

# The Direct and Indirect Influence of Company Performance, Investors' Expectation and Investment Risk on Individual Stock Price Index at Indonesia Stock Exchange

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## Abstract

The objective of this research is to find out whether the company performance, investors' expectation and investment risk empirically have direct or indirect influence on Individual Stock Price Index (ISPI) with stock market price and transactions volume as intermediaries. This research applied quantitative, ex post facto, associative, and positivistic method by analyzing the Individual Stock Price Index difference among companies, such as examining the factors that affecting the changes, analyzing the causal relationship among the factors, and testing the differences. The existing influences are studied simultaneously using *Structural Equation Model* (SEM). Stationary test, descriptive analysis, SEM analysis, Goodness of Fit Test, and Effect Size analysis are also used in this study. The company performance factors (especially financial performance), investor's expectation on stock price and return, and investment risk are set as exogenous variables; market price and transaction volume as mediator variables; and ISPI as endogenous variable. The three exogenous variables are latent variables where their values are represented on their each indicators. Company performance indicators are *Earning per Share, Price-Earnings Ratio, Book Value, Price-Book Value Ratio, Debt-Equity Ratio, Return on Assets, Return on Equity and Net Profit Margin*. Investors' expectation indicators are *Price Trend, Latest Return, Average Return, Return Trend, Latest Return Percentage, Average Return Percentage, and Return Trend Percentage*. Investment risk indicators are *Standard Deviation of return (Total Risk), Coefficient of Variation (Total Risk Relative), and Coefficient Beta of stock (Systematic Risk)*. This study confirms that: First, company performance, investors' expectation and investment risk influence transactions volume and market price, and have impact on Individual Stock Price Index. Second, market price have important role as mediator, but not with transaction volume. Third, investors' expectation and investment risk have direct influence on Individual Stock Price Index, while company performances have indirect influence through market price.

**Keywords:** company performance, investors' expectation, investment risk, transaction volume, market price, and stock price index.

## 1. Introduction

### 1.1 Background

Investors expect that the Individual Stock Price Index (ISPI) continue to rise as an indicator of positive stock return. Similarly, the issuers also expect an increase in ISPI, which means the increasing of corporate value. However, the empirical phenomena of stock market show the different pictures, for example:

1. ISPI at one time are varies among companies, from very low (less than 100 points) to very high (thousands of points), and fluctuate over time.
2. Market Price (MP) at one time varies among companies, from very low (less than nominal) to very high (significantly above par), and fluctuate over time.
3. Transaction Volume (TV) at one time varies among companies, from very low (zero) to very high (millions of shares) and fluctuate over time.
4. Company Performance (CP, especially financial performance), Investors' Expectations (IE) and Investment Risk (IR) at one time varies among companies and fluctuate over time.

Those phenomena indicate empirical gap does exist between the expectations of the parties interested in stock investment and the market reality on the other side. Those phenomena raise the question: Why ISPI varied among companies and fluctuate over time? What is the relationship of ISPI's fluctuations and differences with CP's, IE's and IR's fluctuations and differences? Are CP, IE and IR affect the stock MP and VT, subsequently leading to ISPI?

### 1.2 Research Problem

The research problem are formulated as follows: "How do company performance (CP), investors' expectations (IE), and the investment risk (IR) influence stock market price (MP) and stock transaction volume (TV), and do they have any impact on individual stock price index (ISPI)? ". The problems of this study are meticulously as follows:

1. How do CP, IE and IR influence ISPI directly and indirectly?

2. How do the role of MP and TV as mediator of the influence of CP, IE and IR on ISPI?

### 1.3 Research Objectives

In accordance with the research problem, the objectives of this research are:

1. Determine the direct and indirect influence of CP, IE and IR on ISPI.
2. Determine the role of MP and TV as mediators of the effect of CP, IE and IR on ISPI.

## 2. Literature Review, Conceptual Framework and Hypothesis

### 2.1 Literature Review

Investors' expectations in the stock investment is to obtain return commensurate with the risks that have been taken into account. Stock return is benefits associated with investing money in stocks includes annual cash dividends as well as the market price increases or capital gains that realize at the end of the year (Van Horne & Wachoviz, 2001). Almost all investors prefer a stock return in form of capital gain to dividend (Susanto and Sabardi, 2002). Since the capital gain is derived from the price increase, then MP and its fluctuation are very important for investors. MP determines the amount of compensation for the investors and the value of company. Stock market price is the price the stock is sold in the market (Weston et al., 2006). Transaction volume is the number of shares traded daily (Magdalena, 2004), or the number of shares traded on day t (Halim and Hidayat, 2000). MP and TV are indicators used in technical analysis. Stocks with large TV and high MP indicate that the stocks are actively traded (saleable). Stock Price Index is a stock price expressed in index numbers (fayku.files.wordpress.com), expressed in scale of point, and counted in a certain way. ISPI is the stock price index of each company listed on a stock exchange ([www.idx.co.id](http://www.idx.co.id)). ISPI is a ratio of MP to basic price for each stock, and published by the stock exchange (fayku.files.wordpress.com). Since component of index calculation include MP and TV, then factors that affect MP and TV will have impact on ISPI. MP and TV are influenced by factors which is the base of stocks selection by investors, for example the CP, IE and IR.

The influence of CP is discussed in fundamental analysis of the company. In the analysis, MP and TV are affected by the prospect of stocks return, and the prospect of stocks return are reflected in the financial performance of the issuer (Tandelillin, 2010). The indicator of good or bad financial performance is reflected in the financial ratios (Yowono, Sukarno and Ichsan, 2003). In other words, financial ratios are indicators of CP, specifically financial performance. Overall, financial ratios are numerous. Each researcher is entitled to determine the ratio used, since there is no compulsion to use certain ratios (Prihadi, 2008). Financial ratios publicly listed companies are available and can be obtained at Indonesian Stock Exchange. They are Earning Per Share (EPS), Price-Earnings Ratio (PER), Book Value (BV), Price-Book Value Ratio (PBV), Debt-Equity Ratio (DER), Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), and Operating Profit Margin (OPM).

