International Journal of Economics and Management Research
POLITEKNIK PRATAMA PORWOKERTO
https://ijemr.politeknikpratama.ac.id/index.php/ijemr

E- ISSN : 2830-2508
P -ISSN : 2830-2664

FACTORS AFFECTING STOCK BETA IN LQ-45 COMPANIES FOR THE 2020-2021 PERIOD

Enny Istanti [1], Bramastyo Kusumo Negoro [2]
[1,2] Bhayangkara University Surabaya
Email : ennyistanti@gmail.com

Achmad Daengs GS
University 45 Surabaya
Email : adaengsgs@univ45sby.ac.id

Abstract

The purpose of this study is to provide empirical evidence of the effect of financial leverage, earnings per share (EPS) *and asset growth on beta stocks. Samples of this study are seven companies LQ45 index listed in Indonesian stock Exchange period 20 20 -20 2 1. The model used is multiple linear regression. The results show that asset growth has a significant effect on beta stocks, but financial leverage and earnings per share have no positive effect on beta stocks. While earnings per share have no significant effect on beta stocks and have a negative effect on beta stocks. The results in the study also show that financial leverage, earnings per share and asset growth have a significant effect on beta stocks simultaneously. The results have implications for prospective investors who want to invest in the stock market, especially in buying shares, should first consider asset growth factors because these factors prove to have a significant impact on stock beta.*

Keywords: *Financial Leverage, Earning Per Share (EPS), Asset Growth, Beta Stock, LQ4*

INTRODUCTION

The capital market is a market that is used for various kinds of long-term financial instruments (or securities) that can be traded, both in the form of debt and in the form of own capital. Besides that, the capital market is also a very important investment place for investors. Investors will invest their funds to obtain *returns in the* form of dividends and *capital gains* as well as obtaining ownership rights to the company.

Stocks are one form of dynamic long-term investment that is in great demand by investors. For investors this will be able to provide a high *return* . The higher the return of a stock, the more interested investors will be in investing their shares. Even so, stocks have a higher level of risk than other investment alternatives, such as bonds, deposits and savings. This is due to the expected income from investing in shares that are uncertain. For investors before making investment decisions, they must at least pay attention to two things, namely the *expected return* and the level of *risk* contained in alternative investments.

Received Februari 06, 2023; Revised Maret 01, 2023; Accepted April 01, 2023
* Enny Istanti, *ennyistanti@gmail.com*

Risks in investment can be divided into two, namely (1) *Unsystematic Risk* and *Systematic Risk.* Unsystematic risk is the risk caused by factors unique to securities that can be eliminated by diversification, this risk affects one (small group) of companies. These factors include: management capabilities, investment policies, working conditions and environment. Systematic *risk* is the risk caused by macro factors that cannot be eliminated by diversification. This risk affects all companies. These factors include: economic conditions, changes in interest rates, inflation, and tax policies (Suad.Husnan 2005:200). With the risks faced, investors need to do an analysis of stocks that are will be used as an alternative investment. One tool for measuring the systematic risk of a security or portfolio relative to market risk is beta (J.Hartono 2009:364). Beta itself can be measured by carrying out a regression test between two variables, namely excess market portfolio profit rate *(excess return of the market portfolio)* and excess return on a stock *(excess return of stock).* A stock with a beta of one means that the change in the profit level of a stock changes proportionally to changes in the market profit rate. Stocks with a beta of more than one are relatively more sensitive to market changes, while a beta of less than one is referred to as a defensive stock.

Research conducted by Christian Hery Masrendra, Kristyana Dananti, and Magdalena Nany (2010), found results that *Liquidity, Asset Growth,* and *Assets Size* were not significant and had a negative effect on beta. While *Financial Leverage* does not have a significant positive effect on beta. Simultaneously shows that *Financial Leverage, Liquidity, Asset Growth* and *Asset Size* simultaneously do not have a significant effect on beta. Bram Hadianto and Lauw Tjun Tjun (2009), examined the Effect of Operational Leverage, *Financial Leverage* , and Company Characteristics on Stock Systematic Risk: An Empirical Study of Mining Sector Issuers on the Indonesia Stock Exchange. The results state that *operating leverage, financial leverage* has no impact on systematic risk. Company characteristics positively impact on systematic risk. Lisa Kartikasari (2007), examines the Effect of Fundamental Variables on Systematic Risk in Manufacturing Companies Listed on the Jakarta Stock Exchange. Of the three independent variables, namely *operating leverage, financial leverage, size* and profitability that significantly affect Beta are *Operating Leverage, Size* and Profability. Ahim abdurahim (2003), researched the effect of sales growth, company size and *earnings per share* (EPS) on the beta of shares of consumption companies listed on the IDX for 2020-2021. Based on the results of this study indicate that sales growth and *earnings per share* has a significant influence on stock Beta. Meanwhile, company size does not have a significant effect on stock beta.

