

## CHAPTER II

### LITERATURE REVIEWS AND HYPOTHESIS DEVELOPMENT

#### 2.1. Earnings

Earnings are one of the crucial things for both external and internal parties. As defined by the Financial Accounting Standard Board (FASB) in Statement of Financial Accounting Concept (SFAC) no.5:

Earnings is a measure of entity performance during a period. It measures the extent to which asset inflows (revenues and gains) associated with cash-to-cash cycles substantially completed during the period exceed asset outflows (expenses and losses) associated, directly or indirectly, with the same cycles.

Accounting Terminology Bulletin (ATB) 2, explain that earnings or generally known as net income is the number that result from the reduction in revenue or operating income to cost of goods sold, other expenses and losses. While Subramanyam and Wild (2009, p. 20) state that earnings is a measurement that indicates the firms' profitability. Moreover, they also argue that earnings shows the increase and decrease in equity before considering the distribution to or from equity holders as well as reflects the return for equity holders. In addition, Hendriksen and Breda (1992, p. 326) define earnings as the total of current operating income and nonrecurring items, including any accounting adjustment that recognized in current period. It can be concluded that earnings reflect the one period of firms' performance that is expressed by all of the revenues and

gains over the expenses and losses, that firm generate or sacrifice. It also shows the return for equity holders. Some earnings concepts above, talk about earnings as net income. There is another concept of earnings, which is comprehensive income. SFAC no 5 defines comprehensive income as a broad measure of the effect of transaction and other event on the firm, including all recognized changes in equity (net assets) of the firm during a period from transactions and other events and circumstances except those resulting from investments and distributions by and to owners. Earnings and comprehensive income have same components, which are revenues, gains, expenses, and losses. The difference is only in recognizing certain classes of gains and losses. They are: (1) effects of certain accounting adjustments of earlier periods that are recognized in the period, and (2) certain other changes in net assets (principally certain holding gains and losses) that are recognized in the period (SFAC no. 5). It can be concluded that there are four components that affect earnings. SFAC no. 6 explains each component as follows:

1. Revenue

Revenues are inflows or other enhancements of assets of an entity or settlements of its liabilities (or a combination of both) from delivering or producing goods, rendering services, or other activities that constitute the entity's ongoing major or central operations.

2. Gain

Gains are increases in equity (net assets) from peripheral or incidental transactions of an entity and from all other transactions and other events and circumstances affecting the entity except those that result from revenues or investments by owners.

3. Expenses

Expenses are outflows or other using up of assets or incurrences of liabilities (or a combination of both) from delivering or producing goods,

rendering services, or carrying out other activities that constitute the entity's ongoing major or central operations.

4. Losses

Losses are decreases in equity (net assets) from peripheral or incidental transactions of an entity and from all other transactions and other events and circumstances affecting the entity except those that result from expenses or distributions to owners.

Both information of earnings and comprehensive income play an important role for external parties, especially to analyze current as well as future of the firms. Measuring the firms' performance is one of the usages of earnings. Earnings shows the performance of the firms in current period. It reflects how well the firms can generate revenue as well as the effectiveness and efficiency of firms to use the resources they have. Not only focus on firms' performance, the SFAC no. 1 which superseded by SFAC no 8, explained that the external parties often use earnings to help them evaluate the firms in some aspects, they are: evaluate earnings power, predict future earnings and also assess the risk of investing in or lending to firms (Hendriksen and Breda 1992, p. 319).

1. Evaluating earnings power

According to SFAC no 5, investors or other interested users may use that information to help estimate the earning power, or other amounts that they perceive as representative of long-term earning ability of an enterprise, as a significant step in comparing the market price of an equity security with its intrinsic value.

## 2. Predict future earnings

Usually the external parties will use the current and past information of earnings to assess the prospect of firms. Hendriksen and Breda (1992, p. 320) states that earnings predictions are assumed to be relevant in predicting the future market price of the share. Consequently, many investors use the expectation of future earnings as a main determinant to predict the sufficient earnings in the future, hence predict the future distribution of dividend.