The influence of IE is discussed in technical analysis. Technical analysis is essentially a search of predictable stock prices and returns pattern (Bodie et al., 2008). Expected return is a return to be received by investors on their investment in the future (Suad Husnan, 2001). Level of stock price and expected return are based on estimates made in a certain way (Brown and Warner, 1985). The results of estimation will determine investors' expectations of stock price and stock return that is going to happen in the future. Investors are interested to stocks with high expected price and return. Level of IE on stock prices and stock return in the future based on the value of Last Price (LP), Average Price (AP), Price Trend (PT), Last Return (LR), Average Return (AR), Return Trend (RT), Last Return Percentage (LR%), Average Return Percentage (AR%), and Return Trend Percentage (RT%).

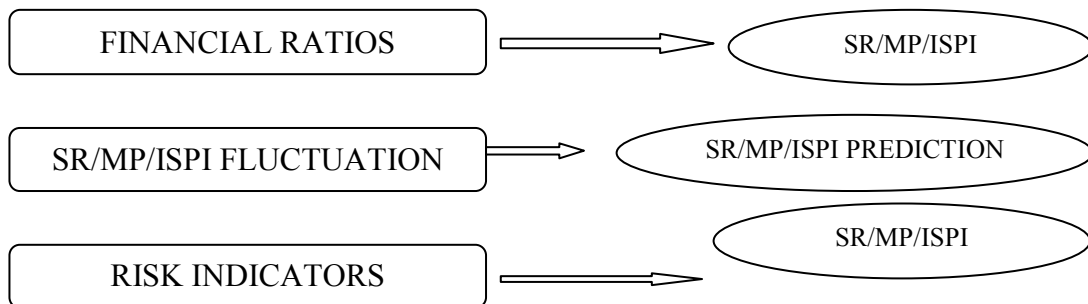
The influence of IR is expressed in the axiom "risk-return trade-off." The axioms argued that rational investors consider risks and returns when investing their money. Palepu et al. (2006) says that one stages in security analysis is the formulation of expected return and risk of individual securities. With the risk and return analysis, investors can discover which company's stock has expected return commensurate with its risks. Investors will buy shares in the perception that there is conformity (equivalent) between potential risk and expected return. Of some notion stated by the experts (Van Horn, Bodie, Brigham etc.), it can be concluded that the investment risk is (1) the possibility of obtaining actual return of investment inconsistent with the expected return, (2) the possibility of not achieving the expected return. The difference between the actual return and expected return of a security is Total Risk, the difference arising due to market conditions called Systematic Risk, and the difference arising because of the company condition called Specific Risk. Systematic risk showed sensitivity of the investment return to economic conditions in general and stock market condition in particular. Stock market conditions can be observed from fluctuations of Jakarta Composite Index (JCI) and its market return. Specific risks showed sensitivity of stock returns (SR) to internal factors of the company. Investors are more concerned with total risk and systematic risk, because specific risk can be minimized and controlled (controllable) by means of diversification and selecting well-performed shares, while total risk and systematic risk cannot be minimized under the same way and are beyond the control of investors (uncontrollable). Total risk

is measured by standard deviation (SD,  $\sigma$ ) and coefficient of variation (CV) of return, whereas systematic risk is measured by the Beta coefficient ( $\beta$ ) of stock.

## 2.2 Previous Research

Stock related research (price, return, index) in general have been carried out. But such as theory, research related to those factors generally indicates the presence of a research gap as follows:

1. The influences of those factors are examined separately or partially. The influences of CP are investigated and analyzed with company's fundamental analysis, the influences of IE are investigated and analyzed with technical analysis, and the influences of IR are investigated and analyzed with investment risk analysis. Research that examines these three factors simultaneously/integrated in one multifactor-model has not been done.
2. The influence of financial ratios (these are actually just indicators of CP, not CP itself) or IE indicators or IR indicators on SR/MP/ISPI are analyzed partially (as shown below) using regression model or trend. Indicators of CP/IE/IR work as independent variables, and SR/MP/ISPI work as dependent variables.



3. Regression model involving only the independent and dependent variable without the intermediary variable has been used, so that only produces direct influence and no indirect influence.
4. CP/IE/IR is measured by their value itself, not using the indicators, because the indicators used to measure latent variables are unknown in regression model.

Compared to previous studies, this study has the following differences (See Figure 1 below) :

