heterogeneous across emerging economies, with China characterised by the lowest levels (16 per cent) and Malaysia by the highest (69 per cent). The heterogeneity in the outcomes reflects heterogeneity in regulations and market microstructures.

To summarise, stock market development needs to be built through a good level of institutional ownership. Yet, too concentrated ownership can be detrimental for stock market liquidity. As an emerging market example, BM&FBOVESPA (now B3) is an exchange that thanks to a solid regulatory framework, aimed at ensuring a good level of competition, managed to achieve of a tolerable level of local institutional concentration, and high levels of liquidity.[1] Another way to counterbalance institutional influence is to enhance retail participation in the market. The following section concentrates on this.

4. Broadening the trading base to retail investors

As mentioned in the previous section, institutional participation increases stock market liquidity if not associated with excessive levels of ownership concentration. As observed by

[1] This conclusion is drawn on an analysis of World Federation of Exchanges monthly statistics, AMNIBA statistics published on their website, and conversations between the author and BM&FBOVESPA representatives.

IOSCO (2007), retail participation represents a natural counterbalance to institutional ownership concentration. A diverse pool of individual investors, characterised by different investment horizons and risk appetites is found to positively influence stock market liquidity (Barrot, Kaniel and Sraer, 2016; Kelley and Tetlock, 2013; IOSCO, 2007). Enhancing retail participation would bring a natural source of liquidity to the market, at the same time counteracting the effects of institutional trading.

Stimulating retail participation, however, is not a trivial task. Although certain jurisdictions are characterised by more than satisfactory levels of retail participation, especially in Asia (such as Korea: Park and Kim, 2014; Taiwan: IOSCO, 2012), others show relatively low levels of individual participations (such as Brazil: IOSCO, 2012). The reasons why certain jurisdictions are not able attract an important pool of retail participants can be numerous. IOSCO (2014, 2007), for example, attribute scarce retail participation to low financial literacy. The literature agrees that high levels of risk aversions, combined with low financial sophistication, high transaction and participation costs, and scarce ability to implement diversification and hedging strategies are among the main causes of limited stock market participation (IOSCO, 2012; Campbell, 2006; Alan, 2006). This section concentrates on three of the above reasons: transaction costs, financial literacy, and hedging motives.

IOSCO (2012) mentions that institutional investors overall prefer liquid and well-functioning markets for their investment. Retail investors make no difference in this respect. Low liquidity is associated with higher bid/ask spreads, which in turn generally imply high transaction costs (Wuyts, 2007, Glosten and Harris, 1988). Transaction costs are considered among the main reasons of limited retail participation (Vissing-Jorgensen, 2002). Although high transaction costs would discourage any investor, this is particularly true for retail investors. Individual traders they are indeed not able to average their transaction costs down by engaging in large amounts of trades. Barber and Odean (2013) indeed report that much of the retail investor's returns are eroded by transaction costs. Reducing transaction costs is crucial for any jurisdiction willing to increase retail participation.

As already mentioned, financial literacy is generally deemed to be an important determinant of retail participation. Guiso and Jappelli (2005) mention that Italian households tend not to participate in the stock market because of lack of awareness of financial products. This lack of awareness is in turn strongly correlated with their educational level. Lack of financial sophistication can be seen as a barrier to participation, as it implicitly increases participation costs (Alan, 2006). Although the vision that retail investors are financially less sophisticated than institutional investors is currently being debated (Barrot, Kaniel and Sraer, 2016), the literature overall documents the opposite. Emerging markets willing to enhance retail participation should engage in financial literacy programs (Alderighi, 2017a).

Finally, the literature on stock market participation is providing increasing evidence that labour income risk crowds out individual participation (Alderighi, 2017b; Cocco, Gomes and Maenhout, 2005; Guiso, Jappelli and Terlizzese, 1996), but also that retail investors are able to hedge this risk on the stock market (Bonaparte, Korniotis and Kumar, 2014; Betermier, Jansson, Parlour and Walden, 2012). A well-developed market, offering a variety of financial products and a large pool of listed companies would represent a good incentive for individual investors to participate, as it would offer good diversification and hedging opportunities.

