

Role Of Stock Market Development In Relationship Between Foreign Ownership And Profitability Of Asean Countries

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Abstract: This research is aimed to examine effect of stock market development on relationship between foreign ownership and profitability in ASEAN. Research samples are 491 manufacture firms listed in stock market of Thailand, Singapore, Philippines, Indonesia, and Malaysia from 2012-2013. With regression analysis, this research find that stock market development have effect on relationship between foreign ownership and profitability in ASEAN. Stock market development as a function of indicator of investor mood, legal and policy making, and management practices; support foreign shareholder role in profits increasing. This research shows new evidence of role of macro economics level factor, which is stock market development in ASEAN countries, as foreign owners' role supporting in profits increasing. Stock market development is important factor to answer inconsistencies of role of foreign owner, since foreign ownership will be more growing up in open market between countries, in profits increasing.

Index Terms: Stock Market Development, Foreign Ownership, Profitability, ASEAN

1 Introduction

In general, a business firm established to maximize profits. Profits are the most vital entity which demonstrates the financial stability and strength of any firm (Tabassum et al., 2014). It refers to the bottom line item of income statement which exhibits how company is financially beneficial and adding value to the shareholder's wealth. It is an indicator of financial health and competitive position within industry. Firm ability to increase profits is profitability. Agency conflict is one of problem to increase profitability. Agency conflict exists because there is conflict of interest between shareholders and management (Chen et al., 2012; Gilson and Whitehead, 2008; Renders and Gaeremynck, 2012). Management with bigger power than shareholder will act based on their own interests (Lee, Park, et al., 2015). Management works with less consideration of shareholders wealth, such as profit maximization. This conflict is getting bigger because shareholders could not monitor daily activities of management. In order to minimize agency conflict, shareholders have to do management monitoring, so management will act based less on their own interests and more on increasing shareholders wealth and firm value by profits increasing. Previous researches have been proving that share ownership factors can decrease agency conflict by minimizing of information asymmetry (Shiri et al., 2016), financing cost (Tan and Ma, 2016), and maximizing of profit (Cheung et al., 2011; Wei et al., 2005). One type of share ownership is foreign ownership. Foreign ownership is shareholders of firm of across country. Foreign investor can increase management performance (Kalemli-Ozcan et al., 2014; Wei et al., 2005). Foreign investor have specific financial and business characteristics, which are the international diversification of earnings should decrease the variability of cash flows and bankruptcy costs than domestic firms (Gurunlu and Gursoy, 2010).

Foreign shareholders have higher labor productivity, wages and export intensity than local firms, though technological intensities (Rasiah and Malakolunthu, 2009). Foreign shareholders have better monitoring of management as well is, than domestic shareholders, because foreign shareholders is more independent (Ahmed and Iwasaki, 2015). In the other hand, foreign ownership can decrease profits as well. Foreign shareholders do not really attach to domestic firm, because they have international investment channels than domestic shareholders, so foreign shareholders have short term relationship to domestic firm (Kim, 2011). Foreign ownership leads to bigger cost of foreign capital structure (Eun and Janakiraman, 1998), so it will decrease profitability. Foreign ownership can improve information asymmetric as well, because of differences of language and geographic between home country (origin of foreign shareholders) and host country (firm owned by foreign shareholders). It is important to analyze foreign ownership, because the rapid globalization of financial markets in recent years has been accompanied by a growing number of firms raising capital abroad (Bell et al., 2014). In China, external opening market of import makes foreign direct investment increases (Zhang and Roelfsema, 2014), such as acquisition of assets (Lau and Bruton, 2008). It shows that foreign ownership is one of the most important factor that affect firm performance, especially profitability, when ownership of firm's shares across country. Inconsistency of foreign ownership effects on profitability depends on condition of the country, especially condition of stock market. If the country believes and fully supports foreign ownership as corporate governance mechanism, then foreign ownership will increase profitability (Viana et al., 2010). In US, foreign initial public offerings (IPO) get high investors perception because they believes foreign firms will transfer better monitoring and incentive-based corporate governance from home country (Bell et al., 2014). High investor perception will leads to firm branding between its competitors and generates high profits (Sayari and Shamki, 2016). If the country believes that too much foreign ownership is threads for domestic business, then foreign ownership will decrease profitability. Lam (1997) stated that if deadweight cost of foreign shareholders in home country is high, then host country will restricts foreign ownership, so shares hold by foreign shareholders can get premium price than hold by local shareholders. Restrictions of

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foreign ownership can avoid decreasing of domestic return firm because of transferring resources from home country abroad (Yean and Das, 2015). Each country have different condition to treats foreign ownership as an improvement of firm profitability. Stock market is an indicator of an economy financial health (Tachiwou, 2010). Stock markets have played an important role in free market capitalism by creating wealth and contributing to economic growth (Niblock et al., 2014). Condition of stock market can be seen by stock market development of each country. It indicates the mood of investors in a country (Tachiwou, 2010). Stock market development can be seen as well as corporate governance mechanism by political and legal structure, public monitoring (Forti et al., 2011), investor protections and public policy making (Guillen and Capron, 2016) to increase profitability. Association of South East Asian Nation (ASEAN) countries have been affected by globalization as well. ASEAN countries have established ASEAN Economic Community (AEC), and it is believed that in 2015, ASEAN borders will be fully open to allow free flows of capital and labor across country's borders (Nikomborirak, 2015), include stock market integration (Lee and Jeong, 2016). Less barriers of capital market between ASEAN countries will increase foreign investment and capital as well. Based on data accessed in World Bank (2016a), there are increasing of foreign direct investments in ASEAN countries from 2012 to 2013, for Indonesia 10 percent, Malaysia 27 percent, Philippines 16 percent, Singapore 16 percent, Thailand 24 percent. Even open market and integration have been established between countries in ASEAN, there are still unilateral liberalization initiatives in some countries (Yean and Das, 2015), such as Thailand allows free movement of capital in and out of the country, while Indonesia have are required to apply for permission from the Central Bank of Indonesia for the repatriation and inflows of funds (Niblock et al., 2014). Whether foreign ownership increases profits or not, depends on stock market development in each country of ASEAN. Each country have optimal standards of foreign ownership, so it can maximize shareholders wealth and increase profits. Objective of this research is to examine effect of stock market development on relationship between foreign ownership and profitability in ASEAN countries. ASEAN Economic Community (AEC) is just fully performed in 2015 (Nikomborirak, 2015; Yean and Das, 2015), and yet, there are researches studying macro economic level factors as one region (eg. Lee and Jeong, 2016; Niblock et al., 2014; Nikomborirak, 2015; Yean and Das, 2015) in order to examine impact of AEC as an act to keep up the development of AEC. This research will use macro economic level factor, which is country's stock market development, as consideration of micro economic level factor decision making. This research shows new evidence of role of macro economic level factor, which is stock market development in ASEAN countries, as foreign owners' role supporting in profitability increasing. Stock market development is important factor to answer inconsistencies of role of foreign owner, since foreign ownership will be more growing up in open market between countries, in profitability increasing.

