



## Foreign institutional ownership and stock market liquidity: Evidence from Indonesia

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### ABSTRACT

From January 2002 to August 2007, foreign institutions held almost 70% of the free-float value of the Indonesian equity market, or 41% of the total market capitalization. Over the same period, liquidity on the Jakarta Stock Exchange improved substantially with the average bid–ask spread more than halved and the average depth more than doubled. In this study we examine the Granger causality between foreign institutional ownership and liquidity, while controlling for persistence in foreign ownership and liquidity measures. We find that foreign holdings have a *negative* impact on future liquidity: a 10% increase in foreign institutional ownership in the current month is associated with approximately 2% increase in the bid–ask spread, 3% decrease in depth, and 4% rise in price sensitivity in the next month, challenging the view that foreign institutions enhance liquidity in small emerging markets. Our findings are consistent with the negative liquidity impact of institutional investor ownership in developed markets.

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### 1. Introduction

It is well known that emerging financial markets are not as liquid as those of advanced economies. The lack of liquidity is regarded as a key factor for the high volatility in emerging markets and a significant impediment to financial market development. The opening of domestic financial markets to international investors, often as part of the overall financial liberalization, was expected to enhance local market liquidity. As elaborated by Stulz (1999a,b), the participation by large international financial institutions would enhance local market liquidity through better information disclosure and more active trading. Although several studies examine emerging market liquidity, yet little prior research

exists on the link between financial market liberalization and liquidity.<sup>1</sup> Levine and Zervos (1998) and Bekaert et al. (2002) show that liquidity, as measured by the ratios of trading value to GDP and trading value to market capitalization, increased after stock market liberalization in emerging economies. Recently Bekaert et al. (2007) demonstrate a positive effect from the level of openness to foreign investors to liquidity in emerging equity markets. To our best knowledge, these are the only studies that address the liquidity impact of financial market opening in emerging markets. Although these studies do not examine the liquidity impact of the actual foreign trading, the link between foreign participation and enhanced liquidity has been used to explain the economic success after market

<sup>1</sup> Most studies of emerging market liquidity do not directly address the impact of market liberalization. Domowitz et al. (2001) explore the interaction of trading cost, liquidity, and volatility in developed and emerging markets. Jun et al. (2003) show that liquidity is an important driver of emerging market returns. Lesmond (2005) examines different liquidity measures for emerging markets and identifies the liquidity impact of legal and political institutions. Qin (2007) reports greater commonality in liquidity in emerging markets than in developed markets.

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liberalization, e.g. private investment booms (Henry, 2000), lower cost of capital (Bekaert and Harvey, 2000), and greater economic growth (Bekaert et al., 2001).

This paper provides direct evidence on the liquidity impact of foreign investments in emerging stock markets. This study has three distinct features that differentiate it from existing studies. First, we use foreign ownership of individual stocks as a direct measure of foreign presence in the local market to analyze the relation between foreign presence and liquidity. Neither the liberalization date nor the openness to foreign investors reflects the time-varying nature of foreign participation in the local market.<sup>2</sup> Second, we introduce a set of better measures of liquidity such as bid–ask spreads, market depth, and the price impact of per unit traded that are closely related to the liquidity characteristics discussed by Kyle (1985). As pointed out by Lesmond (2005), trading value-based measures do not capture the cross-sectional differences in the cost per trade across stocks. They tend to increase during volatile periods when liquidity actually declines. Bekaert et al. (2007) use the zero return measure proposed by Lesmond et al. (1999) while recognizing “the paucity of time-series data on preferred measures such as bid–ask spreads.” The third feature of our study is that we examine the Granger causality between foreign ownership and liquidity. Previous studies have shown that liquid stocks attract foreign investors in emerging markets. We explore this causality in the opposite direction by testing whether foreign participation enhances local market liquidity.

Indonesia opened its equity market to foreign investors in 1989 and provides a very interesting case study of foreign impact on liquidity. Over the period from January 2002 to August 2007, foreign institutions hold almost 70% of the free-float value of the Indonesian equity market, or 41% of the total market capitalization. If foreign participation improves liquidity in emerging markets, the effect should be strong in Indonesia. Indeed over the same period, liquidity improved substantially on the Jakarta Stock Exchange (JSX). Bid–ask spread dropped by two-third and market depth doubled. Was this improvement attributed to the high foreign institutional ownership? Our study provides direct evidence on this question. The Indonesian equity market is highly institutionalized, with less than 5% of the free-float value held by individuals and foreign institutions hold most of the free-float market value.<sup>3</sup> Hence, the Indonesian market is an ideal setting to examine the impact of foreign ownership on liquidity. Since the interaction between foreign and local investors is mostly at the institutional level in Indonesia, we examine whether domestic ownership (by managed funds, insurance, brokerages, and domestic non-financial corporations) exhibits the same effect on liquidity as foreign ownership.<sup>4</sup> Our analysis shows that as in other emerging markets, foreign investors prefer stocks with greater liquidity. After controlling for a range of stock and trading variables, a 10% drop in the bid–ask spread, e.g. from 4% to 3.6%, would increase foreign ownership by 2.9% in the next month, e.g. from 40% to 42.9%. The causality from foreign ownership to liquidity, however, produces the results that contradict conventional belief: the liquidity impact of foreign ownership is *negative*. A 10% increase in foreign ownership in the current month is associated with approximately 2% increase in the average bid–ask spread, 3% decrease in the average depth, and 4% rise in the average price sensitivity in the next month. The reported sensitivity is economically significant because the 2% rise in the percentage spread for example

