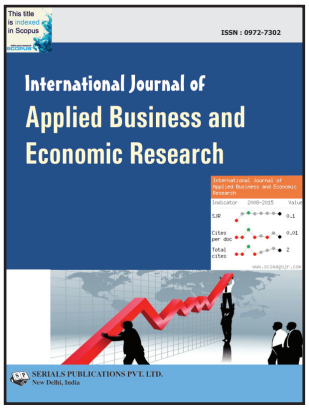

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Investor Protection Fund and Trading Behavior: Evidence from Indonesia

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ABSTRACT

Indonesia has established Securities Investor Protection Fund (SIPF) as protection scheme for investor in stock market to avoid fraud. The main reason is that investor protection promotes the development of equity markets as it gives confidence for investor to put their money on stock exchange. Recently, government increases the coverage value of SIPF. Using the daily data transaction in IDX and ordinary least square method, this research measures the impact of increasing coverage value of SIPF to market return and factors related. The result shows that increasing coverage value of SIPF does not have significant effect to market return. In addition, transactions which involve domestic investors have significant effect to market return. However, there is no significant effect to market return when the transaction is among foreign investors. The result also shows that exchange rate (USD/IDR) has negative significant effect to market return. Furthermore, this study also examines the effect of transaction based on investor types, exchange rate and coupon rate to market return before and after SIPF implementation.

Keywords: SIPF, market return, types of investors.

1. INTRODUCTION

As one of emerging markets in Asia, Indonesia has shown impressive growth in the last 10 years and keeps stable particularly when 2008 global financial crises hit most countries around the world. Surprisingly, Indonesia still has lesser economic growth and financial development compared to other countries in ASEAN. Compare to other ASEAN members, Indonesia still relies much on conventional sources of funding. Known as bank-based country, there are 119 banks operating in Indonesia, not excluding included regional development banks (Bank Indonesia, 2014). While there is capital market in form of stock exchange,

most of fund flows into deposit and lending process through the bank. Capital market which is actually an integrated process in financial intermediation process recently has not been proposed as main source of funding in Indonesia. Indonesian market capitalization as percentage of Gross Domestic Product (GDP) is still lower than most of ASEAN countries.

Indonesia has lower degree of stock market capitalization in percentage of GDP compared to Singapore, Malaysia and Philippines (See Figure 4.1). Fundamentally, stock market capitalization shows the size of a stock market. Study by Rajan and Zingales (1996) explained that size of stock market can measure how further the financial development is. Since stock market also accommodates the presence of financial intermediation, low degree of stock market capitalization in Indonesia shows flow of funds in Indonesia are dominated by intermediation process in banks and other financial institution rather than in capital market. Empirical evidence shows that financial intermediation is positively correlated to economic development since financial intermediation is much related to capital markets growth (Chiu, 2007). This fact leads to a question why investor in Indonesia has less interest to invest in Indonesia stock market.

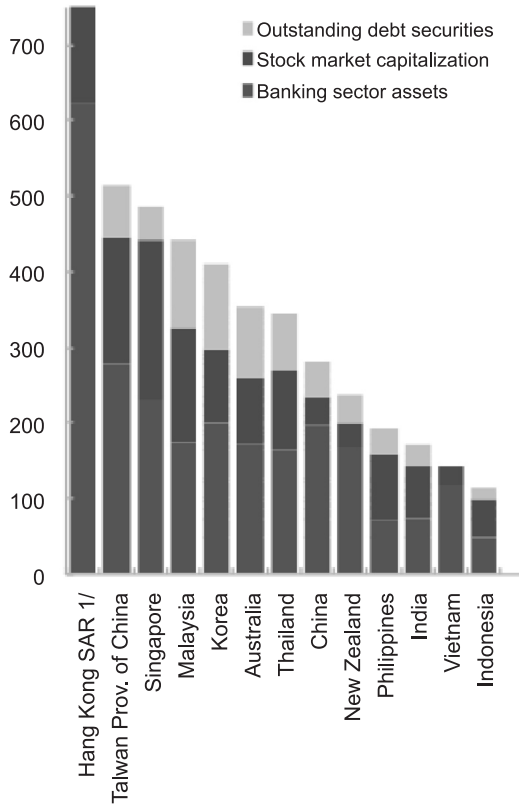

Figure 4.1: Structure of the Financial Sector as at End-2012(In percentage of GDP)
Source: **Bank for International Settlements; Bloomberg; Haver Analytics; International Monetary Fund (IMF). Taken from Lipinsky and Ong (2014)**