## 3. Assess the risk of investing in or lending to the firms

Information of earnings can be applied in assessing the risk of investing into the firms or lend money to the firms. Since, the current earnings can give a picture of current and future condition of the firms, whether they can keep stable or the firms' condition will be worse. Therefore, it can show the ability of the firm to fulfill its current or future liabilities.

### **2.2. Investment Decisions**

Investment decisions are very important for the firms in order to keep their business going concern. Since, it is done in hope that it will directly or indirectly (e.g. supporting operational activities) generate profit for firms. Investment decision that already done by the firms can be shown in the assets sections of the financial report.

Firms have some options that related with the investment decisions, either in short-term investment, financial assets investment, or long-term investment (Subramanyam and Wild 2009, p. 222-285).

### **2.2.1. Short-term investment**

It is included investment in the current assets, such as cash, cash equivalents, receivables, inventories, and prepaid expenses. According to Subramanyam and Wild (2009, p. 222) many firms try to improve their profitability and cash flow by reducing the investment in current assets especially receivable and inventory. It is because both short-term investments contain higher risk than the other. The firms' way to reduce the investment in receivable and inventory is through effective credit underwriting and collection of receivable and just-in-time inventory management.

### **2.2.2. Financial assets investment**

Financial assets investment is the investment that is done by firms in financial assets. As an example, investment in securities. Subramanyam and Wild (2009, p. 264) divided the investment in securities in two form; they are the debt securities (e.g. bonds, bonds, and municipal securities) and equity securities (e.g. common or preference shares). This kind of investment is relatively small in most of the firms, since it is not a part of the operating activities.

### **2.2.3. Long-term investment**

Long-term investment is the investment that expected to give the benefit more than one year. They contain higher risk than short-term investment since they commit with the long-term period, which mean higher degree of uncertainty.

#### ***Capital Investment Decision***

This long-term investment is often related with the capital investment. Capital investment is the firm's investment in the capital assets which are the fix asset that supporting the operating activities of firms. To acquire the capital investment, firms have to spend capital expenditure. Capital investment decision is one of the common as well as important decisions in the firms. It is because of the large amount of resources are spent at risk for long-term period and it is also believed to affect the future development of firms simultaneously (Hansen and Mowen 2006, p. 754). Hansen and Mowen argued that firms have limited resources that should be managed and used properly. So, if they use it to the poor capital investment decision, it will be disastrous. Therefore, firms should make right capital investment for achieving long-term survival.

Making the capital investment decision is not easy. Since, naturally it contains uncertainty, where the firm has to make an estimation/prediction which is related with the uncertain future. So, in order to reduce it, there are many calculations that manager have to consider. Managers have to estimate the quantity and timing of cash flows, assess the risk, and also consider the impact of the project

in the firm's profits (Hansen and Mowen 2006, p. 754). Because of its complexity, there are some methods that can help the manager to spend the capital expenditure into the right investment. Those methods are non-discounting model and discounting model. Non-discounting model is the model that ignores time value of money. The examples of non-discounting model are Payback Period and Accounting Rate of Return. While the discounting model is the model to assess the investment by considering time value of money, for example: Net Present Value (NPV) and Internal Rate of Return (IRR). Hansen and Mowen (2006, p. 756) stated that the best method is by combining both discounting and non-discounting method to assess the profitability of the investments. (Hansen and Mowen 2006, p. 754-756)

The next step, if the firms already spend their capital expenditures, there is accounting treatment that should be considered by the firms. According to Pernyataan Standar Akuntansi (PSAK) no 16, cost (capital expenditures) that is spent to acquire capital investment (fix assets) can be capitalized if only the two requirements are satisfied. They are (1) there is high probability that the firms will get the economic benefit from those fix assets, and (2) the capital expenditures can be reliably measured. Then, those capital expenditures will be recognized and allocated as expenses and presented in the income statement through the depreciation. The allocated amounts are calculated based on its economic life.