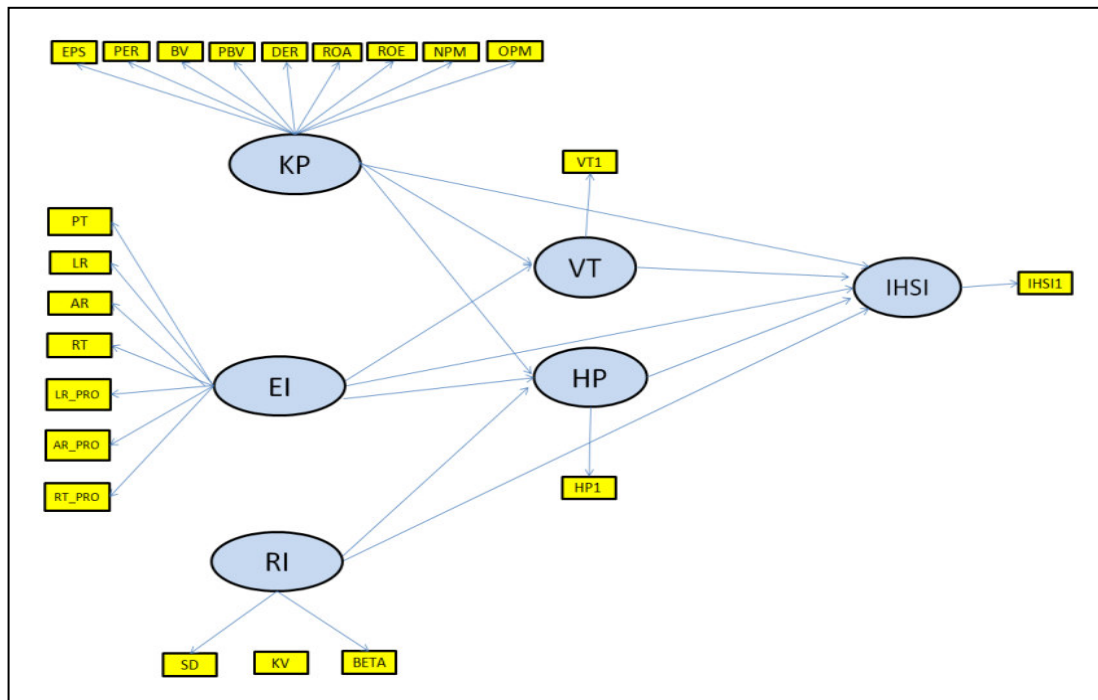


Figure 1. Research Model

Explanation:

Indonesia	English
KP (Kinerja Perusahaan)	CP (Company Performance)
EI (Ekspektasi Investor)	IE (Investors' Expectation)
RI (Risiko Investasi)	IR (Investment Risk)
VT (Volume Transaksi)	TV (Transaction Volume)
HP (Harga Pasar)	MP (Market Price)
IHSI (Indek Harga Saham Individual)	ISPI (Individual Stock Price Index) as an approximation of Stock Return

1. The influences of CP, IE and IR are being researched and analyzed integratedly using a multifactor model (Structural Equation Model) as shown below.
2. Put CP, IE and IR in position as latent independent (exogenous) variables to be measured by its indicators, and the indicators are positioned as indicators (not as independent variable).
3. Insert MP and TV as mediator variables in the model, so it can be known whether the influence of CP, IE, and IR are direct or indirect.
4. Put ISPI in position as dependent (endogenous) variable.

### 2.3 Conceptual Framework

Conceptual framework below explains the relationship model which explain that CP, IE and IR have direct influence on ISPI and have indirect influence through MP and TV. In the framework, there are three pathways of influence as follow (See Figure 2) :

1. The direct influence of exogenous variables (CP, IE and IR) on endogenous variables (ISPI) without going through mediator variable.
2. The influence of mediator variables (MP and TV) on endogenous variable (ISPI).
3. The influences of exogenous variables (CP, IE and IR) on endogenous variables (ISPI) through the mediator variables (MP and VT).

### 2.4 Research Hypotheses

Based on the conceptual framework described above, the following hypotheses can be developed:

- H1: Company performances affect stock transaction volume.  
 H2: Investor's expectations affect stock transaction volume.  
 H3: Investment risks affect stock transaction volume.  
 H4: Company performances affect stock market price.  
 H5: Investors' expectations affect stock market price.  
 H6: Investment risks affect stock market price.  
 H7: Stock market price affect ISPI.  
 H8: Stock transaction volume affect ISPI  
 H9: Company performance affect ISPI.  
 H10: Investors' expectations affect ISPI. H11: Investment risks affect ISPI.

### 3. Methodology

The design of causal research has been used in this study, which the strength of relationships and influence among variables will be measured either directly or indirectly. Exogenous variables (CP, IE and IR) use 19 indicators, while mediator variables (MP and TV) and endogenous variable (ISPI) using one indicator each. Thus the overall study design includes 22 indicators in the initial model as shown above (see figure 1 and 2).

Using secondary data of 110 samples out of 425 companies listed at the end of May 2014 as the population, this research applied quantitative, ex post facto, associative, and positivistic method by analyzing the ISPI difference among companies, such as examining the factors that affecting the changes, analyzing the causal relationship among the factors, and testing the differences. The existing influences are studied simultaneously using *Structural Equation Model* (SEM). Stationary test, descriptive analysis, SEM analysis, Goodness of Fit Test, and Effect Size analysis are also used in this study.

Sequences of analysis are presented in table 1 below:

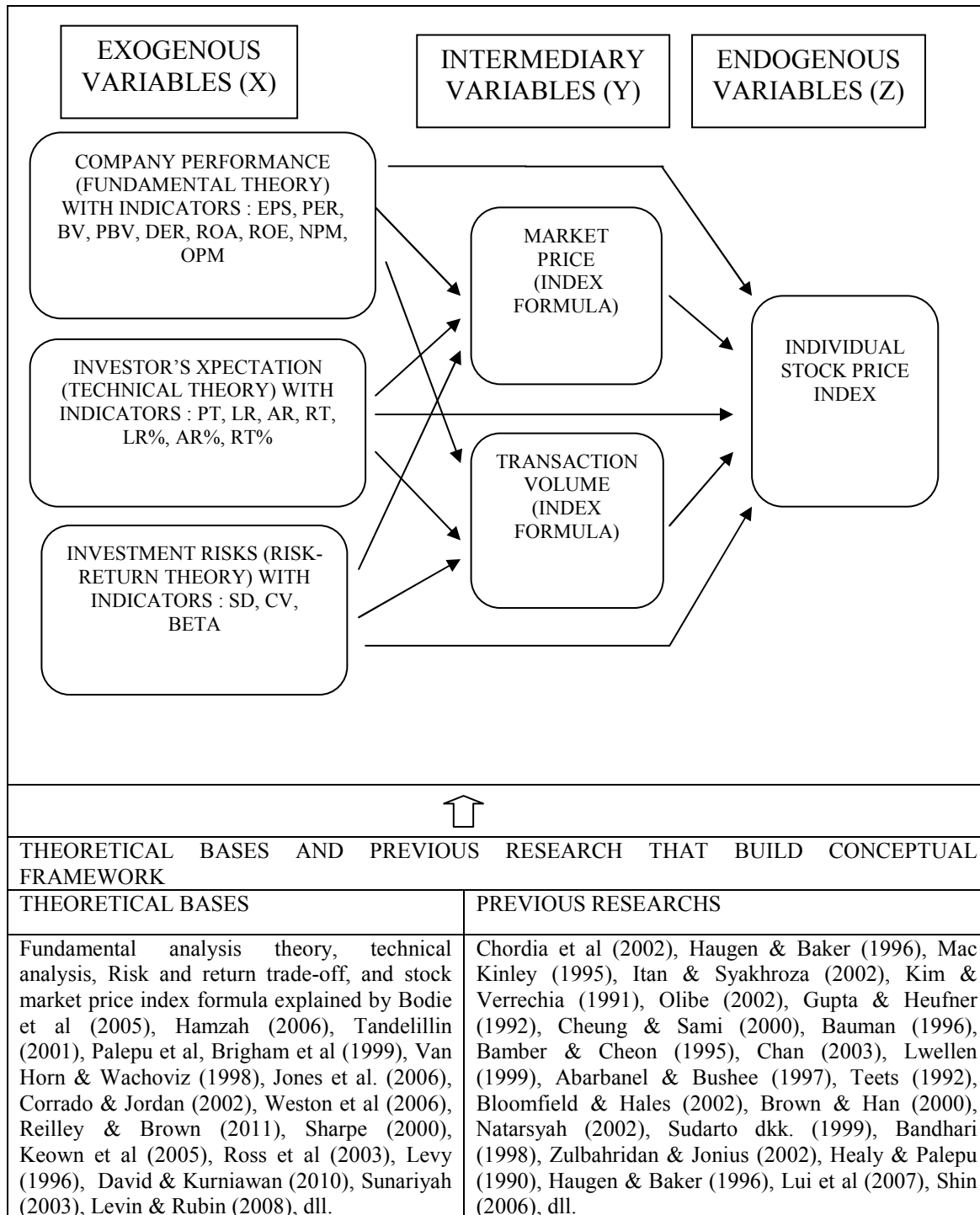


Figure 2. Conceptual Framework

Tabel 1. Road Map of Analysis Steps

No.	Analysis	Analysis Objective	Acceptance Criteria
1	Identification	Examine for existence of <i>multivariate outlier</i> and multicolliniarity	$MD < \chi^2$ $P\text{-value} > 0,05$ $Pearson\ Correlation < 0,85$
2	Correlation analysis	Examine the relationship between indicators	$P\ Value < 0,05$
3	Exploratory Factor Analysis	Obtain a proper composition of indicators	$FL > 0,5$
4	Confirmatory Factor Analysis	Examine the validity and reliability of indicators and variables	$LF \geq 0,5$ and $statistic\ t \geq 1,96$ $AVE \geq 0,5$ and $CR \geq 0,6$ $AVE > \text{Square of correlation between constructs}$
5	SEM Analysis	Obtain the equations and diagram model	Diagram and Equation
6	Evaluation of structural model	Testing the hypotheses partially.	$t > 1,96$
7	<i>Goodness of Fit Test</i>	Examine the fitness level of model.	<i>GoF Criteria</i>
8	Effect Size ( $f^2$ ) analysis	Examine the effect of the intermediary variables	Category of Effect: 0,02 - small 0,15 - medium 0,35 - large

#### 4. Type, Source and Collection Method of Data

This study uses secondary data which are the indicators of CP, IE, IR, MP, TV and ISPI. Such indicators are EPS, PER, BV, PBV, DER, ROA, ROE, NPM, OPM, PT, LR, AR, RT, LR%, AR%, RT%, SD, CV, and Beta at the end of May 2014, and also for MP, TV and ISPI at the end of June 2014 from 110 samples of stock. Samples were taken from a population of 425 shares using stratified random sampling, the sample size was determined using Slovin formula in order to obtain a proportional sample of  $\pm 26\%$  from each industry. Data was obtained directly from the IDX publication, and partly need to be calculated by the researcher. Stocks data that needed are last 34 months (September 2009 - June 2012) in order to get stock return every month for 33 months.

#### 5. The Result

##### 5.1 Identification

The examination of Mahalanobis Distance defined 10 companies as multivariate outliers, which has value of  $D^2$  are more than 48,268 (Tabachnick & Fidell, 2005). All of ten companies were eliminated from further analysis, so that the subsequent analysis involving 100 companies as sample.

The examination of multicollinearity define that there is no multicollinearity among the exogenous variables, where the value of the correlation between the latent variables is less than 0.85 (Kline, Rex B., 2011).