According to Burke (2009), there are two models of investor behavior: the rational expectations model and the trusting investor model, both models need security of their invested funds. It happens as in the rational expectations model, investor is only willing to place their fund on a safe territory, while in the second model, investor will shriek away if they face betrayal and misappropriation of their funds. That makes investor protection is significant to promote economic growth, even as indirectly. As an explanation,

investor protection may be defined as protecting the interests of investors by combining good corporate governance, market regulation, trading and settlement system's efficiency and reliability, as well as financial institutions' dealings with investors (Hew and Ismail, 2003).

All types of investor and depositor protection are important to ensure economic growth. The main reason is investor protection promotes the development of equity markets as it gives confidence to investor to put their money on stock exchange, while equity markets development promotes economic growth through efficient resource allocation, which is affected by the level of investor protection. Also, protection and security of funds saved in banks are essential in promoting economic growth. This happens as depositor protection scheme can also increase society trust to financial intermediary. People will feel more secure, knowing their funds are protected. This will enhance intermediary process as result of people willingness to save their funds, creating more funds to be spread amongst people who face deficit funding. As a result, economic growth tends to rise. The importance of investor protection establishment also has become special topic discussed since work beginning by La Porta et. al., (1998) who found cross-country differences in many indicators of investor protection. One of important findings is country with weaker investor protection has smaller and narrower financial markets compared to the size of the economy. La Porta et. al., (1997) also found individuals in these countries trade less often in financial markets; the value of publicly traded securities is lower; and the overall number of market participants is also lower.

These days, Indonesia has Indonesia Deposit Insurance Company (IDIC) to protect depositor funds saved in bank. Recent study shows deposit insurance improves financial intermediary function of Russia banks resulting ability to take higher number of deposits and lending more credit (Chernykh and Cole, 2010). Same thing also happened in Indonesia. After its establishment in 2005, work of Nasution (2012) found IDIC convey several enhancements to Indonesian bank, in particular to its intermediation function, as seen by ability to take more deposits and lend more to society. Several studies also show deposit insurance ability to increase people trust to save their funds in the bank. Before IDIC establishment, there is no certainty of depositor funds placed in banks. As 1998 monetary crises hit Indonesia, bank runs are happened due to public uncertainty of their funds safeness.

Indonesia also has Securities Investor Protection Fund (SIPF) as protection scheme for investor in stock market. Issues of investor protection have become starker in the context of recent market happened in Indonesia recently have shaken investor confidence. Investor funds fraud cases in PT Sarijaya Permana Sekuritas and PT Antaboga Delta Sekuritas acquire much public attention since losses suffered by investor reached IDR 245.000.000.000 and IDR 1.400.000.000.000 respectively (Kompas, 2009). Even although Indonesia already has regulation Peraturan Bapepam-LK Nomor VI.A.3 stated an obligation towards securities companies to insure their investor funds, however there is no realization of it.

As it happened, people begin to wonder if regulator and self-regulatory organization thoroughly supervise all financial institutions. As supervisory institution, Bapepam-LK (now already changed to Otoritas Jasa Keuangan – OJK), is supposed to observe all of institutions authority subjects, in order to prevent misappropriation from occuring. Since this incident happened, it begins to raise public awareness about importance of investor protection which might prove that investor protection is vital. SIPF, which is established on 2012, possibly has not become an old institution since the existence of SIPF may be a good signal for investor as they have more solid investor protection scheme nowadays. Eventually SIPF should bring appropriate condition for investor and reduce markets' volatility. In 2012, SIPF was set to cover for IDR 25 million, which is then being increased in August 2015 to IDR 50 million. Considering the recent regulation of investor protection fund in Indonesia, which is an appropriate response in order to

avoid any losses incurred by investor, it is essential to examine the effectivity and efficiency of this scheme to the capital market's activity.