2 REVIEW OF LITERATURE

2.1 Foreign Ownership and Profitability

In terms of agency theory, management (agent) have a contract with owner (principal) which is delegating of authority from owner to management to manage firm as owner interests (Jensen and Meckling, 1976). Owner have to monitor management, so that management could increase owner wealth by profit increasing. In stock market context, shareholders wealth is the purpose of agency relationship. One of shareholders wealth indicators is net profits. Profits can be increased if shareholders have better support and monitoring to management. Type of ownership is important to determine if management is working follow shareholders interest. Foreign shareholder is one type of ownership that have effect on profitability. There are arguments said that foreign ownership have positive relationships with firm performance, while others predict negative relationships; each theory have conditions under which its arguments hold (Lee, Kim, et al., 2015). Firm with foreign ownership have competitive advantages. Internalization theory said that foreign ownership enhances revenue by developing new markets for its assets from abroad; such as superior research and development (Gande et al., 2009), marketing production capabilities, consumer goodwill (Fang et al., 2008; Lee, Kim, et al., 2015), higher labor productivity, wages, export, technological intensities (Mithas and Rust, 2016; Rasiah and Malakolunthu, 2009; Wei et al., 2005) and international manager talents (Wei et al., 2005). Those components are unique competitive advantages that cannot easily enhanced by domestic ownership. In cost efficiency, foreign ownership have financial and business advantages as well, such as open accesses of international capital market and hard currency (Wei et al., 2005), the international diversification of profits should decrease the variability of cash flows and bankruptcy costs than domestic firms (Gurunlu and Gursoy, 2010). In terms of corporate governance, foreign shareholders have better monitoring of management as well, than domestic shareholders, because foreign shareholders is more independent (Ahmed and Iwasaki, 2015). In the other hand, foreign ownership can reduce profitability as well. In international level, imperfections of global market support this argument, because it is difficult to optimally diversify their businesses internationally due to such barriers as institutional restrictions on overseas capital flows and information asymmetries (Lee, Kim, et al., 2015). It leads to bigger cost of foreign capital structure (Eun and Janakiraman, 1998), and will decrease profitability. There is lack of compatible of development of competitive advantages brought from home country (origin of foreign ownership) as well, such as technological investment. New technological investment have risks such as firms may not be able to realize complex interrelationships among information technology systems, get locked into poor and incompatible systems and may suffer from information overload, leading to reduced learning (Mithas and Rust, 2016). It will be able to get benefits of international diversification if global market is sufficiently integrated. In firm level, manager factor can be a reason why foreign ownership reduces profitability. Foreign manager can improve information asymmetric as well, because of differences of language and geographic between home country and host country. In multinational firm context, it is hard for foreign shareholders to monitor managerial decision

because of complexity of corporate structure with many foreign subsidiaries across country (Lee, Kim, et al., 2015). Not only foreign manager have adaptation difficulty in domestic environment, but domestic manager have adaptation difficulty in firm where foreign shareholders have brought foreign atmosphere in some business activities, such as social capital domestic CEO that can reduce foreign ownership (Goyer and Jung, 2011). This research will analyze two of contrast arguments about relationship between foreign ownership and profitability with consideration of country level, especially in ASEAN. It is important because ASEAN Economic Community have been established and will affect barriers between countries as restrictions effect of foreign shareholder to increase profitability.

2.2 Stock Market Development

As a core component of the modern economy, finance, such as stock market, is attracting increasingly more attention and given its influence on economic growth (Baranidharan and Vanitha, 2016; Niblock et al., 2014; Otisitswe and Moffat, 2015; Yao et al., 2015), and an indicator of an economy financial health (Tachiwou, 2010). As intermediaries industry, financial development, includes stock market development (Kargbo et al., 2015), have effect on business cycle (Hwang and Lee, 2013) and support allocation of resources for productive opportunities (Forti et al., 2011). It shows that stock market is one of important sector to improve business activities. Stock market can be medium of firm branding as well, so firm can increase revenue as well as profits (Sayari and Shamki, 2016). In globalization era, there are less barriers between countries, includes of investment in stock market. Stock market of a country will be integrated with larger of global, or regional, stock market. ASEAN stock market is mainly driven by country-level economic situations (Lee and Jeong, 2016). In temporarily, ASEAN stock market is integrated with China and United States stock market as well. Stock market that have been integrated to global capital market have higher level of corporate governance transparency (Holm and Schøler, 2010). In such this stock market integration within global, or regional, capital market, foreign ownership will be growing up. The general consensus of these time-varying integration studies is that markets are trending toward global market integration, and this evidence of an increased level of market integration is mainly driven by various free trade agreements, innovation in stock trading through the use of information technology, and improved economic linkages due to the rise of multinational companies and of regional economic cooperation (Lee and Jeong, 2016). Evidence from Russian crisis regime shows that Russian stock market remained isolated from global stock markets in the long run (Lucey and Voronkova, 2008). Spillovers both from regional and global markets are present in the vast majority of emerging market economies and that the nature of cross-market linkages varies across countries and regions (Beirne et al., 2010). Important role of stock market leads to condition of stock market analysis. Condition of stock market can be seen by stock market development. Several contributions can be associated with developed stock markets are (Forti et al., 2011):

- (1) *investment in stocks is a form of long-term saving that is invested directly in production activity;*
- (2) *developed markets reward investors by returns*

maximization and the efficient use of resources, which are the seeds to begin a cycle of development and competitiveness; (3) *developed markets with liquidity, volume and regulation stimulate businesses at a firm-level;* (4) *shareholder activity reflects the expectations of the main market players, as well as their opinions about both domestic and international states of economic affairs;* (5) *an efficient stock market has a fundamental role in attracting, maximizing, consolidating and retaining external capital.*