5. Increasing the number of international investors

Emerging markets are more and more internationally integrated (Coudert, Herve and Mabille, 2015). Internationalization, in turn, influences stock market liquidity through two different channels. The first is by attracting foreign participants willing to invest in domestic companies

(Ceballos, Didier and Schmukler, 2012; Levine and Zervos, 1998a). The second, is by allowing cross-listing: of domestic firms on foreign venues (Levine and Shmukler, 2006), and of foreign firms on the domestic one (Halling, Pagano, Randl and Zechner, 2007).

With respect to the first point, attracting foreign investment is shown to have a positive influence on stock market liquidity and development. Levine and Zervos (1998a), for example, show that liberalization policies lead to larger, more integrated and liquid markets. Bekaert, Campbell and Lumsdaine (2002) provide similar evidence, and additionally show that integration is associated with lower cost of capital, better credit ratings and faster economic growth. This last point is also emphasised by the joint interpretation of Levine and Zervos (1998a, 1998b). IOSCO (2007) moreover reports that the presence of international investors increases domestic markets' expertise in emerging economies. They also mention that international investors boost international confidence on the domestic market, with positive spill-over effects on liquidity.

Despite their increasing integration, emerging market internationalization is still an ongoing process. As observed in Ceballos et al. (2012), capital inflows by foreign residents have globally increased in the last three decades. Nevertheless, emerging markets are somehow lagged-behind in this process, with Asia and Latin America actually experiencing a shrink in the 2000-9 period, and Eastern Europe mainly facilitated by the EU integration (IOSCO, 2007). High price volatility, high cost of capital and less rigorous transparency requirements are the main reasons underlying the lack of confidence of international investors in emerging markets (IOSCO, 2012; see also Kenny and Moss, 1998, on African markets). Improving international participation in their domestic markets should be a priority for emerging jurisdictions, given their current on average lower levels of liberalization, and the positive effects that integration policies are likely to trigger on stock market liquidity.

The first, trivial step to attract international investors is to provide some degree of market liberalization, and to allow foreign investors to trade in the domestic venue. Emphasizing this point might sound simplistic. Yet, although nowadays *almost every* (but not all) emerging markets allow foreign intermediaries, IOSCO (2012) documents that some EMs jurisdictions still limit institutional investment participation, and that most EMs experience an international participation lower than 5 per cent of their capitalization. A non-satisfactory degree of liberalization is still a reality in several emerging economies. Implementing more effective liberalization policies should be the first step towards attracting foreign market participants. For example, during the year 2000s, the People Republic of China implemented a major liberalization reform to enhance foreign institutional participation (the Qualified Foreign Institutional Investor program, QFII). Ding et al. (2013) show that the program has successfully enhanced stock market liquidity in the Chinese markets. Yet, there's room for improvement of foreign institutional participation in China (IOSCO (2012) reports that their ownership is lower than 1 per cent of the market capitalization).

Once liberalization has taken place, the second caveat is to provide a regulatory framework capable to attract international investors. IOSCO (2012) for example mentions that in many EMs jurisdictions foreign investors are subject to non-favourable tax treatments, and to ceilings in the amounts of trade. They also report that foreign intermediaries are often non-satisfied by their transparency and levels of information disclosure.

Finally, it must be considered that liberalization has to be implemented when a market is mature enough. Financial integration leads indeed to the possibility that foreign systemic risk propagates to the domestic market (Ceballos et al., 2012). If a market is not liquid enough to absorb international shocks, liberalization should be achieved gradually. Another drawback of

liberalization is that foreign institutional investors (especially if concentrated) might lead to an increase in bid/ask spreads, and to a reduction in liquidity (as documented for Indonesia: Rhee and Wang (2009)). Liberalizations should be considerate, especially at early stages of development. Regulations should ensure that foreign institutional participation is competitive, and does not concentrate too much of the market capitalization and amounts of trade.