This paper aims to distinguish the impact of increasing the coverage of Securities Investor Protection Fund in Indonesia (known as Indonesia SIPF) towards investor confidence, as measured by movement of Jakarta Stock Exchanges Index (known as IHSG) return. In this paper, we merely discuss difference pre and post implementation of increasing coverage of SIPF, specifically designed for investor in Indonesian capital market to market index return in purpose of measuring market stability.

2. LITERATURE REVIEW

This section provides the introduction of investor protection fund and the regulation in some countries, followed by the previous empirical studies aiming to examine the effectiveness of investor protection fund with different period and countries as the sample.

A. Investor Protection Fund in Some Countries

Investor protection is necessary to protect outside shareholders from any fraud or misconduct behavior conducted by management or controlling shareholders. Some countries have established investor protection institution in order to achieve that objection. Table 4.1 explains the institutions in some countries and the year of establishment.

Looking at Table 4.1, Indonesia is quite late compared to other countries in having the investor protection fund. Indonesia established the institution in 2012 and started to enforce institutions to implement on early 2014. Moreover, Indonesian government increases the investor protection fund coverage to IDR 50 million starting on August 2015.

Table 4.1
Investor Protection Institution in Some Countries

Country	*Institution*	*Year*	*Coverage*
Canada	Canada Investor Protection Fund	1969	$1 million
United States	Securities Investor Protection Corporation	1970	$500,000
Australia	National Guarantee Fund by Securities Exchanges Guarantee Corporation Limited (SEGC)	1987	No maximum for individual
South Korea	Korea Deposit Insurance Corporation	1996	KRW50,000
Malaysia	Compensation Fund of Bursa Securities	1997	RM100,000
Japan	Japan Investor Protection Fund	1998 (1968)	JPY10 million
Russia	Investor Protection Association	1999	na
Hong Kong	Investor Compensation Fund by Investor Compensation Company	2003	HK$150,000
Singapore	(Securities Exchange) Fidelity Funds	2001	SGD50,000
Thailand	Securities Investor Protection Fund	2004	THB1 million
China	China Securities Investor Protection Fund	2005	RMB100,000
Nigeria	Investor Protection Fund by Nigerian Stock Exchange (NSE)	2007	na
Indonesia	Indonesia Securities Investor Protection Fund	2012	IDR 100 million
Europe	Investor Protection	Na	
India	Investor Protection Fund	Na	

B. Investor Protection Scheme and Capital Market

Considering the importance of investor protection, there are some empirical evidences conducted to examine the implementation of investor protection. La Porta, et. al., (1999) argue that poor investor protection countries have more concentrated control of firms, while good investor protection countries have investors who are willing to pay more for securities which then encourages entrepreneurs to issue securities. Moreover, strong investor protection is generally related to effective corporate governance reflected by valuable and broader financial markets, dispersed ownership of shares, and efficient allocation of capital across firms. On previous studies, La Porta, *et. al.*, (1997, 1999b) find that good investor protection countries have more valuable stock markets, large numbers of listed securities per capita, higher rate of IPO activity, and higher Tobin's Q. In 2012, they find that low shareholders protection will decrease the valuations.

Martell & Stulz (2003) find that firms in good investor protection countries are able to take advantage of their ability to raise capital from foreign investors and the stock prices might overreact. In 2006, Cheng & Shiu find that investors in good investor protection countries are willing to provide more funds to finance firms which could reduce the cost of capital and increase firm valuation.

Relating investor protection with initial public offering (IPO), Foley & Greenwood (2008) find that at the time firms go public, in the weak investor protection countries, firms are larger, more profitable, and less R&D intensive. Moreover, in the strong investor protection countries, as a consequence of new share issuance, firms are widely held (decreasing the block holding share) in order to pursue growth opportunities. On the other hand, firms in weak investor protection countries tend to increase leverage since they are not encouraged to go public.