It indicates the mood of investors (Tachiwou, 2010) as well as corporate governance mechanism by political and legal structure, public monitoring (Forti et al., 2011), investor protections and public policy making (Guillen and Capron, 2016). Stock market development shows the openness of a country and its stock market, stock market efficiency (investor protection and financial structure), and management practices (adaptability of a firm to market change, health, safety and environment concerns, and entrepreneurship) (Forti et al., 2011). In ASEAN countries; such as Indonesia, Malaysia, Philippines, Thailand; stock market development decreasing caused by dominance of family ownership (Noordin and Law, 2008). Indicators of stock market developments such as stock market liquidity (Tachiwou, 2010), domestic investment, macroeconomic stability, market volatility and financial intermediary development (Otisitswe and Moffat, 2015), and capitalization as percentage of gross domestic products (Guillen and Capron, 2016; Srinidhi et al., 2012). Stock market capitalization of a country, defined as the aggregated market value equity of firms in the respective equity market, is commonly used to measure the widening and deepening of stock market activity (Tan et al., 2012). Explanation about stock market capitalization as indicator of stock market development shows that it is indicator of shareholders wealth as well of a country. The higher stock market development indicates the higher shareholders perception on firm branding and leads to high profitability (Sayari and Shamki, 2016).

2.3 ASEAN Economics Community (AEC)

ASEAN consists of ten diverse economies, ranging from Singapore, with GDP per capita at nominal value of US\$ 55,182 (ranked 8th of 183 countries in the world in 2013) to Cambodia with GDP per capita at nominal value of US\$ 1,028 (ranked 156th) (Nikomborirak, 2015). ASEAN has come a long way in reducing barriers to trade in goods among member countries since the creation of the ASEAN Free Trade Area Agreement, signed in 1993 (Nikomborirak, 2015), and have been made blueprint of ASEAN Economics Community (AEC) in 2007 with goal level about 90.5 percent in 2015 (Yean and Das, 2015). The Blueprint consists of four key pillars: (1) a single market and production base; (2) a highly competitive economic region; (3) a region of equitable economic development; and (4) a region fully integrated into the global economy (Nikomborirak, 2015). AEC could produce gains similar to those resulting from the single European market and the benefits could be doubled if the regional integration also leads to new free trade agreements with key external partners (Lee and Jeong, 2016). Advantage of AEC is less barriers can make less cost to make business within countries in ASEAN. In contrary, disadvantage of AEC is transferring

resources from home country abroad will make domestic business decreases. AEC have effect on stock market as well. Capital market in ASEAN countries have been integrated and driven by country-level economic situations (Lee and Jeong, 2016). It leads to growing up of foreign investment flows in to ASEAN. AEC makes investment, especially stock investment between countries will be less barriers. Foreign investors, especially in develop countries, will send significant portion of their investment to emerging market, such as Southeast Asia (Niblock et al., 2014). It leads to more foreign ownership in a country, either from other ASEAN countries or outside ASEAN countries.

2.4 Stock Market Development, Foreign Ownership and Profitability

There is argument said that foreign ownership have positive relationships with profitability. Firm with foreign ownership have competitive advantages from abroad; such as superior research and development (Gande et al., 2009) that leads to higher export (Rasiah and Malakolunthu, 2009), higher product quality and higher revenues. Foreign shareholders could brings marketing and production capabilities, and consumer goodwill (Lee, Kim, et al., 2015) that leads to higher revenues. Foreign shareholders increases wages (Rasiah and Malakolunthu, 2009), brings international manager talents as well as open accesses of international capital market and hard currency (Wei et al., 2005), and the international diversification of profits (Gurunlu and Gursoy, 2010), and will leads to higher labor productivity (Rasiah and Malakolunthu, 2009) and cost efficiency and wider international market. Foreign shareholders have better monitoring of management as well, than domestic shareholders, because foreign shareholders are more independent (Ahmed and Iwasaki, 2015), so foreign shareholders can make management works effectively and increases profitability. Those advantages that brought by foreign shareholders can increases firm profits. In contrary, foreign ownership can reduce profitability as well. In international level, imperfections of global market support this argument, because it is difficult to optimally diversify their businesses internationally due to such barriers as institutional restrictions on overseas capital flows and information asymmetries (Lee, Kim, et al., 2015). It leads to bigger cost, especially cost of foreign capital structure (Eun and Janakiraman, 1998), and will decrease profitability. There is lack of compatible of development of competitive advantages brought from home country (origin of foreign ownership) as well, such as technological investment. New technological investment have risks such as firms may not be able to realize complex interrelationships among information technology systems, get locked into poor and incompatible systems and may suffer from information overload, leading to reduced learning (Mithas and Rust, 2016). Firm will spends more money to make good technology implementation and reduce profits. In firm level, manager factor can be a reason why foreign ownership reduces profitability. Foreign manager can improve information asymmetric as well, because of differences of language and geographic between home country and host country. Foreign manager will having hard time to determines consumers target. In multinational firm context, it is hard for foreign shareholders to monitor managerial decision because of complexity of corporate structure with many foreign subsidiaries across country (Lee, Kim, et al., 2015). Not only foreign manager have adaptation