### 2.3. Investment Opportunity Sets

Myers (1977, p. 163) argues that the value of firm as going-concern depends on firm's future investment strategy. Further, Myers explained that firm's value is the total of the value of assets in place and the value of option that depends on the future discretionary investment by the firms. According to Myers, Investment Opportunity Set (IOS) is the component of firm value that resulted from options to make future discretionary investment (Kallapur 2001). That discretionary nature of investments are associated with the growth opportunities or commonly known as real options or growth options (Adam and Goyal 2000). Hence, the IOS means firm's growth opportunities. Kallapur and Trombley (1999) also proved that IOS is a valid proxy for future growth of the firm. Moreover, Kallapur (2001) explained that investment opportunities are the options which had by the firms to invest in the positive net present value projects (prospective projects).

In measuring the IOS, Kallapur (2001) classified the proxies of IOS into four types, they are: priced-based, investment based, variable measure, and composite measure.

#### a. Price-based proxies

The basic idea of those proxies is that the growth prospects are impounded by stock price. They compare the assets in place and market value of firm. They include:

1. Market to book value of equity (Collins and Kothari, 1989; Lewellen, Loderer, and Martin, 1987; Chung and Charoenwong, 1991);
2. Book to market value of assets (Smith and Watts, 1992);
3. Tobin's Q (Skinner, 1993);
4. Earnings to price ratios<sup>4</sup> (Kester, 1984; Chung and Charoenwong, 1991, and Smith and Watts, 1992);
5. Ratio of property, plant, and equipment to firm value (Skinner, 1993);
6. Ratio of depreciation to firm value (Smith and Watts, 1992).

b. Investment-based proxies

This proxies come up because of the investment activity is positively associated with the investment opportunity. The examples of investment based proxies are:

1. R&D intensity, measured as the ratio of R&D expense to assets (Gaver and Gaver, 1993), sales (Skinner, 1993), or firm value (Smith and Watts, 1992);
2. Ratio of capital expenditures to firm value (Smith and Watts, 1992).

c. Variance Measures

These measures are come with the idea that the value of investment option increase along with the increasing of the variability of returns on the underlying asset. It is included:

1. Variance of returns (Gaver and Gaver, 1993 and Smith and Watts, 1992);
2. Asset betas (Skinner, 1993).

#### d. Composite Measures

Composite measures are the measurements that incorporate with multiple proxies or rely on other evidence regarding the firms' IOS.

Kallapur (2001)

From four types of proxies of IOS, Kallapur (2001) found that the price-based proxies are the superior proxies to measure the firm's IOS. Before Kallapur, Adam and Goyal (2000) had examined three commonly used proxies of price-based proxies, they are: Market to Book ratio of Assets (MBA), Market to book ratio of Equity (MBE), and Earnings Price Ratio (E/P-ratio). Adam and Goyal defined the MBA is similar as Tobin's Q. Then, they found that from the three measurements, the MBA is the most suitable proxy to measure firm's IOS.

### **2.4. Hypothesis Development**

#### ***Capital expenditures and uncertainty of future earnings***

Earnings information plays significant effect towards the decision that is made by external parties, especially investors. According to SFAC no 1, they use the earnings information to (a) evaluate management's performance, (b) estimate earning power or other amounts they perceive as representative of long-term earning ability of an enterprise, (c) predict future earnings, or (d) assess the risk of investing in or lending to an enterprise. Thus, examining the firms' earnings, especially its fluctuation is essential for the investors or other interested users. It

is considered as an important thing to be examined, since it has close relationship with firm's risk, hence will affect the decision of the users (Knight 1921; part III Ch. VIII).

One of the firm's decisions that affect earnings is investments. Investments are believed to affect earnings in the future by the return they create. Thus, firm will decide to invest in order to keep their business going concern. To achieve that goal, firm chooses the investment which can support its operation and/or potential to contribute in the sustainability of the firm. Unfortunately, every investment decision is related with the future, which commit with the uncertainty. The return of the investment in the future only in the stage of prediction and there is no assurance that it will be achieved precisely. As the consequence the uncertainty of the return will contribute to the future earnings volatility. It is the risk that is naturally had by every investment.