This research really needs to be done because it relates to the risks faced by investors when they are going to invest in the capital market, as well as explaining the factors that affect stock Beta. Therefore, based on the background above, the writer is interested in taking the title: **"FACTORS AFFECTING THE BETA OF STOCK IN LQ-45 COMPANIES FOR THE 2020-2021 PERIOD ".**

Referring to the background above, this study aims to determine: first, the effect of the variable *financial leverage, earnings per share* (EPS) and *Growth assets* on Beta shares simultaneously, the second is to know the effect of *financial leverage variables, earnings per share* (EPS) and *Growth assets* on Beta shares partially.

LITERATURE REVIEW

Investment is an action releasing funds now with the hope of being able to generate flows and future amounts that are greater than the funds released at the time of investment initial (*initial investment).* In terms of the certainty of certainty of obtaining profits, investments can be divided into risk *-free investments.* and risky *investment.* Risk - free investments are investments that will earn definite profits, such as purchasing bonds (*investment in* bonds*).* because investment in real assets has EBIT which can fluctuate, meaning it can be profitable and it can also be a loss. If it is profitable, the investor will enjoy the profit and if it loses, the investor is forced to bear the intended loss.

Stock Betas

According to (Jogiyanto Hartono 2009:362). Beta is a measure of the volatility *of* a security's *return or* portfolio return on market *returns*. The beta of the i-th security measures the *return volatility* of the i-th security with market *returns.* Portfolio beta measures the volatility of portfolio returns with *market returns*. Thus Beta is a measurement of systematic risk *(systematic risk)* of a security or portfolio relative to market risk. Beta of a security indicates risk systematically which cannot be eliminated due to diversification.

Meanwhile, the beta of a security can be calculated using estimation techniques that use historical data. Beta calculated using historical data can then be used to estimate future Beta. Historical beta can be calculated using historical data in the form of market data (securities returns and *market returns*), accounting data (company profits and market index profits) or fundamental data (using fundamental variables).

Financial Leverage

Financial leverage measures the amount of debt in a company's capital structure (Mamduh M Hariafi & Abdul Halim 2005:220). Total debt includes both current and long-term debt. Creditors have a lower debt ratio because the lower the ratio, the greater the protection against creditor losses in the event of liquidation. On the other hand, shareholders want greater *leverage because it can increase the expected profit. The higher the financial leverage* while the proportion of total assets does not change, the greater the debt. It can be said that the greater the level of *financial leverage* of the company, the higher the *financial risk.*

Earning Per Share (EPS)

EPS shows how much profit (*return)* is obtained by investors/common stockholders per share. *Earning Per Share* (EPS) is an indicator of what investors think, the greater the *Earning Per Share* (EPS) shows the company is able to provide high profits for investors. The higher the *return* on investment, the higher the risk borne by investors.

Asset Growth

Asset Growth shows the average growth in company wealth, asset growth can be calculated from the change in the company's total assets in a period (t) divided by the total assets in the previous period. Companies with high growth rates can be considered to have a high risk of beta, because companies with high growth rates must be able to provide sufficient capital to finance their growth.