6. Conclusion

This contribution reviews the literature on how to lever on trading participants to enhance stock market liquidity. The note focuses on the three main trading participants deemed crucial in the development of financial markets. Based on a review of the literature, the note concludes that to enhance stock market liquidity, emerging markets should avoid domestic institutional concentration, balance retail and institutional participation and gradually liberalise the market to foreign investors. Future theoretical and applied research on the topic should concentrate more on the relation between different trading participants. Markets (and especially emerging ones) might indeed try to find the optimal investor composition that allows them to maximise their performance, measured for example as liquidity or trading activity.

References:

Agarwal, P. (2009) "Institutional Ownership, Liquidity and Liquidity Risk" Doctoral Thesis, Cornell University.

Alan, S. (2006) "Entry Costs and Stock Market Participation over the Life Cycle" *Review of Economic Dynamics* **9**, 588-611.

Alderighi, S. (2017a) "The Determinants of Retail Trading in Emerging Markets: a Cross-market Analysis" Unpublished manuscript, World Federation of Exchanges.

Alderighi, S. (2017b) "Labor Income Risk, Earnings Heterogeneity and the Stock-holding Puzzle" Unpublished manuscript, University of Essex.

Amihud, Y. (2002) "Illiquidity and stock returns: cross-section and time-series effects" *Journal of Financial Markets* **5**, 31-56.

Barber, B. M., and Odean, T. (2013) "The Behavior of Individual Investors" in *Handbook of the Economics of Finance* by G. M. Constantinides, M. Harris and R. M. Stulz, Eds., Elsevier: Amsterdam, Volume 2 Part B, 1533-1570.

Barrot, J. and Kaniel, R. and Sraer, D. (2016) "Are retail traders compensated for providing liquidity?" *Journal of Financial Economics* **120**, 146-168.

Bekaert, G., Harvey, C. R. and Lumsdaine, R. L. (2002) "Dating the integration of world equity markets" *Journal of Financial Economics* **65**, 203-247.

Bekaert, G., Harvey, C. R. and Lundblad, C. (2007) "Liquidity and Expected Returns: Lessons from Emerging Markets" *Review of Financial Studies* **20**, 1783-1831.

Betermier, S., Jansson, T. and Parlour, C. and Walden, J. (2012) "Hedging labor income risk" *Journal of Financial Economics* **105**, 622-639.

Bonaparte, Y., Korniotis, G. M. and Kumar, A. (2014) "Income hedging and portfolio decisions" *Journal of Financial Economics* **113**, 300-324.

Campbell, J. Y. (2006) "Household Finance" *Journal of Finance* **61**, 1553-1604.

Ceballos, F., Didier, T. and Schmukler, S. L. (2012) "Financial globalization in emerging countries: diversification vs. offshoring" World Bank Policy Research Working Paper Series 6105.

Coudert, V., Karine H. and Pierre M. (2015) "Internationalization Versus Regionalization in the Emerging Stock Markets" *International Journal of Finance and Economics* **20**, 16-27.

Ding, M., Nilsson, B. and Suardi, S. (2013) "Foreign Institutional Investors and Stock Market Liquidity in China: State Ownership, Trading Activity and Information Asymmetry" Lund University Working Papers 2013:10.

Gabrielsen, A., Marzo, M. and Zagaglia, P. (2011) "Measuring market liquidity: an introductory survey" MPRA Paper 35829.

Glosten, L. R. and Harris, L. E. (1988) "Estimating the components of the bid/ask spread" *Journal of Financial Economics* **21**, 123-142.

Glosten, L. R. and Milgrom, P. R. (1985) "Bid, ask and transaction prices in a specialist market with heterogeneously informed traders" *Journal of Financial Economics* **14**, 71-100.