difficulty in domestic environment, but domestic manager have adaptation difficulty in firm where foreign shareholders have brought foreign atmosphere in some business activities. Foreign shareholders have different perception on business activities with domestic manager. Foreign shareholders see business activities in international context, while domestic manager look business activities in domestic context. Previous research found that social capital domestic CEO can reduce foreign ownership (Goyer and Jung, 2011) because of difference perception between foreign shareholders and domestic manager. Inconsistency of foreign ownership effects on profitability depends on condition of stock market development of a country. Stock market development is indicator of mood of investors (Tachiwou, 2010) as well as corporate governance mechanism by political and legal structure, public monitoring (Forti et al., 2011), investor protections and public policy making (Guillen and Capron, 2016). In addition, Forti et al. (2011) stated that stock market development shows the openness of a country and its stock market, stock market efficiency (investor protection and financial structure), and management practices (adaptability of a firm to market change, health, safety and environment concerns, and entrepreneurship). Stock markets have played an important role in free market capitalism by creating wealth and contributing to economic growth (Niblock et al., 2014). There are previous research found that profitability increased by foreign shareholder depend on stock market development. As mood of investors, decreasing of stock market development shows dominance of family ownership in ASEAN countries; such as Indonesia, Malaysia, Philippines, Thailand; stock market development decreasing caused by dominance of family ownership (Noordin and Law, 2008). It will not support foreign ownership to increases profitability in such condition. As corporate governance mechanism and policy making, decreasing of stock market development shows restrictions of investment, especially foreign investment. Restriction is aimed to avoid too much foreign involvement that decreasing of domestic return firm because of too much foreign involvement will decreases of domestic return. For example, small farmers in the Thai agricultural sector are perceived to lose out as they lack the resources to compete with large businesses and multinationals in this sector (Yean and Das, 2015). Even open market and integration have been established between countries in ASEAN, there are still unilateral liberalization initiatives in some countries (Yean and Das, 2015), such as Thailand allows free movement of capital in and out of the country, while Indonesia have are required to apply for permission from the Central Bank of Indonesia for the repatriation and inflows of funds (Niblock et al., 2014). Another example is China, where, although the authorities deny publicly trade protectionism, it is clear that the decisions of the Ministry of Commerce continue to impose barriers to foreign investment (Forti et al., 2011). As picture of management practices, stock market development shows adaptability of a firm to market change and environment concerns (Forti et al., 2011). If there is lack of compatible of development of competitive advantages; such as firms may not be able to realize complex interrelationships among information technology systems, get locked into poor and incompatible systems and may suffer from information overload, leading to reduced learning (Mithas and Rust, 2016); foreign shareholder could not optimize technology that they brought to increase firm performance.

3 RESEARCH METHODOLOGY

This research will examine effect of stock market development on relationship between foreign ownership and profitability in five countries of ASEAN, which are Indonesia, Malaysia, Philippines, Singapore, Thailand. These five countries have better access of data of this research than other countries of ASEAN. Data will be got from financial statement and database of World Bank. Financial statement can be accessed from website of stock market of five countries. Data that will be needed are number of share held by foreigner, number of share traded in stock market, closing market price of share, book value of equity, book value of liabilities from financial statement. Market capitalization and gross domestic product will be got from www.worldbank.org. Research sample of this research is manufacture firms listed from 2012-2013 in stock market of five countries of ASEAN. Based on data available in World Bank (2016b), contributions of manufactures industry to economics of Indonesia, Malaysia, Philippines, Singapore, Thailand, have decreased from 2011-2013. Therefore, it is important to examine manufacture firms value related to foreign ownership as an effect of establishment of integrated stock market in ASEAN. Firm with negative book value of equity will be excluded because it indicates insufficiency of shareholder financing on firm activities. Based on table 1, there are 491 firms as research sample and 982 observations.

Insert Table 1. Here

This research will run regression analysis as hypothesis test. Regression model proposed is as followed:

$$Profitability_{it} = \sigma + \beta_1 FOR_{ijt} + \beta_2 SMDEV_{jt} + \beta_3 FOR_{ijt} \times SMDEV_{jt} + \beta_4 LEV_{ijt} + \beta_5 SIZE_{ijt} + \beta_6 MBV_{ijt}$$

- where:
- Profitability_{it} = Profitability i country j period t
 - FOR_{ijt} = Foreign Ownership firm i country j period t
 - SMDEV_{jt} = Stock Market Development country j period t
 - LEV_{ijt} = Leverage firm i country j period t
 - SIZE_{ijt} = Size of firm i country j period t
 - MBV_{ijt} = Market to Book Value firm i country j period t

This research will run panel regression model selection test as preliminary test. This research will use fixed-effect redundant test and hausman test to select robust model between common-effect model, fixed-effect model, and random-effect model. Dependent variable is profitability. Profitability could seen by return on equity (ROE). ROE is measured is as followed:

$$Return\ on\ Equity = \frac{\text{Net Income}}{\text{Market Value of Equity}}$$

This research uses ROE because of consideration of profitability based on shareholders role. It is showed by profits that generates by the use of equity (shareholders financing). Independent variable is foreign ownership. Foreign ownership is measured by the proportion of shares held by foreign investors as follow (Ahmed and Iwasaki, 2015; Eun and Janakiramanan, 1998; Wei et al., 2005):

$$Foreign\ ownership = \frac{\text{Number of Shares Held by Foreigners}}{\text{Total Number of Shares Outstanding}}$$

Moderating variable is stock market development. Market capitalization will be used as a proxy for stock market development and it is measured as the ratio of market capitalization to gross domestic product (Otisitswe and Moffat, 2015). It shows value of all listed shares relative to economy growth of country. The choice of this variable because of stock market capitalization as a ratio of the GDP is less arbitrary when compared to other indices of stock market development and hence a better measure (Otisitswe and Moffat, 2015). Calculation of stock market development is as followed (Guillen and Capron, 2016; Otisitswe and Moffat, 2015; Srinidhi et al., 2012):

$$Stock\ Market\ Development = \frac{\text{Market Capitalization}}{\text{GDP}}$$

Control variables are leverage, size of firm, and market to book value. Leverage is the use of debt in capital structure. Debt is a capital source that increases the risk associated with future profits, while firm with big size have big assets as resources to increase performance (Muzir, 2011), while market to book value shows firm growth that can increase profits. Leverage measured by debt to equity ratio (total of debt divided by total equity). Firm size measured by value of logarithm of total assets. Market to book value is measured by firm market capitalization end of period divided by total equity.

