Determinand of capital structure and influence on Value of the firm to the industry sector consumption goods

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Abstract

This study aims to determine the factors that influence the value of the firm. The research data is data panel that there were 26 cross section (category of consumption industry company) with the same *time series* / balanced (annually starting in 2009-2013) that is 5 periods (years).
This study was measured by analysis method is regression of Fixed effect model and weighing cross section weight.
The results of the research are ; (1) Determinants of capital structure which consists of : sales growth, profitability, liquidity, firm age, influence the value of the firm, measurable : assets structure, business risk and ability variable to time interest earned that does not influence the value of the firm, (2) Capital structure influence the value of the firm, (3) Determinants of capital structure that consists of: sales growth, asset structure, profitability, liquidity, business risk, time interest earned, firm age and its assets structure have influence the value of firm together.

Keyword - Value of the firm, Determinants of capital structure, Capital structure.

1.Introduction

An increasingly global business creates harsh intercompany competition. Companies are required to have a competitive advantage in technology, product results, competent human resources, networking, the capital adequacy, global market share and related to the currency exchange rate. Therefore, the company is trying to increase the value of the company by hoping to increase sustainability.
Value of the firm can be increased, if the chief finance office is able to take decisions related to company's operations, that is funding decision, where a good funding decision of a company can be seen from assets structure, that is finance decision in relation to debt composition, both short-term debt and long-term debt, preferred and common stock that will be used. Based on the philosophy of pecking order theory, sequence of funding which is recommended or desired by company, the first is retained earnings, the second is debt funding and the third is issuance of new equity (Darminto, Manurung, 2010).

2.Literature Review

Capital Structure
According to Manurung (2011), capital structure theory originated from research Donaldson (1952) which disseminates information corporate financing. The study does not convey the theory of capital structure of the company, but it has delivered a variety of information about the capital structure of companies such as determinants of optimal capital structure and capital structure. Miller and Modigliani (1958) put forward the theory that the company's capital structure has no influence on the value of the firm is often called irrelevant theory of capital structure. As a result, the discussion of financial theory based solely on the three issues are irrelevant theory proposed by Miller and Modligiani (1958); determinants of optimal capital structure and capital structure.

Sales Growth
According to research Um (2001) in Murhadi (2011), stating that the company is growing under pressure to finance investment opportunities that exceed retained earnings are there, so appropriate "pecking order" so companies prefer to use debt rather than equity.

Activa Structure
The higher the activa structure, the higher the capital structure, means the greater the assets that can be used as collateral payable by the company. Conversely, the lower the asset structure of an enterprise, the lower the ability of the companies to be able to guarantee mortgage loans by the company. (Liwang, 2011).
Profitability
Profitability describes the higher profits, that means the lower external financing needs (debt), so the lower the capital structure, (Liwang 2011). According to Sinthayani (2015), the company would prefer internal financing than external funding when the company needs funds for investment purposes, the more profitable a company, the higher the company's ability to fund their investment needs from internal sources such as etained earnings.

Liquidity
According to Ilyas and Triyono (2009), stated, liquidity is the company's ability to pay obligations that must be met, obligations that must be met is short-term debt. Liquidity is the ratio between current asset to current liabilities of the company, the higher the liquidity of the company, the better the company's ability to fulfill its short term obligations, good liquidity ratio makes a guarantee for investors to invest in these companies thereby affecting the company's capital structure. Companies must optimize the use of liquid assets in the company by investing in profitable, so as to enhance shareholder value.

Business Risk
According to Gitman (2009) in Seftianne and Handayani (2011), business risk is the risk of the company when the company is not able to cover its operating costs and is influenced by the stability of income and expenses. Companies with high business risks tend to avoid using debt financing compared with companies with lower business risk. World of investment identifies business risks as part of the risk premium, which is defined as the uncertainty of the revenue stream due to the nature of the business itself such as product, customer and how to produce their products. Companies with highly fluctuating cash flow will be aware of the use of risky debt will be less profitable than equities, so companies are forced to use the equity to fulfill its financing in order to avoid financial distress, so that the business risk has an influence on the capital structure.