The Effect of *Financial Leverage* on Stock Beta

Financial leverage shows the company's ability to pay debts using *equity* it has. In general *financial leverage* is the proportion of the use of debt by the company as its capital or shows how much the company's assets are financed with debt. *Financial leverage* the higher while the proportion of total assets does not change, the debt held will be even greater. It can be said that the greater the level of *financial leverage* of the company, the higher the *financial risk.* Based on the above arguments, the hypothesis is formulated as follows:

H $_1$: *Financial Leverage* significant effect on stock beta

Effect *of Earning Per Share* (EPS) Against Stock Beta

Profit rate per share *Earning Per Share* (EPS) shows the amount of profit that investors get in investing in a company that goes public on the IDX. *Earning Per Share* (EPS) is an indicator of what investors think. The bigger the *Earning Per Share* (EPS) shows the company is able to provide high profits for investors. As for *returns* The higher the investment, the higher the risk borne by investors. Based on the above arguments, the hypothesis is formulated as follows:

H 2 : *Earning Per Share* (EPS) has a significant effect on stock Beta

Effect *of Asset Growth* Against Stock Beta

Asset growth indicates the annual change of fixed assets. Companies with high growth rates can be considered to have a high risk of beta, because companies with high growth rates must be able to provide sufficient capital to finance their growth. *Asset growth* variable positively related to systematic risk because growing companies require a lot of capital. Based on argumentation above the hypothesis is formulated as follows:

H $_3$: *Asset Growth* significant effect on stock beta.

Research thinking framework This depicted in figure 1 .

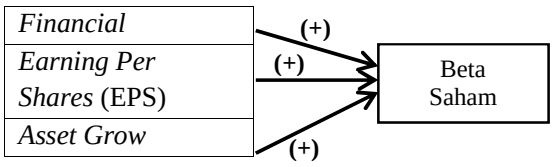

Figure 1
Framework

Companies that have competence in the fields of marketing, manufacturing and innovation can make it a resource to achieve competitive advantage (Daengs GS, et al. 2020: 1419).

The research design is a plan to determine the resources and data that will be used to be processed in order to answer the research question. (Asep Iwa Soemantri, 2020:5).

Time management skills can facilitate the implementation of the work and plans outlined. (Rina Dewi, et al. 2020:14)

Standard of the company demands regarding the results or outputs produced are intended to develop the company. (Istanti, Enny, 2021: 560).

When collecting data sources, researchers collect data sources in the form of raw data. The survey method is a primary data collection method using written questions (Kumala Dewi, Indri et all, 2022: 29).

Data analysis in the study was carried out through a descriptive analysis method, which is defined as an attempt to collect and compile data, then an analysis of the data is carried out, while the data collected is in the form of words. (Kasih Prihantoro, Budi Pramono et al, 2021: 198).

RESEARCH MET ODE

Research design

This study uses quantitative methods as a research approach. This quantitative method emphasizes testing theories through measuring research variables with numbers and conducting data analysis with statistical procedures. While the approach used is deductive which aims to test hypotheses through theory validation or theory application testing and uses hypotheses as guidelines or directions for selecting, collecting and analyzing data (Nurlndriantoro and Bambang Supomo 2002:23). Based on data sources, this research is classified as research that uses secondary data, where the research data sources are obtained indirectly which are generally in the form of evidence, notes, or historical reports that have been compiled in published and unpublished archives (Nur Indriantoro and Bambang Supomo 2002 :30).

Variable Identification

Based on the framework that has been prepared, the variables used as guidelines for discussion in this study are as follows:

Independent variable : *Financial Leverage*, *Earning Per Share* (EPS) and *Asset Growth* .

Dependent variable: Stock Beta

Operational Definition and Variable Measurement

The operational definition of this research is as follows:

Stock Betas

Beta is a measurement of *return volatility* a security or *return* portfolio against *returns* market. According to (Jogiyanto 2008: 361) Beta can be calculated based on the regression equation as follows:

$$R_i = \alpha_i + \beta_i . R_m + e_i \text{ .....(1)}$$

Financial Leverage

Financial Leverage is the ratio between total debt and total equity. *Financial Leverage* can be measured using the following formula:

$$Leverage = \frac{Total\ Hutang}{Total\ Aktiva} \text{.....(2)}$$

***Earning Per Share* (EPS)**

Earning Per Share (EPS) is a ratio that shows how much profit obtained _
investors/shareholders are biased per share. *Earning Per Share* (EPS) can be measured using the following formula:

$$EPS = \frac{EAT}{Jumlah\ Lembar\ Saham} \text{.....(3)}$$

Asset Growth

Asset Growth shows the average growth of company wealth, *asset growth* can be calculated from the change in total assets of the company in a period (t) divided by total assets in the previous period. *Asset Growth* can be measured using the following formula:

$$Asset\ Growth = \frac{Total\ Aktiva_{(t)} - Total\ Aktiva_{(t-1)}}{Total\ Aktiva_{(t-1)}}$$

Population, Sample and Sampling Technology

The population used in this study is LQ-45 companies during the 2020-2021 period. While the sampling technique in this study was to use *purposive sampling method.* The desired criteria are as follows:

Permanent companies that survive in LQ-45 for the 2020-2021 period, publish complete financial reports during the study period. And the Company does not do Stock Split.