Relating investor protection with capital market activities, Elliot & Jacobson (1994) find that firms which provide complete disclosure have smaller discrepancy between the firm's market value and intrinsic value. Moreover, Long & Landholm (1993, 1996) argue that having high disclosure levels will decrease the magnitude periodic surprises associated with information releases and also reduce stock price volatility. Using 4,916 stocks from 37 countries, Chiou, *et. al.*, (2010) find that countries with strong investor rights protection tend to have lower risk and greater mean-variance efficiency. It is supported by Jirasakuldech, *et. al.*, (2010) who argue that large market in countries with low disclosure and investor protection rights tend to decline more frequently, which then causing higher level of stock market volatility. Using Cox proportional hazard test, the finding is in the same manner stating that disclosure has negative significant influence on the likelihood of large market decline.

Using data of 55,900 observations from 12,525 firms in 32 countries from 1991 to 2003, Haw, *et. al.*, (2012) find that higher financial disclosure, quality earning, information dissemination, and strong investor protection increase price informativenesss. However, enforcement of insider trading laws will result in lower informative stock prices about future earnings. Higher price informativeness leads to efficient capital allocation. Moreover, McLean, *et. al.*, (2012) find that investor protection laws encourage accurate share prices, efficient investment, and better access to external finance.

Albuquerue & Wang (2008) find that lower investor protection will increase level of private benefits which then increase incentives for overinvestment and dominates risk aversion or volatility effect. In general, countries with lower investor protection have lower Tobin's Q value, higher interest rate, volatility

of asset returns, and risk premium. In addition, they also argue that outside shareholders in Korea and US are willing to give up a certain percentage of their capital stock holdings in exchange for perfect investor protection.

3. DATA DESCRIPTION

The dataset is daily data covering from 1st of January 2014 until 30th of 31st December 2015 in Indonesian stock market. IHSG price index is generated from Datastream as the proxy for market return since it is composed of the stocks listed in Indonesian capital market, net transaction value based on type of investor is generated from Indonesian Stock Exchange website, the exchange rate is generated from central bank of Indonesia website, and coupon rate if from ministry of finance website. IHSG price index, exchange rate (IDR/USD) and coupon rate are utilized in form of return calculated as show in equation (1). In addition, net transaction value based on type of investor is used in the form of natural logarithm of the net transaction value.

$$\text{return}_{i,t} = (P_{i,t} - P_{i,t-1}/P_{i,t-1});\ i = \text{IHSG price index, exchange rate, coupon rate} \quad (1)$$

4. METHODOLOGY

This study aims to examine the effect of SIPF implementation to activity of stock market and look at the factors influencing the effect. Following the regression model by Haw, et. al., (2012), the equation is written as follow:

$$\text{return}_t = \alpha + \beta_1 \text{ change SIPF}_t + \beta_2 \ln(fsfb)_t + \beta_3 \ln(fsdb)_t + \beta_4 \ln(dsfb)_t + \beta_5 \ln(dsdb)_t + \beta_6\, d(\text{exchange})_t + \beta_7\, d(\text{coupon})_t + \varepsilon_t \quad (2)$$

return$_t$ is calculated from return of IHSG index at time t, *change* SIPF$_t$ is dummy variable counted 0 for t before coverage of SIPF increased and 1 for t after coverage of SIPF increased, $\ln(fsfb)_t$ is natural logarithm of net transaction value when foreign investor sells and foreign investor buys at time t, $\ln(fsdb)_t$ is natural logarithm of net transaction value when foreign investor sells and domestic investor buys at time t, $\ln(dsfb)_t$ is natural logarithm of net transaction value when domestic investor sells and foreign investor buys at time t, $\ln(dsdb)_t$ is natural logarithm of net transaction value when domestic investor sells and domestic investor buys at time t, $d(\text{exchange})_t$ is first level difference of exchange rate USD/IDR at time t, $d(\text{coupon})_t$ is coupon rate of Indonesian bond at time t, and ε_t is error at time t.