Time Interest Earned
Research Baral (2004), in Friska, (2011), *time interest earned* indicates the company's ability to pay interest on the loan to the creditor by using operating income. Ability is affecting the confidence of creditors against the company. According to Baral, (2004) in Friska (2011), stated, the higher the company's ability to pay interest on the loan, the higher the capacity of the company's debts.

Firm age
Research Bhaduri (2002) in Farah and Aditya, (2010), described *age firm* is one of the factors affecting capital structure, small companies which are relatively young age will use a smaller debt compared to equity as capital structure. According to Ramlall (2009) in Farah and Aditya, (2010), the company which is older age will use a smaller debt, because large companies are relatively old age can manage your cash flow better than younger companies.

3. Methodology

3.1 Sample and data

The population in this study is 26 companies of consumption goods industry sector listed in Indonesia Stock Exchange. samples are taken with random sampling method with the type of sampling Judgement. The data use are secondary data from the company's annual financial statemen for 2009-2013. The independent variabel is sales growth (GRS), asset structure (SAK),profitability(PRO),liquidity(LIQ), business risk (RIB) time interest earned (TIE). firm age (AFI, Capital structure (SAK) whili the dependent variable Value of the firm (NIP).

3.2 Methode of Analysis

This study was measured by analysis method is regression of Fixed effect model and weighing cross section weight.The best models obtained from Chow and Hausman test after an election models, are : Common effect, fixed effect and random effect are the Fixed Effects Modes,
l thus Regression analysis is the Best Fixed effect model with cross section weighing weight.

Model Regression.

To determine the variables that significantly affect regional economic growth panel data regression analysis was used with functions that can be written as follows:

$$LNNIP_{i,t} = -1{,}6242 - 0{,}0036GRS_{i,t} - 0{,}0082SAK_{i,t}^{*} + 0{,}0628PRO_{i,t} - 0{,}0976LNLIQ_{i,t} - 0{,}0005RIB_{i,t}^{*} + 0{,}00001TIE_{i,t}^{*} + 0{,}9398LNAFI_{i,t} + 0{,}0001STM_{i,t} + \varepsilon_{i,t}$$

*Variable LIQ, AFI and NIP transformed into natural logarithm into LNLIQ, LNAFI and LNNIP, so that the range value is not much different from the value of the other variables and interpretation model into growth in units per cent.

Explanation :

α = constanta

$LNNIP_{i,t}$= Value of the firm of the consumption goods *i* in year *t*

$GRS_{i,t}$= Growth of Sale or sales growth of the consumption goods *i* in year *t*

$SAK_{i,t}$= Asset structure in the consumption goods *i* in year *t*

$PRO_{i,t}$=Profitability in the consumption goods *i* in year *t*

$LNLIQ_{i,t}$= Liquidity growth in the consumption goods *i* in year *t*

$RIB_{i,t}$= Business risks in the consumption *i* in year *t*

$TIE_{i,t}$= Time Interest Earned of the consumption goods *i* in year *t*

$LNAFI_{i,t}$=Age firm of consumption goods *i* in year *t*

$STM_{i,t}$= Capital Structure of firm *i* in year *t*

4.Findings and Discussion

Tabel.1 Regression Results

Variable	Coefficient	Std.Error	t-Statistik	Prob.
C	**-1.624186**	**0.770359**	**-2.108350**	**0.0376**
GRS?	**-0.003559**	**0.001467**	**-2.426206**	**0.0171**
SAK?	**-0.008235**	**0.005809**	**-1.417589**	**0.1595**
PRO?	**0.062786**	**0.018787**	**3.342001**	**0.0012**
LNLIQ?	**-0.097645**	**0.046846**	**-2.084399**	**0.0398**
RIB?	**-0.000455**	**0.000294**	**-1.545287**	**0.1256**
TIE?	**8.55E-06**	**6.76E-06**	**1.264516**	**0.2091**
STM?	**9.88E-05**	**5.78E-05**	**1.707999**	**0.0909**
LNAFI?	**0.939799**	**0.242921**	**3.868737**	**0.0002**