ANALYSIS DATA AND DISCUSSION

Descriptive analysis

Financial Leverage

Based on table 1 it can be seen that the minimum value of the *financial leverage variable* is 9.15%. Bank Mandiri Indonesia had the lowest *financial leverage* in 2009. This was because during that period the company's total debt was relatively small compared to other companies, namely Rp. 32,789,674,000,000, while the total assets are IDR 358,438,678,000,000. The maximum value is 122.54%. The highest *financial leverage value* of the company was owned by Bank Mandiri Indonesia in 2012 with a total debt value of Rp. 635,618,708,000,000, while the total assets are Rp. 518,705,769,000,000. This is because the company is able to maximize debt with its assets optimally. The average value of financial *leverage* for all samples is 53.1493% and the standard deviation is 37.60429%.

Earning Per Share (EPS)

Earning Per Share measured by EAT (Net Income) divided by the number of shares. The minimum value of the *Earning Per Share variable* (EPS) is Rp. 13.7884 per share . The value of *earnings per share* (EPS) the lowest company owned by PT Gas Negara (2008) amounting to Rp 14 per share. This is because in that period the company's net profit (EAT) was relatively small, namely Rp. 633,359,683,713, while the value of the number of shares is 45,934,371,929. Maximum value of Rp.5524.2561 per share. The company's highest *earnings per share* (EPS) value is owned by PT Bank Mandiri Indonesia Tbk (2012) of IDR 5524 per share. This is because in that period the company's relatively large net profit (EAT) was Rp. 16,043,618,000,000, while the total value of shares is 23,333,333,332. The average value of *earnings per share* (EPS) for all samples is Rp. 786.542302 per share and standard the deviation is Rp. 1.1441564E3 per share.

Asset Growth

Asset growth measured by the total assets of the current year minus the total assets of the previous year divided by the total assets of the previous year. The minimum value of the *asset growth variable* is -100%. *Asset Growth* Value the lowest company owned by PT Gas Negara (2012) amounted to -1.00 %. This is due to the period That is the current year's total assets owned by company relatively small is Rp. 3,908,162,419. The maximum value is 53.47%. The highest company value is owned by PT Bukit Asam (2008) of 53.5%. This is because in that period the current year's total assets owned by company relatively big is Rp. 6,106,828,000,000 The average value of *asset growth* the entire sample is 11.1842 % and the standard deviation is 23.47982%.

Stock Betas

Beta is a measurement of *return* volatility a security or *return* portfolio against *returns* market. According to (Jogiyanto 2008: 361). The minimum • value of the Beta variable is 0.0530 which is owned by PT Indonesian Telecommunications. This indicates that the company's stock can be classified as *defensive stock.* The maximum Beta value is 2.2210 which is owned by Bank Mandiri Tbk. This indicates that the company's stock can be classified as an *aggressive stock*

Testing the Classical Assumptions of *Data Normality Test*

This test is used to test whether the independent variables consisting of *Financial Leverage, Earning Per Share* (EPS), and *Asset Growth* are normally distributed. From the results of the Normality test it shows that *Asymp sig* > 0.05 so it can be concluded that the regression model is normally distributed.

Autocorrelation Test

The test results show that overall it is known that the Durbin-Watson (WD) value is 2.407 where the value lies on the boundary between du and 4-du, namely 2.435 < 1.21 or 2.435 > 2.79 autocorrelation occurs. So from these results it can be concluded that the regression model indicates the presence of autocorrelation or the autocorrelation-free assumption in the model is not met

Multicollinearity Test

The test results taking into account the VIF value are all less than 10. Thus it can be concluded that the regression model does not indicate the presence of multicollinearity or the non-multicollinearity assumptions are met.

Heteroscedasticity Test

Results for all independent variables has a significant value above the level 5% confidence (0.05) so it can concluded that it did not happen heteroscedasticity.