The next step is examining the unit root of every variable. The unit-root test shows that IHSG price index, exchange rate (IDR/USD) and coupon rate are stationary in return form, while net transaction value based on type of investor is stationary in natural logarithm form. After transforming the data into return and in the form of natural logarithm, descriptive statistics is shown in Table 4.2.

Table 4.2 shows that there are 516 observations for IHSG return, SIPF dummy variable and net transactions based on type of investor, while there are only 506 observations for coupon rate variables since the last ten data is not yet available from the government official database. However, the data distribution is not widely dispersed by looking at the value of mean, minimum, maximum, and standard deviation implying that the data can be used for ordinary least square regression.

Table 4.2
Descriptive Statistics

Variable	*Obs*	*Mean*	*Min*	*Max*	*Std Dev*
Return of IHSG	516	0.0002	–0.0397	0.0455	0.0095
Foreign seller-buyer	516	27.8885	26.8929	30.2059	0.4388
Foreign seller-domestic buyer	516	27.5567	26.2684	29.7451	0.4167
Domestic seller-foreign buyer	516	27.5276	25.4595	30.4098	0.5178
Domestic seller-buyer	516	28.4700	27.8249	30.3976	0.2671
Exchange rate	516	0.0003	–0.02200	0.0239	0.0053
Coupon rate	506	–0.0316	–1	0.0839	0.1764
Change in SIPF value	516	0.7054	0	1	0.4563

5. EMPIRICAL RESULT

Regression result is obtained by utilizing ordinary least square for time series data using Stata 13. There are three regression results: full period from 1st of January 2014 until 31st of December 2015, before increasing coverage of SIPF from 1st of January 2014 up to 31st of July 2015 and after increasing coverage of SIPF implementation from 1st of August 2015 until 31st of December 2015. The result is shown in Table 4.3.

Table 4.3
Regression Result

Independent Variables	*Coefficient*	*Before Change*	*After Change*
Constant	–0.0825*	0.0604	–0.1479**
	(0.0498)	(0.0823)	(0.0634)
Change in SIPF value	0.0015		
	(0.0009)		
Foreign seller-buyer	0.0003	–0.0034*	0.0018
	(0.0012)	(0.0020)	(0.0014)
Foreign seller-domestic buyer	–0.0052***	–0.0049**	–0.0056***
	(0.0012)	(0.0022)	(0.0015)
Domestic seller-foreign buyer	0.0046***	0.0067***	0.0038***
	(0.0010)	(0.0016)	(0.0013)
Domestic seller-buyer	0.0032*	–0.0005	0.0052**
	(0.0019)	(0.0029)	(0.0024)
Exchange rate	–0.3802***	–0.3382**	–0.4236***
	(0.0859)	(0.1327)	(0.1113)
Coupon rate	–0.0012	–0.0007	–0.0014
	(0.0023)	(0.0059)	(0.0026)
Prob(F)	0.0000	0.0000	0.0000
Adj R-squared	0.1605	0.1702	0.1580

***, **, * indicates significant in 1%, 5%, 10%; standard errors are put in the bracket

The regression result shows that the R-squared value suggests that 16%, 17% and 16% of independent variables explaining dependent variable in full period, before increasing coverage and after increasing

coverage respectively. In addition, *F-statistics* shows that independent variables together explain the dependent variables for those three models.

The result shows that in full period, increasing coverage of SIPF does not have effect to market return indicating that increasing coverage of SIPF does not make the stock market to react with the changes. Moreover, transactions which involve domestic investors, either as a seller or buyer, have significant effect to market return. The effect to market return is negative when domestic investor buys from foreign investor, while transactions between domestic investors increase value of market return. However, there is no effect to market return when the transaction is between foreign investors.

The result also shows that exchange rate (USD/IDR) have negative significant effect to market return, while coupon rate does not have any effect on market return.

The result from period before SIPF implementation shows that transaction among foreign investors has significant effect on market return and other variables have the same effect with the result from full period. However, the effect of transaction between foreign investors change from negative sign (significant in 5%) before implementation of SIPF to positive sign (insignificant) after the implementation indicating foreign investors perceive the SIPF regulation positively although it does not have significant influence. This result is in line with study by Giannetti and Yrjo (2010) who argue that foreigners hold less equity in countries with poor investor protection implying that the increase in coverage leads to positive market return indicating that the foreign investors perceive that Indonesian capital market has better regulation regarding protection scheme.