Tabel.2 Regression Results

Weighted Statistics			
R-squared	**0.962561**	**Mean dependent var**	**1.091841**
Adjusted R-squared	**0.949691**	**S.D. dependent var**	**1.677971**
S.E. of regression	**0.431345**	**Sum squared resid**	**17.86163**
F-statistic	**74.79300**	**Durbin-Watson stat**	**2.040266**
Prob(F-statistic)	**0.000000**		

The result that presented regression in Tabel.1 and Tabel.2

4.1.The influence of sales growth to value of the firm.

Based on table-1, we are able to know the probability is smaller than the value Alpa 10%, is 0.0171 so that Ho is refused and Ha is received, means sales growth partially influence (positive and significant) to value of the firm.

4.2.The influence of asset structure to value of the firm.

Based on table-1, we are able to know the probability is greater than the value of Alpa 10%, which is 0.1595, so Ho is accepted and Ha is rejected, means the asset structure partially no influence on value of the firm. The results showed the high level of the value of the assets of the company will increase, due to the increase in assets occurred because the purchase will require no-small amount so that the company requires additional capital, the presence of these needs can be responded positively by investors and lenders to be able to provide the funds needed by the company if funds are optimized in its use will affect the company's value of the firm and vice versa.

4.3.The Influencce of profitability to value of the firm

Based on table-1, it can be seen probability value smaller than the value Alpa 10%, which is 0.0012, so Ho is rejected and Ha is accepted, means profitability is partially positive and significant influence on value of the firm.

4.4.The Influence of liquidity to value of the firm

Based on table-1, it can be seen probability value smaller than the value Alpa 10%, is 0.03398, so that Ho is refused and Ha is accepted, means profitability is partially positive and significant influence on value of the firm.

4.5.The Influence of business risk to value of the firm.

Based on table-1, we are able to know the probability is greater than the value of Alpa 10%, which is 0.1256, so Ho is accepted and Ha is rejected, means the business risk (risk businees) partially no influence on value of the firm.

4.6.The influence of time interest earned to value of the firm

Based on table-1, we are able to know the probability is greater than the value of Alpa 10%, which is 0.2091, so Ho is accepted and Ha is rejected, it means the ability to time interest earned partially no influence on value of the firm.

4.7.The influence of firm age to value of the firm

Based on table-1, it can be seen probability value smaller than the value Alpa 10%, which is 0.0002, so Ho is rejected and Ha is accepted, meaning that the influence of firm age partially influence the value of the firm.

4.8.The influence of capital structure to the Value of the firm

Based on table-1, it can be seen probability value smaller than the value Alpa 10%, which is 0.0909, so Ho is rejected and Ha is accepted, means capital structure partially affects the value of the firm, This is because the use of optimizing the company's capital structure will affect the company's value of the firm and vice versa.

4.9.The influence of the determinants of capital structure, capital structure to the value of the firm.

Based on table-2, the results of simultaneous test (Test-F) of 0.0000 is smaller than the probability Aplha 10%, so it statistically significantly affects the company's value (value of the firm). Fixed Effect model estimation results with Weight cross section shows that the coefficient of determination (R2) Adjusted R2 is very high at 0.949691.

Determinants of capital structure consisting of: variable growth of sales, variable activa assets structure, profitability, liquidity), business risk, time interest earned, firm age) capital structure have a positive relationship together is 94.97%, of the firm. while the remaining is 5.03% explained by other variables outside the model or residual.