Hypothesis testing

Based on the estimated value of the regression coefficient, the multiple linear regression equation model obtained is as follows:

$Y = 0.819 + 0.297 (X,) - 1.417E\text{-}5 (X_2) + 0.991 (X_3) + e$

it can be seen that F_{count} is 3.126 greater than $F_{table\ l}$ which is only worth 2.8742. From the results of this test it can be concluded that Ho is rejected, which means the *Financial leverage, Earning Per Share* (EPS) and *Asset Growth Variables* simultaneously affect the stock Beta. When seen from the results of the $R^{2\ value}$ of 0.482 with the *Standard Error Estimate* (SEE) of 0.4983914 which means that 48.2% of Beta can be explained by the three independent variables , namely *financial leverage, earnings per share* (EPS) and *asset growth* while the

remaining (100% - 48.2%) = 51.8% is explained by other variables not included in the regression model.

Based on table 2 above, the results of the t test can be explained that the significance level is 0.202 *{Financial Leverage),* 0.851 *{Earning Per Share)* and 0.011 *(Asset Growth).* This can be explained that partially the *Earning Per Share* (EPS) variable has a non-significant negative effect on stock Beta, the *Financial Leverage variable* has an insignificant positive effect, while the *Asset Growth variable* has a significant positive effect on stock Beta. When viewed from the value of r^2 it can be seen that the contribution of the largest independent variable to the dependent variable is the *asset growth variable. Asset growth* variable has a contribution to the Beta variable of $0.439^2 = 0.192721$ or 19.2721%.

The results of simultaneous multiple regression analysis (F test) show that the variables *Financial Leverage* (X_1), *Earning Per Share* (EPS) (X_2) and *Asset Growth* (X_3) on stock Beta (Y). This means that this variable can measure market *returns* and is a measure of *systematic risk* of a security or portfolio relative to market risk. From the description above, it can be said that the influence of fundamental analysis as measured by *financial leverage, earnings per share* (EPS) and *asset growth* on Beta simultaneously can be proven in this study. The test results obtained by researchers on the influence hypothesis (simultaneous) support the findings on the research of Ahim Abdurahim (2003) who found the effect of sales growth, company size and *earnings per share* (EPS) on stock beta, in this study the results obtained that simultaneously had a significant effect on Betas.

Financial Leverage in theory has a positive effect on stock Beta, but in this study Financial Leverage has a positive but not significant effect. This means that it can be said that the greater the level of *financial leverage* of a company, the higher the *financial risk.* From From the description above, it can be said that *financial leverage* partially has no effect on stock Beta. The test results obtained by researchers on the partial influence hypothesis support the findings of Bram Hadiannto and Lauw Tjun Tjun's research (2009) which found results that financial *leverage* did not have a significant effect on stock beta.

Earning Per Share (EPS) in theory has a positive influence on stock Beta. As for this study, *Earning Per Share* (EPS) has no significant negative effect. This shows that an increase in *Earning Per Share* (EPS) will actually reduce the company's risk. From the description above, it can be said that *Earning Per Share* (EPS) partially does not have a significant effect on stock Beta. The test results obtained by researchers on the partial effect hypothesis do not support the findings of Ahim Abdurahim's research (2003) which found results that *Earning Per Share* (EPS) has a significant effect on stock Beta.

Asset growth in theory has a significant influence on stock Beta. As for this research, *Asset Growth* has a significant positive effect on stock Beta. This means that an increase in asset growth will increase the company's risk. From the description above, it can be said that *Asset growth* partially has a significant influence on stock Beta. The test results obtained by researchers on the partial effect hypothesis do not support the findings of Christian *et al* (2010) research results that *Assets Growth* has no significant effect on stock Beta

CONCLUSION LAN

This study aims to determine the effect of *Financial Leverage, Earning Per Share* (EPS) and *Asset Growth* against the Beta of the stock. Based on the results of the analysis both descriptively and statistically, the following conclusions can be obtained from this study: first, *Financial Leverage, Earning Per Share* (EPS) and *Asset Growth* simultaneously has a significant influence on stock beta in companies that survive at LQ45 on the IDX. Both *financial leverage, earnings per share* (EPS) and *asset growth* partially have a significant influence on the stock beta of companies that survive at LQ-45 on the IDX.