##### 5.2 Exploratory and Confirmatory Factor Analysis (EFA and CFA)

EFA and CFA identify that 10 of the 22 indicators are valid and reliable to use, as shown in Table 2 below:

Tabel 2. Valid and Reliable Indicators

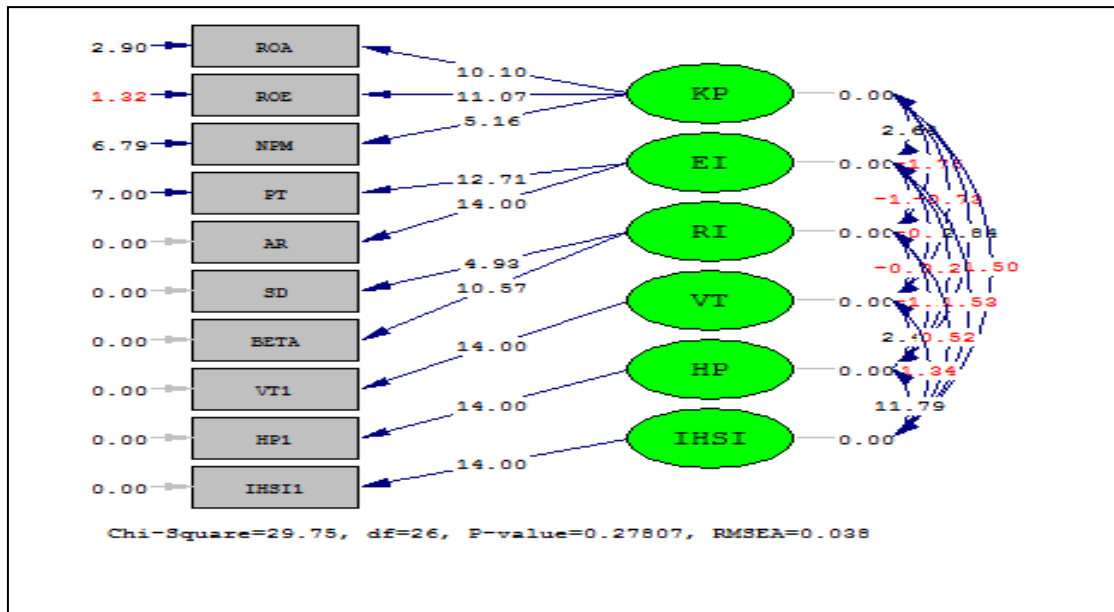
Variable	Indicators	Variable	Indicator
Exogenous Variable CP	ROA	Intermediary Variable TV	TV1
	ROE		
	NPM		
Exogenous Variable IE	PT	Intermediary Variable MP	MP1
	AR		
Exogenous Variable IR	SD	Endogenous Variable ISPI	ISPI1
	Beta		

Source : Analysis Result

##### 5.3 Evaluation of Measurement Model

Evaluation of the measurement model is applied by examining Convergent Validity, Discriminant Validity, and Measurement Reliability. Convergent validity is examined to determine whether the indicator is strongly correlated with the latent variable. Indicators are valid if the value of the Standardized Loading Factor (SLF)  $\geq 0.50$  and t statistic  $\geq 1.96$  (Hair et al, 1995). The result show that the 10 indicators are qualified for the requirement of convergent validity and reliability, so that latent variables are capable to be measured.

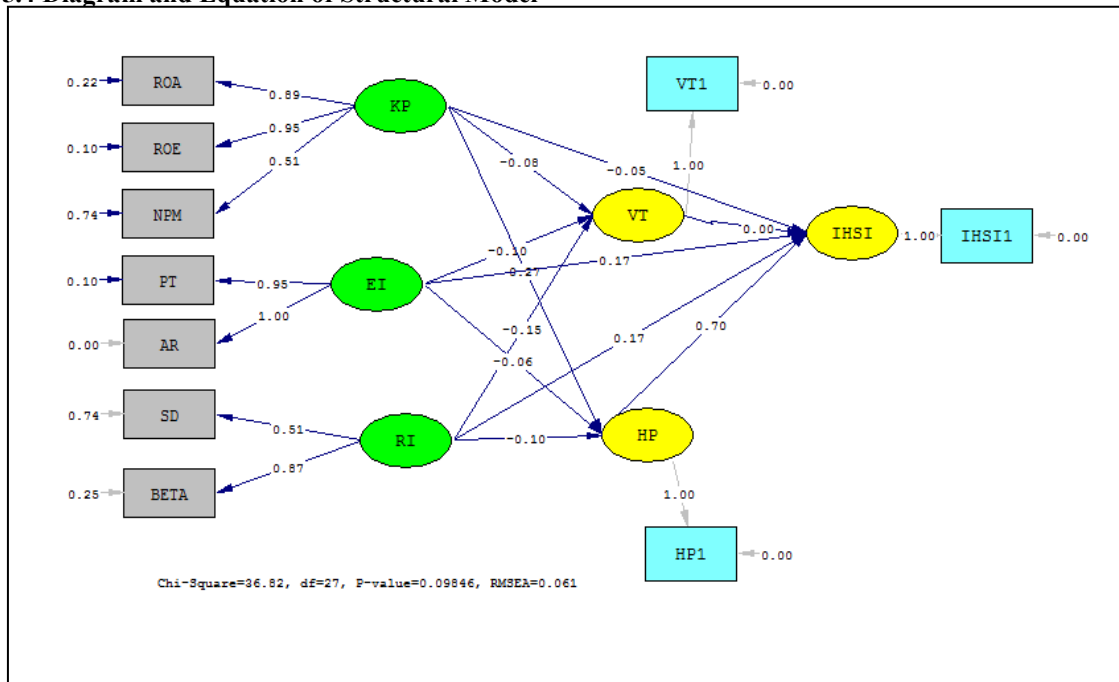
Measurement model with its t-statistic values can be illustrated below.



