

# Extrinsic value of equity shares: The case of LQ45 companies quoted on the Jakarta Stock Exchange

Totok Sugiharto  
(Indonesia)



## Introduction

Sometimes the notion of market value is proposed as an alternative to the notion of economic equity on the grounds that it is more significant and easier to measure. Although maximization of the former is undoubtedly an important objective for management, the primary objective remains conceptually the second one. Market value depends much more than economic equity on external and uncontrollable events and forces and, therefore, much less on internal controllable events over which the ability and determination of management can exert an influence (Guatri, 1994).

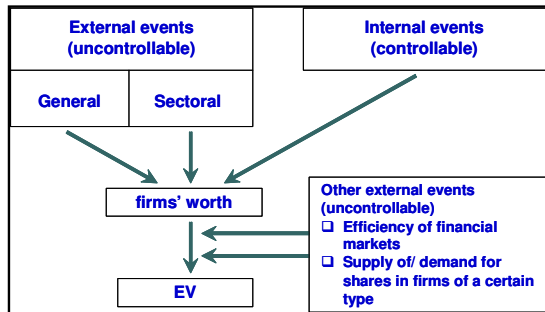


Figure 1: Internal and External Events Influencing Market Value

This study is focused on Extrinsic Value of Equity Shares (Equity Share Market Price x Number of Shares Outstanding) companies rated on the Jakarta Stock Exchange (JSX). Extrinsic Value of Equity Shares (EV) is known to be influenced by environmental (non-controllable external factors) like: macro economic; branch health; political stability, etc and also some internal factors to the company (mainly present and prospective value of well selected financial indicators). It is within this framework that the study intends to investigate the relationship between the market value of invested capital and earnings before interest, taxes, depreciation and amortization, which in essence, reflect cash flows.

Future free cash inflow, from the investors' point of view on Jakarta Stock Exchange (JSX) is one of the indicators to calculate the company's market value. The relationship between EV and return on investment, dividend yield, capital gain and expected future value of equity shares are mostly found to be positive, as indicated by many researchers in this area (Banz, 1981). Because of these concerns, the sustained competitive companies become a selective target for investors. This research will address, in several specific cases, the role of each company to improve its future free cash inflow by using its Market Value of Invested Capital (MVIC) as a main capital resource. With similar perspective, this research tries to identify the other variables influencing indirectly the Enterprise Multiple (EM) of each of the companies, such as: the attractiveness of their industry, their business strength/competitiveness, their long term strategy, their external factors influencing opportunity and threats, and their internal factors influencing strength and weaknesses.

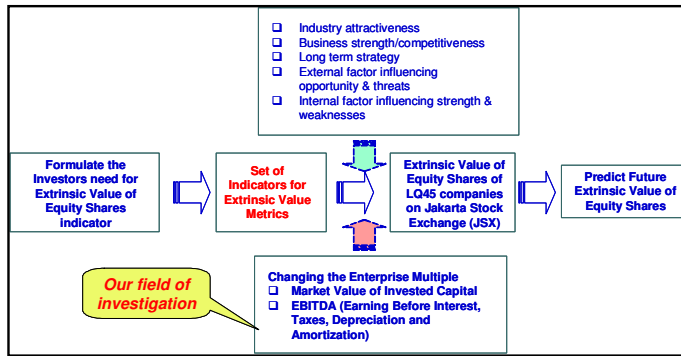


Figure 2: Factor Influencing the Extrinsic Value of Equity Shares

Two latest metrics represent, however, the main drivers in the modelling of EV and are supposed to be the main factors having together the main impact on any investment decision. This evidence expectedly will confirm the positive effect of the MVIC and EBITDA on changing the EV, especially on the highly speculative emerging market, JSX, on which the present research will focus.

MVIC, EBITDA and EM are investors' favorite indicators supporting to hold, sell or buy decision, for several reasons:

The characteristics of MVIC and EBITDA for each kind of company are the same.

It is a metric that can be used to benchmark the profitability between companies and industries, because of its potential to eliminate the effects of financing and accounting decisions.

It is useful for trans-national comparisons, being independent from tax schemes.

It can provide a relatively good "apples-to-apples" comparison.

The ratio can also be used to evaluate different industry trends over time.