Cocco, Joao F., Gomes, F. and Maenhout, P. (2005) "Consumption and Portfolio Choice over the Life Cycle" *Review of Financial Studies* **18**, 491-533.

Guiso, L., Jappelli, T. (2005) "Awareness and Stock Market Participation" *Review of Finance* **9**, 537-567.

Guiso, L., Jappelli, T. and Terlizzese, D. (1996) "Income Risk, Borrowing Constraints, and Portfolio Choice" *American Economic Review* **86**, 158-172.

Halling, M., Pagano, M., Randl, O. and Zechner, J. (2008) "Where Is the Market? Evidence from Cross-Listings in the United States" *Review of Financial Studies* **21**, 725-761.

Hargis, K. (2000) "International cross-listing and stock market development in emerging economies" *International Review of Economics and Finance* **9**, 101-122.

IMF (2016) "Global Financial Stability Report: Potent Policies for a Successful Normalization" Technical Report.

IMF (2014) "Global Financial Stability Report: Moving from Liquidity- to Growth-Driven Markets" Technical Report.

IOSCO (2007) "Factors influencing liquidity in emerging markets" Technical Report, IOSCO Emerging Market Committee.

IOSCO (2012) "Development and Regulation of Institutional Investors in Emerging Markets" Technical Report, IOSCO Emerging Market Committee.

IOSCO (2014) "Strategic Framework for Investor Education and Financial Literacy" Consultation Report, IOSCO Board.

Kelley, E. K. and Tetlock, P. C. (2013) "How Wise Are Crowds? Insights from Retail Orders and Stock Returns" *Journal of Finance* **68**, 1229-1265.

Kenny, C, J. and Moss, T. J. (1998) "Stock markets in Africa: Emerging lions or white elephants?" *World Development* **26**, 829-843.

Levine, R. and Schmukler, S. L. (2006) "Internationalization and Stock Market Liquidity", *Review of Finance* **10**, 153-187.

Levine, R. and Zervos, S. (1998a) "Capital Control Liberalization and Stock Market Development" *World Development* **26**, 1169-1183.

Levine, R, and Zervos, S. (1998b) "Stock Markets, Banks, and Economic Growth" *American Economic Review* **88**, 537-58.

Liu, W. (2006) "A liquidity-augmented capital asset pricing model" *Journal of Financial Economics* **82**, 631-671.

Merton, R. C. (1987) "A Simple Model of Capital Market Equilibrium with Incomplete Information" *Journal of Finance* **42**, 483-510.

Oliver Wyman and World Federation of Exchanges (2016) "Enhancing Liquidity in Emerging Market Exchanges" Technical Report.

Park, J. and Kim, J. (2014) "Investment Performance of Individual Investors: Evidence from the Korean Stock Market" *Emerging Markets Finance and Trade* **50**, 194-211.

Rhee, S. G. and Wang, J. (2009) "Foreign institutional ownership and stock market liquidity: Evidence from Indonesia" *Journal of Banking and Finance* **33**, 1312-1324.

Rubin, A. (2007) "Ownership level, ownership concentration and liquidity" *Journal of Financial Markets* **10**, 219-248.

Spiegel, M. and Subrahmanyam, A. (1992) "Informed Speculation and Hedging in a Noncompetitive Securities Market" *Review of Financial Studies* **5**, 307-29.

Vissing-Jorgensen, A. (2002) "Towards an Explanation of Household Portfolio Choice Heterogeneity: Nonfinancial Income and Participation Cost Structures" NBER Working Paper number 8884.

Wuyts, G. (2007) Stock Market Liquidity "Determinants and Implications" *Review of Business and Economic Literature* **0**, 279-31.

Yartey, C. A. (2008) "The Determinants of Stock Market Development in Emerging Economies; Is South Africa Different?" IMF Working Papers 08/32.