The same change occurs in transaction between domestic investors that shows negative effect before the implementation and positive effect after implementation of SIPF regulation indicating that domestic investors when having transaction among them have positive perception regarding the SIPF regulation shown by positive relationship between transaction volume and market return. Moreover, the result from period after implementation of SIPF shows the same results with the results from full periods.

The insignificant effect of increasing value of protection fund might indicate that investors do not perceive that it is adequately valuable for them to consider the implementation of SIPF in deciding their investment in the capital market, besides the conception that the value is relatively low compared to other countries' value of investor protection fund. Moreover, the policy to increase the coverage of SIPF has only been enforced for seven months in the examination of this study. Thus, the effect of increasing coverage of SIPF implementation has not been revealed. Investors might perceive that the coverage is not worth enough to compensate, which then the markets do not react to the change. When foreign investors are the sellers, the coefficient shows a negative sign of effect. It could indicate that there is capital outflow from Indonesia since investors want to sell their shares. Thus, the market responds it to negative way because it could be a sign that there is something wrong in Indonesia. It is supported by study of Froot (2001) and Richards (2005) who shows that foreigners' inflows show positive feedback trading with domestic equity market. On the other hand, when domestic investors are the sellers, market responds it in positive sign, which might indicate that there is good transaction in the market. However, only transactions among domestic investors in after SIPF implementation period have negative sign of effect, which might be due to the anticipation of transactions among domestic investors.

Negative effect shown by exchange rate indicates that when Indonesian Rupiah is depreciated against US Dollars, markets respond it to a decrease in market prices. It is because depreciation of Indonesian Rupiah means a higher amount of Indonesian Rupiah per US Dollars. It will cause companies having business in exporting goods have higher cost of goods sold and make their revenue declining. Thus, the share price might decrease and reflected in market price. Moreover, depreciation of Indonesian Rupiah might worsen the Indonesian trade balance which then could cause a decrease in investors' trust. As a result, investors are not willing to invest in Indonesian capital market.

6. CONCLUDING REMARKS

Increasing the coverage of SIPF in Indonesia raises awareness the effectiveness of new coverage on capital market transaction by imposing dummy variable when the regulation is imposed and examining the effect of investors' transaction on the market return. Using daily data from 1st of January 2014 up to 31st of December 2015, this study finds that increasing coverage value of SIPF in Indonesia from August 2015 does not have any effect on market return because investors do not perceive that the new coverage value is worth enough to be considered. Moreover, the policy is not widely implemented and this study is only conducted by examining six-month implementation, which is considered to be short period. On the other hand, another fascinating finding that is a change of sign before and after the new coverage on the market return when the types of investors are traded among their types. There is a shift to positive sign as for the after implementation of new coverage, although it is statistically insignificant, implying that there is a shift of perception from the investors regarding the new regulation. In addition, foreign capital outflows lead to a negative effect on market return, while domestic investors' transactions have positive effect on market return due to most domestic investors are retail investor. This study also shows a result that exchange rate leads to negative effect on market return since depreciation in Indonesian Rupiah will make companies having higher cost. It will lead to lower revenue and decrease in share price.

The finding implies that there should be a clear information to investors regarding SIPF so that investors acknowledge the importance of SIPF and government is able to benefit from the new regulation being imposed in the market since asymmetric information contributes to the different level of investor protection (Terekhor, 2011). Besides, government should take into consideration in having plan to review the SIPF policy, which it might contain any issues causing investors to devalue SIPF regulation. As for trading behaviour of the investors, it shows that market reacts negatively before the increase in SIPF coverage as foreign investor is the seller and domestic investor sells to the domestic investors. On the other hand, the market reacts in different way after the increase in SIPF even though it is statistically insignificant implying that there is a slightly change in the investors' perspective regarding the protection scheme. It exhibits that government may be able to formulate a better protection scheme since the increase in coverage reflects a change in the market return.

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