## Problem Statement

There have been very few studies undertaken to investigate what exactly motivates investors to invest in the JSX and their needs in the relation to their investment decision. Because LQ45 companies have a huge in their market capitalization and significant influence in the changing of Jakarta Composite Index; investors need systematic and scientific studies to be conducted from the historical records to estimate the future performance of each company.

For this reason, this study attempts to investigate the nature of indicators of Investor's needs to predict future EV in the correlation with their EM from LQ45 companies rated on JSX. Investors need certain metrics as a parameter to predict the EV, especially prospective value in the correlation with their fundamental value, MVIC and EBITDA. As a metrics reference, investors need a specific reason why the correlation between the EM and EV of that firms tend to influence their investment decision.

From that point of view, a significant problem could be a major handicap for the investors on the JSX. This handicap could be the rational evidence before they make substantial investment decision, especially lack of an analysis of the EV in terms of the relationship between their changing of the fundamental value MVIC and EBITDA of major companies quoted on JSX.

In order to help the investors to support its decision, this study uses MVIC/EBITDA metric analysis to analyze the relationship with the EV. By using this analysis, the study tries to analyze the "messy problems" that affect the overall corporate performance. The metric analysis tries to explore the problems in LQ45 companies caused by operational efficiency (EBITDA), optimization of investment of equipment (utilization of assets) and optimization of capital structure (MVIC) as well as reducing capital charges. Another

method supported to explore the problem is external metrics. Such method employs DFCF and EVA valuations technique that analyzes future cash flow problem. This metrics should permit accurate evaluation of post-achievement and reflect the potential for future value creation of EV. Without this analysis and the investigation of the relationship between these variables, the disadvantages can be:

The investment of EV only delivers unsustainable growth in shareholders value, because top management only reaches the limits of its ability to push up the share price without actually creating new wealth.

There are dozens and dozens of companies that have over the past few years, delivered healthy shareholders returns, but have at the same time generated little or no growth in their EV.

These companies haven't created much new wealth when growth in shareholders returns significantly outpaces growth in a firms' market value (i.e. when EV is going up faster than the value of the firm), it can be sure that there's a bit of financial legerdemain going on somewhere (Hamel, 2000).

## **Research Questions**

### **Major Research Questions:**

Is EM metric better than other metrics for predicting the EV of LQ45 companies quoted on the JSX, and if so, why?

### **Minor Research Questions:**

What variables influence the MVIC and EBITDA of the LQ45 companies quoted on the JSX

What variables influence the EV of the LQ45 companies quoted on the JSX

Is there any correlation between the MVIC and EBITDA and if any, can it influence the EV of those companies?

If there is a correlation between the MVIC and EBITDA is it more significant than between other influencing factors or indicators

Why EBITDA is widely accepted as a performance metric to analyze the performance of companies on JSX

Why can LQ45 companies represent most of JSX market capitalization?

### **Purpose of the Proposed Study**

The purposes of this study are as follows:

To investigate whether, and to what extent EM is strongly correlates to the speculative ratio: EV/MVIC, and

To investigate whether it is possible to "manipulate" the internal factors in order to improve the EV from company, the external factors being consider only as moderating variables.

The final and practical outcome of the research will hopefully, serve as a tool integrating internal and external factors and allowing prediction of the speculation index, defined as Extrinsic Value of Equity Shares/Market Value of Invested Capital (EV/MVIC) as well as a correlation between Extrinsic Value of Equity Shares/Enterprise Multiple (EV/EM).

This study therefore intends to investigate whether or not there is significant evidence that demonstrates correlation between EM and EV on JSX. Such correlation, if it exists, could be used to predicting the future EV supporting the investment decision to hold, buy or sell their equity shares holdings. In the case of the investigation, this research will try to elaborate and evaluate the correlation if any, between the changing of MVIC and EBITDA of some major companies represented by LQ45 companies with their EV as rated on JSX.

## **Identified Variables**

In order to analyze the possible relationship between EM and EV as well as the relationship between MVIC and EBITDA, there are few things that can be identify as a knowledge gap in this research. The possible knowledge gap, such as an analysis can't be deliver a proper result to answer the possibility of these relationship without any other systemic and soft system approach to bridge this result gap.