represents a 2% rise in the cost of every round trip transaction on JSX. While foreign ownership has a negative impact on all three liquidity measures in the first half of the sample period, its negative impact remains on market depth during the second half. The liquidity effects of domestic financial institutions are mixed. The effects of domestic corporations are more positive but mostly in the second half of the sample. The evidence on the nonlinear effect from ownership to liquidity is weak.

Our findings are not incompatible with existing studies of the liquidity impact of market liberalization. Foreign ownership limits were removed on all stocks in Indonesia and liquidity rose substantially in every year during the sample period. Therefore we would get the same results as previous studies if the liquidity impact of the liberalization date or the openness to foreign investments were tested. Instead we provide the first direct evidence on the liquidity impact of foreign participation: liquidity rose in Indonesia *despite* the negative impact from foreign institutions. Market liberalization always comes with macroeconomic, institutional, and regulatory changes. It may enhance liquidity through the policy reforms instead of direct foreign participation. Our findings are consistent with the negative liquidity impact of internationalization in emerging markets reported by De La Torre et al. (2007). They are also consistent with studies of institutional investors in developed markets. Heflin and Shaw (2000), Sarin et al. (2000), and Dennis and Weston (2001) all show that greater institutional ownership leads to larger spreads, the adverse selection components of the spread, and smaller quoted depths. Rubin (2007) reports the same effect from institutional block-holdings on NYSE. Agarwal (2007) shows that liquidity rises with institutional holding but starts to decline once it reaches to 40%. Therefore a 70% ownership of the free-float capitalization would also have a negative liquidity impact on stocks in the United States.

There are several potential explanations for the negative liquidity impact from foreign institutions. Many studies show that institutional trading is more likely information-driven (e.g. Ali et al., 2004; Pinnuck, 2004; Ke and Petroni, 2004; Bushee and Goodman, 2007), and large institutional ownership increases the degree of information asymmetry (e.g. Dennis and Weston, 2001; Agarwal, 2007; Rubin, 2007; Brockman and Yan, 2009) and return volatility (e.g. Sias, 1996; Xu and Malkiel, 2003; Gabaix et al., 2006; Wang, 2007). In emerging markets, this information asymmetry may be amplified: Foreign institutions are perceived as being more experienced, better trained, or even better informed.<sup>5</sup> High ownership often leads to company board membership for foreign institutions. This may not be the case when shares are spread among small domestic investors, and may exacerbate the information asymmetry between foreign and local investors. Furthermore, large firms in emerging markets often have ties with local government and industries. If the majority ownership is shifted to foreign institutions, the informal information channels may be weakened or even severed. The company becomes “foreign” to local investors, which reduces liquidity.

Other factors may also explain the negative liquidity impact of foreign institutional investors. Foreign institutions are large traders in emerging markets. The presence of large traders may lead to imperfect competition in liquidity supply even after controlling for the information environment (Kihlstorm, 2001; Pritsker, 2002). As large shareholders therefore corporate insiders, foreign institu-

<sup>2</sup> Bekaert et al. (2007) measure the openness to foreign investors by the ratio of the market capitalization in the S&P-IFC Investable Index to the total market capitalization.

<sup>3</sup> We use the term “foreign institutions” and “foreign investors” interchangeably as foreign individuals hold merely 0.22% of the free-float market value.

<sup>4</sup> Studies have shown that mutual fund holdings in emerging markets have a positive impact on future stock performance; see Yuan et al. (2008).

<sup>5</sup> This perception may be justified by the past studies that have shown that: (i) foreign investors are better traders since they are better informed (Grinblatt and Keloharju, 2000; Seasholes, 2004); (ii) foreign institutions are better monitors of corporate management than local institutions (Khanna and Palepu, 1999); and (iii) foreign analysts produce more timely and accurate forecasts than local analysts (Bacmann and Bolliger, 2001). The opposing view is expressed by Dvořák (2005), Choe et al. (2005), Kaley et al. (2008), and Agarwal et al. (2009).

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