4 RESULT AND DISCUSSION

Based on table 2, mean of ROE in five countries of ASEAN is 0.1396. The lowest mean of ROE in Malaysia which is 0.0570, while the highest in Indonesia which is 0.2847. Mean value of foreign manufacture firm ownership in five countries of ASEAN is 0.1587. Surprisingly, Indonesia that have requirement to apply for permission from the Central Bank of Indonesia for the repatriation and inflows of foreign funds (Niblock et al., 2014) have the highest mean value of foreign ownership with 0.3510, while Malaysia that have regulation to free inflows of foreign funds (Niblock et al., 2014) have the lowest mean value of foreign ownership with 0.1102. On average, development of stock market in five countries of ASEAN is 1.3923. Indonesia have the lowest development of stock market with mean value 0.4065, while Singapore have the highest development of stock market with mean value 1.9456. Based on table 4, significance value of fixed-effect redundant test is 0.000 (significant in level 0.01). It means that fixed-effect model is better than common-effect model. Significance value of hausman test is 0.000 (significant in level 0.01). It means that fixed-effect model is better than random-effect model. This result shows that fixed-effect model is the best model among these three models. Foreign ownership have coefficient value 2.359213 (significant in level 0.05). It means that foreign ownership have positive effect on profitability. This result is consistent with role of foreign ownership that gives competitive advantage by developing superior research and development (Gande et al., 2009), marketing production capabilities, consumer goodwill (Fang et al., 2008; Lee, Kim, et al., 2015), higher labor productivity, wages, export, technological intensities (Mithas and Rust, 2016; Rasiah and Malakolunthu, 2009; Wei et al., 2005), international manager talents (Wei et al., 2005), open accesses of international capital market and hard currency (Wei et al., 2005), decrease the variability of cash flows and bankruptcy costs than domestic

firms (Gurunlu and Gursay, 2010), and independent monitoring of management (Ahmed and Iwasaki, 2015). Those competitive advantages give higher revenue and cost efficiency to the firm. Variable of interaction between foreign ownership and stock market development have coefficient value 5.965972 (significant in level 0.01). It means that stock market development have significant effect on relationship between foreign ownership and profitability. Stock market development is strengthening positive effect of foreign ownership on profitability. Hypothesis of this research is accepted. Foreign ownership increases profitability if stock market development of a country is high. As a function of indicator of investor mood, indicator of legal and policy making, and management practices; stock market development support foreign shareholder role in profits increasing. With high stock market development, country have optimal function of governance and restriction of foreign investment to reduce high foreign involvement that can decrease profits (Yean and Das, 2015). High stock market development show high ability adaption of environment and technology such as firms be able to realize and compatible with complex interrelationships among information technology systems. Competitive advantages that have been brought by foreign shareholder will be useful to support firm business activities and increases profitability. Stock market development have coefficient value -0.511583 (significant in level 0.05). Stock market development have negative effect on profitability. It is consistent with previous research (eg. Noordin and Law, 2008) that stated stock market in ASEAN is dominated by family shareholder that could reduce firm performance. It indicates that role of foreign ownership in high stock market development is important in profits increasing. Based on table 4, foreign ownership have no significant effect on profitability in Thailand, Malaysia, Philippines, and Indonesia. In the other hand, foreign ownership have positive significant effect on profitability in Singapore (significant in level 0.01). As expected, Singapore with the highest stock market development between five countries of ASEAN supports the role of foreign shareholders in profits increasing. As robustness test, this research will performs panel regression with other alternatives variables measurement. Alternative is measurement of profitability. This research will performs panel regression test with return on assets (ROA) as profitability as well. ROA shows firm's ability to generate profits with the use of total assets. ROA is measured by earnings after tax divided by total assets. Another alternative measurement is stock market development. There are some indicators, beside market capitalization to GDP ratio, to explain about stock market development. Tachiwou (2010) stated that market capitalization to GDP ratio is picture of stock market development as stock exchange size aspect. The other measurements of stock market development are value of stock traded to GDP ratio (Guillen and Capron, 2016; Tachiwou, 2010) and stock turnover ratio (Guillen and Capron, 2016). Value of stock traded to GDP ratio; as complements the market capitalization to GDP ratio - although a market may be large, there may be little trading; is measurement of stock market development based on stock exchange liquidity (Tachiwou, 2010) and depth aspect (World-Bank, 2013). Value of stock traded to GDP ratio measures the organized trading of firm equity as a share of national output and therefore should positively reflect liquidity on an economy-wide basis (Tachiwou, 2010). Liquid stock markets can increase

incentives for investors to get information about firms and improve corporate governance (Tachiwou, 2010). It is calculated by total value of stock traded divided by GDP (World-Bank, 2013). The higher value of stock traded to GDP ratio, the more liquid stock market is. Stock turnover ratio is measurement of stock market development based on stock exchange efficiency aspect (World-Bank, 2013). For stock markets, a basic proxy for efficiency in the stock market is the turnover ratio, that is, the ratio of stock market's annual turnover to its capitalization (Cihak et al., 2013). Argument of using this variable is that higher turnover means more liquidity, which in turn allows the market to be more efficient (Cihak et al., 2013). It is calculated by total value of stock traded divided by market capitalization (World-Bank, 2013). The higher stock turnover ratio, the more efficient stock market is. Table 5 shows that variable interaction between stock market development (market capitalization to GDP ratio) and foreign ownership have coefficient value 4.902895 (significant in level 0.01), with ROA as dependent variable. The result is consistent with hypothesis test that use ROE as profitability measurement in this research. In other aspects of profitability; such as effectiveness of the uses of assets to generate profits; foreign ownership increases profitability if stock market is developed well. Variable interaction between stock market development (value of stock traded to GDP ratio) and foreign ownership have coefficient value 0.345510 (significant in level 0.01). Variable interaction between stock market development (value of stock traded to GDP ratio) and foreign ownership have coefficient value 0.359680 (significant in level 0.01). The results are consistent with hypothesis test that use market capitalization to GDP ratio as main stock market development measurement in this research. In other aspects of stock market development; such as liquidity, and efficiency, foreign ownership increases profitability if stock market is developed well.

5 CONCLUSION

This research is aimed to examine effect of stock market development on relationship between foreign ownership and profitability in five countries of ASEAN. Stock market development is a function of indicator of investor mood, indicator of legal and policy making, and management practices; stock market development support foreign shareholder role in profits increasing. With high stock market development, country have optimal function of governance and restriction of foreign investment, low dominance of family ownership ASEAN countries, high ability adaption of environment and technology. With high stock market development, competitive advantages that have been brought by foreign shareholder will be useful to support firm business activities and increases profitability.

6 IMPLICATION

This research have implication to firm management, especially manufacture firm in ASEAN. Management can make firm policy about optimal foreign ownership structure, depend on firm compatibility to new technology and other competitive advantage brought by foreign shareholders, so management can maximizes profits. This research have implication to stock investor as well. Investors, who have interest send their investment abroad especially in ASEAN, have to see condition of country, especially condition of stock market development, so investors wealth can be maximized by profits maximization.