Resource : Analysis result

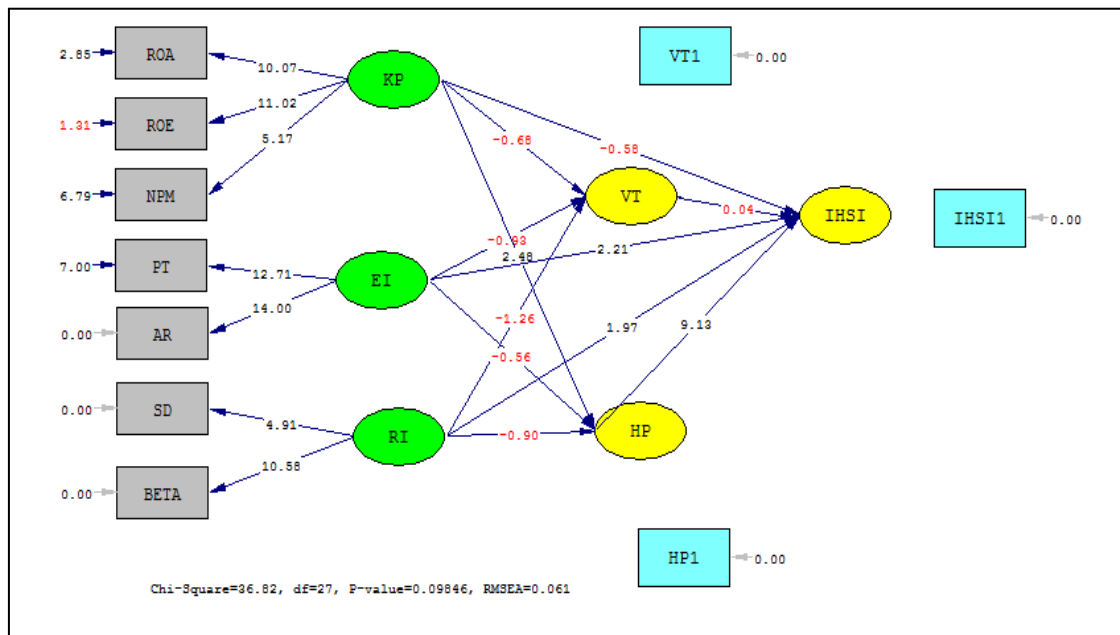
Figur 3. Measurement Model

#### 5.4 Diagram and Equation of Structural Model



Source: Analysis result

Figur 4. Structural Model with value of path coefficient



Source: Analysis result

Figur 5. Structural Model with t-value statistics

Estimated Parameter	Error Variance				Coefficient of Determination
ISPI = 0.003*TV + 0.70*MP - 0.05*CP + 0.17*IE + 0.17*IR,	Errorvar = 0.50, R <sup>2</sup> = 0.50				
(0.074)	(0.076)	(0.083)	(0.078)	(0.088)	(0.074)
0.043	9.13	-0.58	2.21	1.97	6.88
↑	↑				
t value	Standard Error				

### 5.5 Evaluation of Structural Model (Hypothesis Testing)

Hypothesis testing is applied to determine which variables are significantly influential. The steps are as follows (Example: test of hypothesis H<sub>1</sub>):

- H<sub>10</sub>: There is no influence of Company's Performance on Transaction Volume.
  - H<sub>1a</sub>: There is influence of Company's Performance on Transaction Volume.
  - Testing Criteria: t-value statistics. The decision is to reject H<sub>0</sub> when the value of t is greater than t-table (1.96).
  - Accept H<sub>0</sub> and reject H<sub>a</sub> means that there is no significant effect, on the other hand reject H<sub>0</sub> and accept H<sub>a</sub> means that there is a significant effect.
  - t-statistics = -0.68.
  - Decision: Accept H<sub>0</sub> and H<sub>a</sub> rejected because t-statistics < 1.96.
  - Conclusion: Company's Performance has no significant effect on Transaction Volume.
- Hypothesis testing of H<sub>2</sub> - H<sub>11</sub> are conducted in the same manner as the hypothesis testing of H<sub>1</sub> above. The results are presented at Tabel 3 below.



Tabel 3. Result of Hypothesis Testing

H	Hypothesis	Path Coefficient	t	Decision	Influence
H1 <sub>a</sub>	There is influence of Company's Performance (CP) on Transaction volume (TV)	-0,08	-0,68	Reject H <sub>a</sub>	Not Significant
H2 <sub>a</sub>	There is influence of Investor's Expectation (IE) on Transaction Volume (TV)	-0,10	-0,93	Reject H <sub>a</sub>	Not Significant
H3 <sub>a</sub>	There is influence of Investment Risk (IR) on Transaction Volume (TV)	-0,15	-1,26	Reject H <sub>a</sub>	Not Significant
H4 <sub>a</sub>	There is influence of Company Performance (CP) on Market Price (MP)	0,27	2,48	<i>Accept H<sub>a</sub></i>	<i>Significant</i>
H5 <sub>a</sub>	There is influence of Investor's Expectation (IE) on Market Price (MP)	-0,06	-0,56	Reject H <sub>a</sub>	Not Significant
H6 <sub>a</sub>	There is influence of Investment Risk (IR) on Market Price (MP)	-0,10	-0,9	Reject H <sub>a</sub>	Not Significant
H7 <sub>a</sub>	There is influence of Transaction Volume (TV) on ISPI	-0,00	0,035	Reject H <sub>a</sub>	Not Significant
H8 <sub>a</sub>	There is influence of Market Price (MP) on ISPI	0,70	9,13	<i>Accept H<sub>a</sub></i>	<i>Significant</i>
H9 <sub>a</sub>	There is influence of Company Performance (CP) on ISPI	-0,05	-0,58	Reject H <sub>a</sub>	Not Significant
H10 <sub>a</sub>	There is influence of Investor's Expectation (IE) on ISPI	0,17	2,21	<i>Accept H<sub>a</sub></i>	<i>Significant</i>
H11 <sub>a</sub>	There is influence of Investment Risk (IR) on ISPI	0,17	1,97	<i>Accept H<sub>a</sub></i>	<i>Significant</i>

Source : Analysis result

Empirically, there are 3 variables that have significant influence on ISPI (i.e. MP, IE, and IR), and 1 variable that has significant influence on MP, i.e. CP. MP is mediator variable that mediates the effect of the CP on ISPI.