As for this research, there are several things that become limitations, including (1) there are many fundamental factors that influence the stock beta that are not considered in this study (2) the limited number of samples is thought to greatly influence the results of the study (3) the number of R squares small by 25.5 percent, while the remaining 74.5 percent of stock beta is influenced by variables that are not included in this research model (4) This study includes banks as one of the research samples. Because banks have financial characteristics that are different from other industries (5) there is heteroscedasticity in *asset growth* data *(6)* The sampling technique only limits companies with *stock splits.* Because *of corporate actions* not just *stock splits* Of course it can also be in the form of *stock dividends, stock reverse* and so on.

The researcher realizes that there are some limitations in this study, so the researcher can put forward some suggestions that can be used for all parties, especially for those who will conduct similar research, including (1) Future research is expected to expand the research sample (2) Future research Suggested to add research variables such as, Company Size, Liquidity so that you can find out R^2 *square* increases or gives better results (3) Future research is also suggested to issue a sample of banking companies,

because there are differences in characteristics with manufacturing companies (4) For prospective investors who want to invest in the capital market, especially in buying shares, they should consider the *Asset Growth* factor because this factor is proven to have a significant influence on stock Beta (5) Sample criteria should be limited to companies that do not carry out *corporate actions* that affect the change in stock.

REFERENCES

Ahim Abdurahim, 2003. "The Effect of Current Ratio, Asset Size and Earnings Variability on Market Beta ". *Journal of Accounting and Investment, Vol 4 Number 2. Pages 1-12*

Bram Hadianto and Lauw Tjun Tjun, 2009. "Effect *of Leverage* Operations, *Leverage* Finance, and Characteristics Companies against Stock Systematic Risk: Empirical Studies on Mining Sector Issuers in Indonesia stock exchange". *Journal of Accounting Vol. 1 No. 1. Pgs 1-16.*

Christian Hery Masrendra, Kristy an a Dananti and Magdalena Nany, 2010 "analysis of the effect of *financial leverage, liquidity, asset growth* and *asset size* against *betas* LQ 45 shares on the Jakarta Stock Exchange. *Journal Economic Perspective, Volume 3. Number 2. Pages 121-127.*

Daengs, GSA, Istanti, E., Negoro, RMBK, & Sanusi, R. (2020). The Aftermath of Management Action on Competitive Advantage Through Process Attributes at Food and Beverage Industries Export Import in Perak Harbor of Surabaya. *International Journal Of Criminology and Sociology , 9* , 1418–1425.

Enny Istanti1), Bramastyo Kusumo2), IN (2020). PRICE IMPLEMENTATION, QUALITY SERVICE AND REPEAT PURCHASE ON SALES OF GAMIS PRODUCTS AFIFATHIN. *Economics 45 , 8* (1), 1–10.

Iwa Soemantri, Asep et al. 2020. Entrepreneurship Orientation Strategy, Market Orientation And Its Effect On Business Performance In MSMEs. Journal of EKSPEKTRA Unitomo Vol. IV No. 1, p. 1-10.

Jogiyanto, Hartono. 2009. *Portfolio Theory* and *Investment Content Analysis*, Third Edition: BPFE Yogyakarta.

Kumala Dewi, Indri et al, 2022 Improving MSME Performance Through Financial Management, Journals Accounting Economics, UNTAG Surabaya, Hal ; 23- 36

Kartikasari, "The Influence of Fundamental Variables on Systematic Risk in Manufacturing Companies registered on the BEJ *Journal of Accounting and Management Volume XVIII* no. Pages 1-8

Mamduh M Hanafi & Abdul Halim 2005. *Analysis of Financial Statements*. Fourth Edition: UPP AMP YKPN. Yogyakarta.

Nur Indrianto and Bambang Supomo, 2002. Business Research Methods for Accounting and Management; BPFE Yogyakarta.

Prihantoro, Kasih, Pramono, Budi et all. 2021. *Tourism Village Government Program, Actized By State Defense As The Economic Foundation Of National Defense* , International Journal of Research and Innovation in Social Science (IJRISS), Vol. V, Issue V, Page 197-2001.

Rina Dewi, et al. 2020. Internal Factor Effects In Forming The Success Of Small Businesses. Journal UNITOMO SYNERGY, Vol. 10 No. 1, p. 13-21.

Suad, Husnan. 2005. Fundamentals of Portfolio Theory and Securities Analysis Fourth Edition: UPP STIM YKPN. Yogyakarta.