Identification of and clarification on some variables and issues relating to the study will enhance the formulation of appropriate research hypotheses and the framing of relevant questions. Four of such variables and issues may be identify as follows:

The study companies (LQ45) represent a JSX market capitalization.

Based on the data collection, we create a database, normally used to analyse and the result used as a reference point for making the right investment decision.

With the high level of accuracy, we hope the database can be used to analyse EV, EM, MVIC and EBITDA, for comparison with other metrics i.e. PER, PBVR, PSR, MVIC/FCF, MVIC/BV (Pereiro, 2002) before using them to test the hypotheses. The best metric is the most acceptable to investors on JSX especially to those who use them to predict future EV.

Artificial Neural Network approach will be used in this case in hope that it can bridge the existing knowledge gap, the approach is supported by the academic evidence not only with reference to the companies listed on JSX, but also in other stock exchanges.

The correlation between EV, EM, MVIC and EBITDA actually is a commonly used method to value efficiency of a company in order to maximize the use of their company's capital resources. Some of these applications are use in cases of mergers, acquisitions and leveraged buyout (source: [www.investopedia.com](http://www.investopedia.com)). At present, this is a prime intentional model used by analysts in Indonesian capital market. The advantage of these metrics seem to be more appropriate than the PER ratio (Damodaran, 2000) or another Equity Multiples (Pereiro, 2002). Some new entrants to the capital market use this metrics to determine fair extrinsic value of their equity shares.

Moreover, the existing literature leaves room for interpreting the empirical test of the investor behavior based on theories and models. This study intends to fill the gap. It will also develop knowledge and validation basis in the research model in order to test the validity and reliability of the correlation between MVIC/EV and to examine the impact of using these correlation to predict future EV.

### Conceptual Framework

There are variety of theories, which helps to explain EV and the correlation between MVIC and EBITDA. All relevant theories, discussed in the literature have been examined from variety of point of views. For the detailed review, we will also present a conceptual viewpoint that will be use to analyze the underlying rationale and the correlation between them.

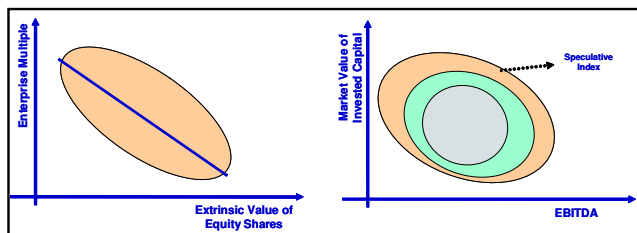


Figure 3: Building Block of the Correlation EV, EM, MVIC and EBITDA

In the UK, the Royal Institution of Chartered Surveyors and the Investment Property Forum are following the lead given by the academic world by promulgating that the following convention should be adopted by all those involved in the provision of valuations and calculations of worth (Peto, 1997):

*Price* is the actual observable exchange price in the open market, *Value* is an estimation of the price of exchange in the market place, and *Worth* is a specific investor's assessment of the monetary net benefits of ownership of an asset based on the investor's own perception of the stream of benefits, which they expect to be produced by the asset.

With this in mind, for the better valuation, Peto (1997) gave the indications, better valuation means more accurate pricing, and this depends on two inputs:

The use of appropriate methodology, and

The availability of market information and data

Several techniques are widely used for valuing businesses, these include:

DCF: suitable for infrastructure assets with predictable long term cash flows; taking into account differences in accounting methods and regulatory structures, and

Comparable multiples: reflecting market perception; most frequently used multiples include MVIC/EBITDA (EM).

However, we believe that companies' current market capitalizations provide the best benchmark for their valuations and we attempt to derive a valuation based on this as well as a survey for LQ45 companies on JSX.

The MVIC model has obvious attractions. It offers not only the facility to consider the enterprise as a number of individual (but related) components but also the facility to explore strategic growth alternatives (Walters, 2002). The investment market view, as suggested by Rappaport (1983), Reimann (1988) and Copeland (1994), considers that a business is worth (enterprise value) the net present value of its future cash flows discounted at an appropriate cost of capital. This approach avoids the inadequacies of traditional financial measurements and recognizes the time preference for money and the risk of an investment. This method is also suggested by Knight and Pretty (2000) as a means for measuring tangible value where future cash flows are discounted at a relevant cost of capital.