TABLE 1
UNITS FOR MAGNETIC PROPERTIES

Symbol	Quantity	Conversion from Gaussian and CGS EMU to SI ^a
Φ	magnetic flux	1 Mx $\rightarrow 10^{-8}$ Wb = 10^{-8} V·s
B	magnetic flux density, magnetic induction	1 G $\rightarrow 10^{-4}$ T = 10^{-4} Wb/m ²
H	magnetic field strength	1 Oe $\rightarrow 10^3/(4\pi)$ A/m
m	magnetic moment	1 erg/G = 1 emu $\rightarrow 10^{-3}$ A·m ² = 10^{-3} J/T
M	magnetization	1 erg/(G·cm ³) = 1 emu/cm ³ $\rightarrow 10^3$ A/m
$4\pi M$	magnetization	1 G $\rightarrow 10^3/(4\pi)$ A/m
σ	specific magnetization	1 erg/(G·g) = 1 emu/g $\rightarrow 1$ A·m ² /kg
j	magnetic dipole moment	1 erg/G = 1 emu $\rightarrow 4\pi \times 10^{-10}$ Wb·m
J	magnetic polarization	1 erg/(G·cm ³) = 1 emu/cm ³ $\rightarrow 4\pi \times 10^{-4}$ T
χ, κ	susceptibility	1 $\rightarrow 4\pi$
χ_p	mass susceptibility	1 cm ³ /g $\rightarrow 4\pi \times 10^{-3}$ m ³ /kg
μ	permeability	1 $\rightarrow 4\pi \times 10^{-7}$ H/m = $4\pi \times 10^{-7}$ Wb/(A·m)
μ_r	relative permeability	$\mu \rightarrow \mu_r$
w, W	energy density	1 erg/cm ³ $\rightarrow 10^{-1}$ J/m ³
N, D	demagnetizing factor	1 $\rightarrow 1/(4\pi)$

Statements that serve as captions for the entire table do not need footnote letters. a Gaussian units are the same as cgs emu for magnetostatics; Mx = maxwell, G = gauss, Oe = oersted; Wb = weber, V = volt, s = second, T = tesla, m = meter, A = ampere, J = joule, kg = kilogram, H = henry.

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APPENDIX

Table 1. Research Sample

Firms in each country		Total
Indonesia	Manufacture firms listed 2012-2013	93
	Incomplete data	(10)
	Negative Book Value of Equity	(3)
Malaysia	Manufacture firms listed 2012-2013	211
	Negative Book Value of Equity	(3)
Philippine	Manufacture firms listed 2012-2013	20
Singapore	Manufacture firms listed 2012-2013	120
	Negative Book Value of Equity	(3)
Thailand	Manufacture firms listed 2012-2013	71
	Data in local language	(5)
Number of Firms		491
Number of Observations		982

Table 2. Descriptive Statistics

Country		ROE	FOR	SMDEV	LEV	SIZE	MBV
Thailand	N	132	132	132	132	132	132
	Mean	0.0749	0.1163	1.1027	1.0239	9.8345	1.7759
	% of Total N	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%
Singapore	N	234	234	234	234	234	234
	Mean	0.2357	0.1261	1.9456	0.7817	8.1559	0.9693
	% of Total N	23.8%	23.8%	23.8%	23.8%	23.8%	23.8%
Philippines	N	40	40	40	40	40	40
	Mean	0.0700	0.2251	1.1018	0.9431	9.8080	3.0452
	% of Total N	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%
Malaysia	N	416	416	416	416	416	416
	Mean	0.0570	0.1102	1.5799	0.7694	8.4451	1.4712
	% of Total N	42.4%	42.4%	42.4%	42.4%	42.4%	42.4%
Indonesia	N	160	160	160	160	160	160
	Mean	0.2847	0.3510	0.4065	1.3876	12.4692	2.6770
	% of Total N	16.3%	16.3%	16.3%	16.3%	16.3%	16.3%
Total	N	982	982	982	982	982	982
	Mean	0.1396	0.1587	1.3923	0.9144	9.2741	1.6531
	% of Total N	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
ROE	=Return on Equity						
FOR	=Foreign Ownership						
SMDEV	=Stock Market Development						
LEV	=Leverage of firm						
SIZE	=Size of firm						
MBV	=Market to Book Value						

Table 3. Regression Test of All Sample

	COEFFICIENT		
	Common-Effect	Fixed-Effect	Random-Effect
Constant	-0.110095	-0.700559	-0.186887
FOR	-1.487986*	2.359213**	-1.561286*
FOR_SMDEV	1.932080*	5.965972*	2.111206*
SMDEV	-0.192955	-0.511583**	-0.189263
LEV	0.050493	0.149797	0.052012
SIZE	0.040988	-0.006972	0.046545
MBV	-0.017551	0.001537	-0.019218
Sig. of Redundant Fixed-Effect Test		0.0000*	
Sig. of Hausman Test			0.0000*
Sig. of F-Statistics	0.000001*	0.000000*	0.000000*
Adjusted R-Squared	0.032286	0.229621	0.037403
*Significant in level 0.01			
**Significant in level 0.05			
***Significant in level 0.10			
FOR= Foreign Ownership			
SMDEV= Stock Market Development			
LEV= Leverage of firm			
SIZE= Size of firm			
MBV= Market to Book Value			

Table 4. Regression Test of Each Country

	COEFFICIENT				
	Thailand	Singapore	Philippines	Malaysia	Indonesia
Constant	-0.429	4.771	0.229	-0.177	0.276
FOR	-0.213	3.412*	-0.105	-0.036	-0.087
LEV	0.055	-0.250	0.094*	0.063*	0.093
SIZE	0.040	-0.571	-0.023	0.023	-0.007
MBV	0.045	-0.120	0.000	-0.001	0.000
N	132	234	40	416	160
*Significant in level 0.01					
**Significant in level 0.05					
***Significant in level 0.10					
FOR = Foreign Ownership					
LEV = Leverage of firm					
SIZE = Size of firm					
MBV = Market to Book Value					