### 5.6 Goodness of Fit of Structural Model

The goodness of fit of structural model with its various criteria are presented at Tabel 4 below. Most of the criteria showed that the hypothesized model meet the requirement of good fit condition (fit with the existing empirical data).

Tabel 4. Goodness of Fit Criteria of Structured Model

GoF Criteria	Value*	Explanation
Normal Theory Weighted Least Squares Chi-Square = 36,27 (P = 0,087)	P-value 0,087 > 0,05	Good Fit
Root Mean Square Error of Approximation (RMSEA) = 0,063	0,063 < 0,08	Good Fit
Expected Cross-Validation Index (ECVI) = 0,96	ECVI 0,96 is closer to Saturated ECVI 1,12	Good Fit
ECVI for Saturated Model = 1,12		
ECVI for Independence Model = 3,62		
Independence AIC = 354,93	Model AIC 94,27 is closer to Saturated AIC 109	Good Fit
Model AIC = 94,27		
Saturated AIC = 109,00		
Independence CAIC = 390,89	Model CAIC 198,53 is closer to Saturated CAIC 307,73	Good Fit
Model CAIC = 198,53		
Saturated CAIC = 307,73		
Normed Fit Index (NFI) = 0,88	0,80 - 0,90	Marginal Fit
Non-Normed Fit Index (NNFI) = 0,92	≥ 0,90	Good Fit
Comparative Fit Index (CFI) = 0,95	≥ 0,90	Good Fit
Incremental Fit Index (IFI) = 0,96	≥ 0,90	Good Fit
Relative Fit Index (RFI) = 0,79	< 0,80	Marginal Fit
Standardized RMR = 0,053	0,05 - 0,10	Marginal Fit
Goodness of Fit Index (GFI) = 0,93	≥ 0,90	Good Fit
Adjusted Goodness of Fit Index (AGFI) = 0,85	0,80 - 0,90	Marginal Fit

Source : Analysis result \*) Standard is taken from Wijanto (2008)

### 5.7 Effect Size ( $f^2$ )

Effect size ( $f^2$ ) is used to determine whether or not the mediator variables TV and MP have influence on research model. Table 5 below shows the results of calculations with Cohen's formula ( $f^2$ ).

Tabel 5. Effect Size

Structural Model	Mediator Variable	R <sup>2</sup>	Effect Size ( $f^2$ )	Explanation*
CP, IE and IR → ISPI	-	0,048	-	-
CP, IE and IR → TV → ISPI	TV	0,077	0,03 < 0,15	Small effect
CP, IE and IR → MP → ISPI	MP	0,50	0,87 > 0,35	Large effect
CP, IE and IR → TV and MP → ISPI	TV and MP	0,50	0,87 > 0,35	Large effect

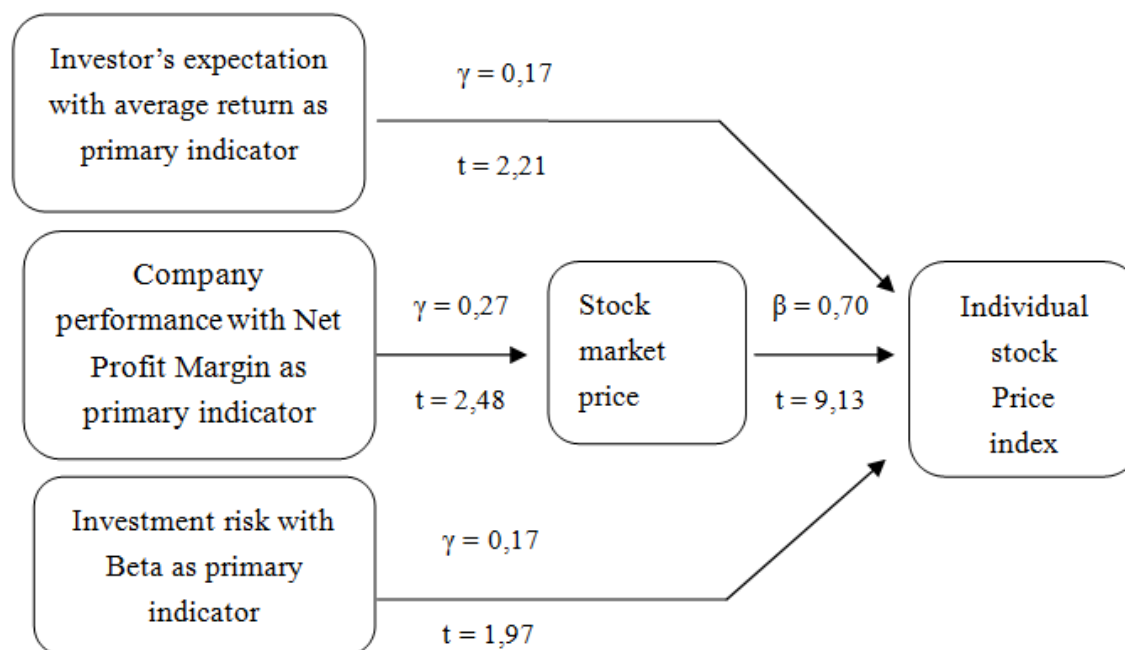
Source : Analysis result

\*) Gefen & Straub, 2000

The result show that TV and MP (both) or just MP alone have large influence in the research model.