Those risks are increased by the complexity of both the calculation and analysis in the process of determining the investment itself. The manager must estimate the quantity and timing of cash-flows, assess the risk of investment, and also consider the impact of the project on the firm's profit. Estimating the cash flow is the difficult one, because it deals with the forecasting/projection as well as the ability of the manager (Hansen and Mowen 2006, p. 755). Those kinds of complexity sometimes trigger the firm to unintentionally make the wrong investment which has higher risk with higher uncertainty of the return.

Manager behavior also takes a part in the contribution of investment decision to the uncertainty of future earnings (earnings volatility). If the managers behave based on their interest instead of firm interest, there will be higher probability for the manager to make an investment decision that harms the firm (i.e. high risk project). Moreover, the managers who tend to overinvest usually end up with unprospective and in-effective investment, which have more fluctuation in its future return. Speculative investment which is taken by the firm also can deteriorate the effect of investment in the future earnings volatility. Since the speculative investment only has short-term benefit, not long-term as the investment are expected.

The phenomenon above prevails in every investment decision, including capital investment. If the firm spends capital expenditures to acquired unprospective capital investment, it will make the volatility of its future earnings increased. Amir et al. (2007) tried to prove the premise above by examining the effect of capital expenditures and R&D expense towards the uncertainty of future earnings. This research is then investigated further by Yang (2014) who examined the effect in various categories of firms. It was found that capital expenditures and R&D expense significantly affect the uncertainty of future earnings young publicly traded firms (Yang 2014), although R&D expenses contribute more to the uncertainty of future earnings than the capital expenditures (Amir et al. 2007; Yang 2014).

Thus, it is expected that the increasing in current capital expenditures will be followed by the increasing of earnings volatility in the future. Therefore, the hypothesis alternatives will be formulated as follows

**H<sub>A1</sub> = capital expenditures positively affect the uncertainty of future earnings**

### ***Capital Expenditures, IOS, Uncertainty of Future Earnings***

Although the capital expenditures potential to contribute to the uncertainty of future earnings, it is the important decision that the firm has to make in order to keep the business sustain (Hansen and Mowen 2006). Moreover, firms are valued by its going concern and that value reflects the expectation of continued future investment (Myers 1977). So, the firm has to make an appropriate investment in order to keep its business running as well as to increase the firm value by maintaining its earnings. Investment Opportunity Sets (IOS) which is believed to provide a valuable opportunity for the firm to invest in profitable investments, is expected to help the firm attain that purpose. McGuire et al. (2014) stated that the firms with greater investment opportunities are likely to have investment options that will generate after-tax returns that meet or exceed the certain standard. Therefore, when the firm has high IOS, it has more chance to invest in the profitable investments. Those kinds of investments are low risk investments with less fluctuation return. Market expects that the high IOS firm will make the prospective investment that can maintain even increasing the value of the firm.

Therefore, market will show a positive respond if high IOS firm announces the increasing in the capital expenditures (Chung et al. 1998).

The scenario above will happen if the firm executes the valuable investment option. As, IOS only give an option that can be exercised or not by the firm (Kallapur 2001). Mcguire et al. (2014) reveal that greater investment opportunity set result in the lower probability that the firm will invest in the tax-shelter activities or other unprofitable investment. In the other word, there will be higher probability that firm will executes the opportunity. It is because the value that is provided by the profitable investment is higher than what the speculative investment (i.e. tax shelter) does. IOS also encourage firm to invest more because of the availability of those precious choices (Kallapur, 2001). If the firm invests more in the profitable investment, it will contribute lower future earnings volatility.

Consequently, the greater IOS encourage the firm to spend capital expenditures to the prospective investments which have lower risk, hence make the effect towards the uncertainty of future earnings decrease. So, the second hypothesis alternative will be stated below

**H<sub>A2</sub> = The higher IOS will mitigate the relationship between the capital expenditures and uncertainty of future earnings.**