Table 5. Alternatives of Regression Test

	COEFFICIENT		
	SMDEV = Market Capitalization to GDP	SMDEV = Stock Value Traded to GDP	SMDEV = Turnover of Stock Traded
Constant	-1.148816	0.145829	1.939650
FOR	1.706967***	-4.905539*	-5.441120*
FOR_SMDEV	4.902895*	0.345510*	0.359680*
SMDEV	-0.364452***	-0.062328*	-0.049764*
LEV	0.043797	0.199292	0.107129
SIZE	0.055759	0.157549	-0.123255
MBV	0.006809	0.014905	0.009912
Dependent Variable	ROA	ROE	ROE
Sig. of F-Statistics	0.000001*	0.000000*	0.000000*
Adjusted R-Squared	0.215864	0.383108	0.257861
*Significant in level 0.01			
**Significant in level 0.05			
***Significant in level 0.10			
ROA = Return on Assets			
ROE = Return on Equity			
FOR = Foreign Ownership			
SMDEV = Stock Market Development			
LEV = Leverage of firm			
SIZE = Size of firm			
MBV = Market to Book Value			

Case Summaries

country		ROE	FOR	SMDEV_MC	DER	SIZE	MBV
thailand	N	132	132	132	132	132	132
	Mean	.0749	.1163	1.1027	1.0239	9.8345	1.7759
	% of Total N	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%
singapore	N	234	234	234	234	234	234
	Mean	.2357	.1261	1.9456	.7817	8.1559	.9693
	% of Total N	23.8%	23.8%	23.8%	23.8%	23.8%	23.8%
philippines	N	40	40	40	40	40	40
	Mean	.0700	.2251	1.1018	.9431	9.8080	3.0452
	% of Total N	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%
malaysia	N	416	416	416	416	416	416
	Mean	.0570	.1102	1.5799	.7694	8.4451	1.4712
	% of Total N	42.4%	42.4%	42.4%	42.4%	42.4%	42.4%
indonesia	N	160	160	160	160	160	160
	Mean	.2847	.3510	.4065	1.3876	12.4692	2.6770
	% of Total N	16.3%	16.3%	16.3%	16.3%	16.3%	16.3%
Total	N	982	982	982	982	982	982
	Mean	.1396	.1587	1.3923	.9144	9.2741	1.6531
	% of Total N	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

THAILAND

ANOVA^{b,c}

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.416	4	.354	1.633	.170 ^a
	Residual	27.538	127	.217		
	Total	28.954	131			

a. Predictors: (Constant), MBV, DER, FOR, SIZE

b. Dependent Variable: ROE

c. Selecting only cases for which country = Thailand

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.429	.598		-.719	.474
	FOR	-.213	.238	-.082	-.897	.371
	DER	.055	.044	.115	1.246	.215
	SIZE	.040	.062	.059	.649	.518
	MBV	.045	.030	.130	1.480	.141

a. Dependent Variable: ROE

b. Selecting only cases for which country = Thailand

SINGAPORE

ANOVA^{b,c}

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	163.444	4	40.861	3.353	.011 ^a
	Residual	2790.682	229	12.186		
	Total	2954.127	233			

a. Predictors: (Constant), MBV, FOR, SIZE, DER

b. Dependent Variable: ROE

c. Selecting only cases for which country = Singapore

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.771	3.323		1.436	.152
	FOR	3.412	1.037	.214	3.289	.001
	DER	-.250	.265	-.062	-.941	.347
	SIZE	-.571	.409	-.090	-1.394	.165
	MBV	-.120	.233	-.034	-.515	.607

a. Dependent Variable: ROE

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.771	3.323		1.436	.152
	FOR	3.412	1.037	.214	3.289	.001
	DER	-.250	.265	-.062	-.941	.347
	SIZE	-.571	.409	-.090	-1.394	.165
	MBV	-.120	.233	-.034	-.515	.607

a. Dependent Variable: ROE

b. Selecting only cases for which country = singapore

Philippines**ANOVA^{b,c}**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.325	4	.081	2.404	.068 ^a
	Residual	1.181	35	.034		
	Total	1.506	39			

a. Predictors: (Constant), MBV, DER, FOR, SIZE

b. Dependent Variable: ROE

c. Selecting only cases for which country = philippines

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.229	.513		.447	.658
1	FOR	-.105	.126	-.125	-.831	.412
	DER	.094	.034	.454	2.780	.009
	SIZE	-.023	.051	-.100	-.442	.661
	MBV	.000	.009	-.011	-.050	.961

a. Dependent Variable: ROE

b. Selecting only cases for which country = Philippines

MALAYSIA**ANOVA^{b,c}**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.534	4	.883	10.702	.000 ^a
	Residual	33.926	411	.083		
	Total	37.459	415			

a. Predictors: (Constant), MBV, DER, FOR, SIZE

b. Dependent Variable: ROE

c. Selecting only cases for which country = Malaysia

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	-.177	.216		-.821	.412
1	FOR	-.036	.081	-.022	-.447	.655
	DER	.063	.010	.295	6.105	.000
	SIZE	.023	.026	.043	.874	.383
	MBV	-.001	.004	-.019	-.388	.698

a. Dependent Variable: ROE

b. Selecting only cases for which country = Malaysia

INDONESIA

ANOVA^{b,c}

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.901	4	1.225	.681	.606 ^a
	Residual	278.963	155	1.800		
	Total	283.864	159			

a. Predictors: (Constant), MBV, DER, FOR, SIZE

b. Dependent Variable: ROE

c. Selecting only cases for which country = indonesia

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.276	1.389		.199	.843
	FOR	-.087	.324	-.022	-.268	.789
	DER	.093	.057	.130	1.623	.107
	SIZE	-.007	.111	-.005	-.065	.949
	MBV	.000	.019	-.001	-.017	.987

a. Dependent Variable: ROE

b. Selecting only cases for which country = indonesia

ALL 5 COUNTRIES

Common-effect regression

Dependent Variable: ROE

Method: Panel Least Squares

Date: 06/01/17 Time: 16:02

Sample: 2012 2013

Periods included: 2

Cross-sections included: 491

Total panel (balanced) observations: 982

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FOR	-1.487986	0.497285	-2.992219	0.0028
FOR*SMDEV_MC	1.932080	0.368392	5.244634	0.0000
SMDEV_MC	-0.192955	0.173942	-1.109309	0.2676
DER	0.050493	0.044194	1.142540	0.2535
SIZE	0.040988	0.057284	0.715520	0.4745
MBV	-0.017551	0.016244	-1.080430	0.2802
C	-0.110095	0.705093	-0.156143	0.8760
R-squared	0.038205	Mean dependent var		0.139597
Adjusted R-squared	0.032286	S.D. dependent var		1.838269
S.E. of regression	1.808350	Akaike info criterion		4.029809
Sum squared resid	3188.376	Schwarz criterion		4.064664
Log likelihood	-1971.636	Hannan-Quinn criter.		4.043068
F-statistic	6.454914	Durbin-Watson stat		1.924044
Prob(F-statistic)	0.000001			