Cash flows and price/earnings analysis are two tools which financial professionals are familiar with, but now we have detected an intruder on our financial radar: The rapid approach of EBITDA is closing fast on cash flow and price/earnings. It is time to shoot the enemy out of the sky before we suffer another defeat (King, 2001).

King (2001) suggested the use of EBITDA, for a number of reasons:

EBITDA is being use by security analysts because its "answers" appear more attractive.

Use of EBITDA in financial analysis is in start-up firms that are probably operating at a loss.

Use of EBITDA is valuation based solely on operating results, EBITDA is easy to calculate, and

Use of EBITDA is to assume that it is somehow "available" for corporate uses.

## **Research Hypotheses**

The main hypotheses proposed, are as follows:

*Hypotheses 1: LQ45 represent the JSX market capitalization*

For LQ45 companies, the Extrinsic Value of Equity Shares will be mainly influence by:

*Hypotheses 2: Changing (voluntary) the MVIC*

*Hypotheses 3: Changing (voluntary) the EBITDA*

*Hypotheses 4: Changing (voluntary) the EM*

## **Research Approach**

We want to study the EV of LQ45 companies rated on JSX,

By Using:

Bibliographic findings on significant financial indicators used worldwide by investors.

Several research methods & tools, such as content analysis, multiple regression analysis, canonical correlation analysis and structural equation modeling.

A local survey on:

investment motivations of investors/speculators on the JSX  
on the significant indicators they use,  
eventual bias or specificity for the JSX

Time series records of financial indicators of LQ45 companies rated on JSX, as well as their extrinsic value of equity shares, as recorded.

Applying: the findings to a set of LQ45 companies (non-finance sectors) rated on JSX

In order to: *understand and predict* how the Speculative Index, equal to the ratio EV/MVIC can be affected, under different external circumstances and context, by changing on a voluntary basis, the MVIC, EBITDA and the resulting EM of the mentioned companies.

### **Justification of the Selected Companies, Research Objects**

The research will focus on LQ45 companies (non-finance sectors) quoted on JSX because:

If there are any changes in their market price, they will quickly and significantly influencing the overall composite index, because of their high liquidity and huge capitalization in the market.

JSX is one of the emerging markets in Asia region, and most of the companies listed are the Indonesian companies having similar culture and background.

Methodology and approaches of valuation for non-finance sectors are common and can be compared far more easily across firms with different financial leverage and structure.

There are 3 (three) sets of variables used.

The *dependent variable* is the EV from LQ45 companies consisting of five dimensions: return on investment, dividend yield, capital gain, future value and market capitalization.

The *independent variables*: there are MVIC as a resource capital in those companies and EBITDA proceeded by the firms.

The *moderating variables* consist of: the industry attractiveness, the business strength/competitiveness; long-term strategy; external and internal factor influencing their threats; opportunity; weaknesses and strength (TOWS). Other unrelated parameters are ignored such as industrial policy, tax policy, regulatory improvement in labor, institutional supervision, etc. The reasons for these limitations are for the sake of focus and simplicity/feasibility of the analysis, although further research on those factors are surely worthwhile to be conducted, in order to complete the picture from different point of views.

## Research Methodology

There are 14 (fourteen) methodological steps that will be used to answer the research questions and hypotheses proposed:

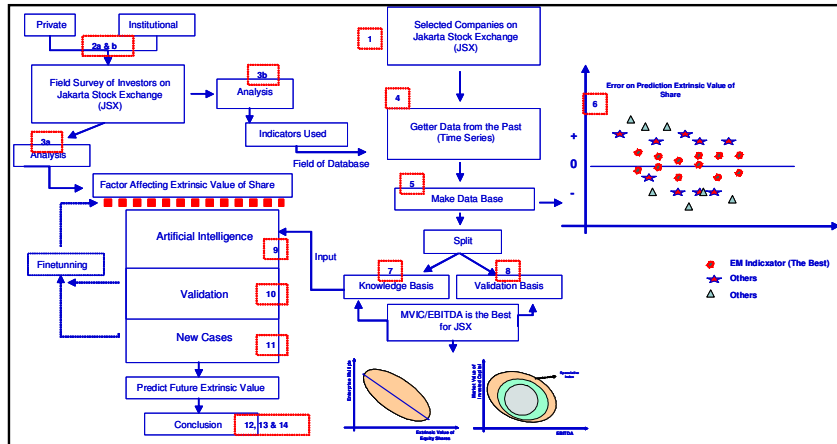


Figure 4: Research Methodology Proposed

## Selection of Cases and Data Collection

A set of selected LQ45 companies (non-banking sectors) are having liquid assets and huge market capitalization quoted on JSX. For each object, the researcher will conduct several personal interviews based on a questionnaire response from participant companies and investors. As to the survey instrument, a questionnaire consist of structured questions and will administered under a confidentiality to guaranteeing that the final report would display strictly aggregate figures.

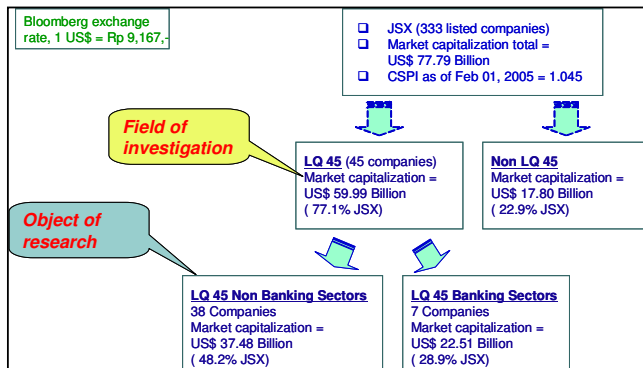


Figure 5: Selection of Case

At this stage, we expect that the chosen companies will qualify for this survey. Based on the manageable size we will use non-finance sectors of LQ45 companies rated on JSX for our survey ([www.jsx.co.id](http://www.jsx.co.id)). The research methodology adopted for this study will be base on primary data collection from electronic questionnaire. Secondary data will be included whenever available and seen appropriately (JSX Watch, 2004). To gain some additional, detailed knowledge about the companies and its historical data, personal interviews with top management of the selected companies will conducted. These interviews will be of the highest importance for this study and it will only be possible to access such information through personal contacts in this area. A pilot electronic

questionnaire design will be send to several companies to ensure that the layout is adequate; the wordings of the questions are made understandable, refers to planning of issues of how the variables will be categorized, scales and coded after receipt of the responses (Sekaran, 2000) and cover all relevant issues. Data gathering will be accomplishing in two steps:

The Company's top management or member will be invite to participate in our survey. As an incentive to participate, we will offer to send them a summary of the results of this study.

The electronic questionnaire will be send to the selected person and the remainders will be send out three weeks after the initial questionnaire has been sent.

### **Research Strategy and Field Work**

This research work is trying to observe and elaborate their attractiveness in the industry; their strength/competitiveness in the business; their long term strategy and factors influencing their Threats; Opportunity; Weaknesses; and Strength. Several points related to the research work are:

Focus on investor motivation and need.

Focus on the selected LQ45 companies (represent by non-finance sectors).

Transforming the metrics required by investors' into each company's performance and analysis.

Identify gap results of the historical EV and the metrics.

Identify key variables influencing MVIC and EBITDA affecting EV.

Identify key variables influencing EV on JSX.

Identify the correlation between EM and EV on JSX.

Delivering a relationship conclusion between EM and EV rated on JSX to support the investors' decision.

To organize the research fieldwork we use a progress control chart, covering 4 phases, as follows:

The *design phase*

Preparing and defending the proposal, with as milestone the research seminar to the M.Phil.

The *implementation phase*

Mainly a field work during this research around 6 months, from month 31<sup>st</sup> until 37<sup>th</sup>.

The *analysis phase*

Consist of coding of data, building up a grounded theory, a statistical data analysis, checking the hypotheses and answering the research questions. The timetable is until months 43<sup>rd</sup>.

The *diffusion phase*

Consist of writing, defending the thesis and further publications

The global timing of the program is estimate to be around 4 years.

## Data Processing and Analysis

The methodology steps used to answers the research questions & hypotheses as shown in this table.