### 6. Discussion

Based on the results of hypothesis testing, path that proved to have significant influence presented at Figure 6 below (path with not significant effect is not shown).



Figur 6. Significant Path

### 6.1 Overall Influence (coefficient of determination, $R^2$ )

The influence of CP, IE, IR, TV and MP simultaneously can be explained from the coefficient of determination ( $R^2$ ). Value of  $R^2$  showed 0.50 indicates that CP, IE, IR, TV and MP are able to explain the variation of ISPI by 50% simultaneously. It means that CP, IE and IR are proven to have effect on MP and TV empirically, and the changes in these three factors have significant impact on ISPI. Variation of CP, IE and IR led to the variation of MP and TV, and subsequently led to the value of ISPI of shares.

### 6.2 Influence of Each Variable

The influence of CP, IE and IR can partially be explained by each of the path coefficients in the structural model, which are summarized and presented at Tabel 6 below.

Tabel 6. Direct, Indirect and Total Influence\*

Path	Direct Influence	Indirect Influence	Total Influence
CP → MP	0,27	-	
MP → ISPI	0,70	-	
CP → ISPI	-	$0,27 \times 0,70 = 0,19$	0,19 or 19%
IE → ISPI	0,17		0,17 or 17%
IR → ISPI	0,17		0,17 or 17%

Source : Analysis result

\*) Refers to the path coefficients in the structural model diagram

Significant path coefficients indicate the magnitude of the effect of CP, IE and IR as follows:

1. CP has direct influence on MP by 0.27. MP has direct influence on ISPI by 0.70. This means that 1 unit increase in stock CP is expected to increase MP by 0.27 unit, and further increase of 0.19 units ISPI, ceteris paribus. Thus CP has indirect influence on ISPI of 0.19 through MP.
2. IE has direct influence on ISPI by 0.17. This means that 1 unit increase in IE is expected to increase ISPI by 0.17 units, ceteris paribus.
3. IR has direct influence on ISPI by 0.17. This means that 1 unit increase in IR is expected to increase ISPI by 0.17 units, ceteris paribus.

### 6.3 Role of Mediator Variables

Value of  $R^2$  on structural equation without the mediator variable is 0.048 or 4.8% (very low). By input the mediator variable TV to the model, the value of  $R^2$  increased only 0.077 or 7.7% (yet very low) and the value of  $f^2$  (effect size) was 0.03. This means that the mediator variable of TV has a very small effect on the model. By input the mediator variable MP in the model, the value of  $R^2$  was increased by 0.50 or 50% (medium) and the

value of  $f^2$  was 0.87 (large). It means that the mediator variable MP has a significant influence on the model. By input both the mediator variables (MP and TV) in the model, the value of  $R^2$  was also increased by 0.50 or 50%, and the value of  $f^2$  was 0.87. It means that the TV and MP have an influence simultaneously to the model as well as MP only. In other words, MP is the only mediator variable that has dominant effect.

## 7. Conclusion and Suggestion

### 7.1 Conclusions

From the analysis and discussion has been described in previous chapters can be delivered the following conclusions:

1. Investor's expectation and investment risk have direct influence on ISPI, while company performance has indirect influence on ISPI through market prices.
2. Stock transaction volume and market prices have role in simultaneously as mediator, but only market price have dominant role as a mediator partially.
3. Three out of 9 indicators of corporate performance are quite good: ROA, ROE, and NPM, with ROE as the most reliable indicator (most of its ability to reflect the company performance).  
Two out of 7 indicators of investor's expectations are quite good: PT and AR, with AR as the most reliable indicator.  
Two out of 3 indicators of investment risk are quite good: SD and Beta, with Beta or systematic risk as the most reliable indicator.

### 7.2 Suggestions for Academic Interests

For those who are interested in the development of knowledge as an attempt to develop a theory of investment, particularly investment in shares, need to pay attention to the following matters:

- a. Investment risk factors as factors that affect the stock market price and transaction volume in addition to the fundamental factors (corporate performance) and technical factors (investor's expectations).
- b. Company performance, investor's expectations and investment risk affect the individual stock price index, not only individually but also together.
- c. Not all of indicators are able to represent in measuring company performance, investor's expectation and investment risk. The primary indicators that need to be concerned are ROE, AR and Beta.

### 7.3 Suggestions for Further Research

For those who are interested in doing research on stocks, kindly to develop further research on this study, for example in the following way:

- Add or change variables, indicators, or stock sample.
- Using different research methodologies.
- Examine and compare the effect of the company performance, investor's expectations and investment risks on the stock price index for each industry (Industrial stock price index, the combined companies in the same industry).

### 7.4 Suggestions for Practice

The implications of the results of this study can be stated as follows:

1. The results of this study indicate that ISPI influenced by fundamental factors (company performance), technical factors (investor's expectations) and investment risks of stock. This fact needs to be considered in practice of predictive analysis on ISPI or stock return (Note: increase in ISPI is a source of stock return).
2. The results showed that ISPI is influenced by three factors simultaneously. Investors, analysts and issuers can predict the rise of ISPI or stock return based on the value of three factors simultaneously.
3. Theoretically Company performance is measured by 9 indicators, investors' expectations is measured by 7 indicators, and stock investment risk is measured by 3 indicators (SD, CV and Beta). The results of this study indicate that good indicators for measuring the company's performance are ROA, ROE, and NPM (especially NPM), good indicators to measure investors' expectations are PT and AR (especially AR), good indicators to measure the investment risk is SD of stock return and Beta coefficient (especially Beta). Therefore investors, analysts and issuers need to consider NPM, AR and Beta

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