Fixed-effect Regression

Dependent Variable: ROE

Method: Panel Least Squares

Date: 06/01/17 Time: 16:03

Sample: 2012 2013

Periods included: 2

Cross-sections included: 491

Total panel (balanced) observations: 982

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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FOR	2.359213	1.165848	2.023603	0.0436
FOR*SMDEV_MC	5.965972	0.715494	8.338251	0.0000
SMDEV_MC	-0.511583	0.221713	-2.307413	0.0215
DER	0.149797	0.107871	1.388665	0.1656
SIZE	-0.006972	0.456127	-0.015284	0.9878
MBV	0.001537	0.045029	0.034140	0.9728
C	-0.700559	4.233867	-0.165465	0.8686

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.619130	Mean dependent var	0.139597
Adjusted R-squared	0.229621	S.D. dependent var	1.838269
S.E. of regression	1.613471	Akaike info criterion	4.101430
Sum squared resid	1262.595	Schwarz criterion	6.576101
Log likelihood	-1516.802	Hannan-Quinn criter.	5.042807
F-statistic	1.589514	Durbin-Watson stat	3.991870
Prob(F-statistic)	0.000000		

Redundant Fixed Effects Tests

Equation: Untitled

Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	1.509691	(490,485)	0.0000
Cross-section Chi-square	909.667920	490	0.0000

Random-Effect Regression

Dependent Variable: ROE

Method: Panel EGLS (Cross-section random effects)

Date: 06/01/17 Time: 16:04

Sample: 2012 2013

Periods included: 2

Cross-sections included: 491

Total panel (balanced) observations: 982

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FOR	-1.561286	0.490199	-3.185001	0.0015
FOR*SMDEV_MC	2.111206	0.361784	5.835546	0.0000
SMDEV_MC	-0.189263	0.164107	-1.153285	0.2491
DER	0.052012	0.043902	1.184727	0.2364
SIZE	0.046545	0.055678	0.835960	0.4034
MBV	-0.019218	0.016196	-1.186602	0.2357
C	-0.186887	0.674458	-0.277091	0.7818

Effects Specification

	S.D.	Rho
Cross-section random	0.611926	0.1258
Idiosyncratic random	1.613471	0.8742

Weighted Statistics

R-squared	0.043290	Mean dependent var	0.123019
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Adjusted R-squared	0.037403	S.D. dependent var	1.732760
S.E. of regression	1.700047	Sum squared resid	2817.904
F-statistic	7.352949	Durbin-Watson stat	2.158477
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.037649	Mean dependent var	0.139597
Sum squared resid	3190.219	Durbin-Watson stat	1.906572

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	113.439863	6	0.0000

SMDEV = Stock Value Trading

Dependent Variable: ROE

Method: Panel Least Squares

Date: 06/01/17 Time: 16:06

Sample: 2012 2013

Periods included: 2

Cross-sections included: 491

Total panel (balanced) observations: 982

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FOR	-4.905539	1.236903	-3.965986	0.0001
FOR*SMDEV_VT	0.345510	0.023892	14.46149	0.0000
SMDEV_VT	-0.062328	0.014574	-4.276498	0.0000
DER	0.199292	0.096600	2.063069	0.0396
SIZE	0.157549	0.408223	0.385940	0.6997
MBV	0.014905	0.040153	0.371197	0.7107
C	0.145829	3.843108	0.037946	0.9697

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.695013	Mean dependent var	0.139597
Adjusted R-squared	0.383108	S.D. dependent var	1.838269
S.E. of regression	1.443821	Akaike info criterion	3.879241
Sum squared resid	1011.041	Schwarz criterion	6.353912
Log likelihood	-1407.707	Hannan-Quinn criter.	4.820618
F-statistic	2.228287	Durbin-Watson stat	3.991870
Prob(F-statistic)	0.000000		

SMDEV = Stock Turnover

Dependent Variable: ROE

Method: Panel Least Squares

Date: 06/01/17 Time: 16:07

Sample: 2012 2013

Periods included: 2

Cross-sections included: 491

Total panel (balanced) observations: 982

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FOR	-5.441120	1.683949	-3.231166	0.0013
FOR*SMDEV_TO	0.359680	0.037352	9.629519	0.0000
SMDEV_TO	-0.049764	0.013975	-3.560898	0.0004
DER	0.107129	0.106009	1.010562	0.3127
SIZE	-0.123255	0.448003	-0.275120	0.7833
MBV	0.009912	0.044097	0.224785	0.8222
C	1.939650	4.163639	0.465855	0.6415

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.633091	Mean dependent var	0.139597
Adjusted R-squared	0.257861	S.D. dependent var	1.838269
S.E. of regression	1.583622	Akaike info criterion	4.064084
Sum squared resid	1216.312	Schwarz criterion	6.538755
Log likelihood	-1498.465	Hannan-Quinn criter.	5.005461
F-statistic	1.687207	Durbin-Watson stat	3.991870
Prob(F-statistic)	0.000000		

PROFITABILITY = ROA

Dependent Variable: ROA
Method: Panel Least Squares
Date: 06/01/17 Time: 16:08
Sample: 2012 2013
Periods included: 2
Cross-sections included: 491
Total panel (balanced) observations: 982

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FOR	1.706967	0.978113	1.745163	0.0816
FOR*SMDEV_MC	4.902895	0.600280	8.167685	0.0000
SMDEV_MC	-0.364452	0.186011	-1.959308	0.0506
DER	0.043797	0.090501	0.483935	0.6287
SIZE	0.055759	0.382677	0.145709	0.8842
MBV	0.006809	0.037778	0.180232	0.8570
C	-1.148816	3.552094	-0.323419	0.7465

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.612328	Mean dependent var	0.089663
Adjusted R-squared	0.215864	S.D. dependent var	1.528667
S.E. of regression	1.353657	Akaike info criterion	3.750274
Sum squared resid	888.7075	Schwarz criterion	6.224945
Log likelihood	-1344.384	Hannan-Quinn criter.	4.691650
F-statistic	1.544472	Durbin-Watson stat	3.991870
Prob(F-statistic)	0.000001		