Research Goals	Hypotheses	Underlying Theories	Method for Testing Hypotheses	Possible Results
1.The evidence of a significant correlation between EM and EV on JSX.	<i>H1: LQ45 represent the JSX market capitalization</i>	<ul style="list-style-type: none"> <li>□Market Capitalization</li> <li>□EV of Equity Shares</li> <li>□MVIC</li> <li>□EBITDA</li> <li>□Enterprise Multiple</li> <li>□Motivation and Behaviour of Investors</li> </ul>	<ul style="list-style-type: none"> <li>□Content Analysis</li> <li>□EVA &amp; FCFF Valuation, ARMA, Monte Carlo Simulation, Gap analysis</li> </ul>	<ul style="list-style-type: none"> <li>□Motivation of investors</li> <li>□EM is the best metrics for JSX</li> </ul>
2.To elaborate and evaluate, is there is any correlation between the changing of MVIC and EBITDA of LQ45 companies with their EV as rated on JSX.	<p>The Extrinsic Value of Equity Shares of LQ45 companies will be mainly affected by:</p> <p><i>H2: Changing (voluntary) the MVIC</i></p> <p><i>H3: Changing (voluntary) the EBITDA</i></p> <p><i>H4: Changing (voluntary) the EM</i></p>	<ul style="list-style-type: none"> <li>□Understanding the Perspective of Investors</li> <li>□Valuation of Companies in Emerging Markets</li> <li>□Best Practices in Emerging Markets</li> </ul>	<ul style="list-style-type: none"> <li>□ANN, SEM, SSM, Cognitive Mapping</li> </ul>	<ul style="list-style-type: none"> <li>□EV will be affected by changing the MVIC, EBITDA &amp; EM</li> <li>□LQ 45 represent JSX</li> <li>□EM is strongly correlated with EV</li> </ul>
3.To predict the Future EV, to support the investment decision.				

Table 1: Methodology Steps links between Research Goals, Hypotheses and Possible Results

## Conclusion and Limitations

In this study, we are investigating the relationship between EV, EM, MVIC and EBITDA in the period between 2000 and 2004. We are investigating on a local survey to understand the investment motivations of the investors/speculators on the JSX market and using time series records of financial indicators of LQ45 companies rated on JSX, as well as their EV, as recorded. The aimed result of this study is to understand and predict how the Speculation Index, equal to the ratio of Extrinsic Value of Equity Shares/Market Value of Invested Capital (EV/MVIC) can be affected, under different external circumstances and context, by changing on a voluntary basis, the MVIC, EBITDA and the resulting EM of the mentioned companies. In this study, we use a single case study, where the LQ45 companies (non-finance sectors) and the sample of cases representing market capitalization on JSX. Total market capitalization of JSX as of February 1<sup>st</sup> 2005 is US\$ 77.79 Billion, consisting of 333 listed companies. Our fields of investigation represent 45 companies with having total market capitalization of US\$ 59.99 Billion or covering 71.1% of the total JSX's market capitalization.

The discussion coverage of this proposal in relation to the investigation of the relationship between MVIC/EBITDA to maximize its EV is limited with the reference to LQ45 companies quoted on the JSX. Particularly, several assumption have been made as limitations as follows:

This study limits discussion in the LQ45 companies (non-finance sectors) as an object of research, consisting of 38 companies and its business activities. Total market capitalization of the chosen companies as of February 1<sup>st</sup> 2005 is US\$ 37.48 Billion or covering 48.2% of the total JSX's market capitalization. Other 295 companies instead of the objects, but listed on the JSX are not considered important in order of the topic.

Due to the unstable and unpredictable nature of Indonesia's monetary situation, this study assumes the uncontrollable external factors to remain the same (*ceteris paribus*). Projection and share valuation method are used in this study to illustrate the expected earnings, returns and estimated firms value in 10 years time (2005 – 2014).

All assumptions in this study are base on questionnaire responses, personal interviews, actual data, ideas and analysis of 5-years history audited financial performance ([www.jsx.co.id](http://www.jsx.co.id)). Our limitations are the data collection and confirmation. Another limitation of this study is its focus on economic consideration and not other considerations, such as political stability consideration.