5. Conclusion

After the study, the researchers can conclude the following:

5.1. Determinants of capital structure consisting of: variable sales growth,profitability, variable liquidity, age firm, influence the value of the firm, and : the variable of asset structure, business risk and a variable interest earned time had no influence on firm value of the firm. The high-level asset structure does not influence the value of the firm, when the use of funds is not optimal, due to the increase in assets occurred because the purchase will require no-small amount so that the company requires additional capital, the presence of these needs can be responded positively by investors and lenders to be able to provide the funds needed by the company if the funds are not optimized in its use, so that it will not influence the company's value of the firm and vice versa. Business risk does not influence the value of the firm, because the company's business risk is not one of financial factors to consider when going to invest in the stock exchange. The ability to time interest earned does not influence the value of the firm, the size of the company paying the interest of the loan does not change the value of the capital. If the company has been able to pay the interest obligations, then the organization will be trusted by the community and will enhance shareholder value of the firm and vice versa.

5.2. Determinants of capital structure consisting of: variable sales growth,profitability, variable liquidity, age firm, influence the value of the firm, and : the variable of asset structure, business risk and a variable interest earned time had no influence on firm value of the firm. The high-level asset structure does not influence the value of the firm, when the use of funds is not optimal, due to the increase in assets occurred because the purchase will require no-small amount so that the company requires additional capital, the presence of these needs can be responded positively by investors and lenders to be able to provide the funds needed by the company if the funds are not optimized in its use, so that it will not influence the company's value of the firm and vice versa. Business risk does not influence the value of the firm, because the company's business risk is not one of financial factors to consider when going to invest in the stock exchange. The ability to time interest earned does not influence the value of the firm, the size of the company paying the interest of the loan does not change the value of the capital. If the company has been able to pay the interest obligations, then the organization will be trusted by the community and will enhance shareholder value of the firm and vice versa.

5.3. Capital structure influence on value of the firm, because the high or low capital structure depends on confidence by investors and the public in terms of optimizing the use of debt to boost the stock price and value of the firm.

5.4. Determinants of capital structure consisting of: variable growth of sales, asset structure, profitability, liquidity, business risk , time interest earned, age of the firm and capital structure have an influence together on value of the firm.

6.Recomemmendation

6.1. In a funding decision is that the capital structure must consider the impact on the value of the firm, it is important for companies to know whether the optimal source of funds comes from internal or external.

6.2. Determinants of capital structure consisting of: variable sales growth,profitability, liquidity, firm age, influence to value of the firm, therefore the company should considering the operational cost efficiency and optimization of the use of funds so that the benefit can be expected of shareholders, so the stock price avalue of the firm will rise.
6.3. Determinants of Capital Structure comprising: a variable activa structure, business risk and time interest earned had no influence on value of the firm, hence the need for operational performance and good financial management to maintain the company's performance in order to increase profits and value of the firm.
6.4. Determinants of capital structure and capital structure, providing a positive and significant influence on value of the firm, so companies must optimize it with or near-equal and comprehensive, the determinant of capital structure and capital structure as well as possible.

7.Limitation

This research limitation, further studies are expected to use a large sample size and more variables that can influence the capital structure and its implications for the value of the firm, so as to show the reaction of capital markets thoroughly. This study is only the consumption goods industry sector, with these limitations, realize that there is not a perfect study, so we need to carry next research with such feedback that can provide better results from this study.

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UJI STASIONERITAS DATA

- **Variabel GRS**

Pool unit root test: Summary
Series: GRS_ADES, GRS_AISA, GRS_DLTA, GRS_INDF, GRS_MLBI, GRS_MYOR, GRS_SKLT, GRS_ULTJ, GRS_GGRM, GRS_HMSP, GRS_RMBA, GRS_DVLA, GRS_INAF, GRS_KAEF, GRS_KLBF, GRS_MERCK, GRS_PYFA, GRS_SCPI, GRS_TSPC, GRS_MBTO, GRS_MRAT, GRS_TCID, GRS_UNVR, GRS_ROTI, GRS_KDSI, GRS_KICI
Date: 04/27/16 Time: 13:06
Sample: 2009 2013
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-41.3002	0.0000	26	104
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-7.39487	0.0000	26	104
ADF - Fisher Chi-square	90.8683	0.0007	26	104
PP - Fisher Chi-square	102.450	0.0000	26	104

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

- **Variabel SAK**

Pool unit root test: Summary
Series: SAK_ADES, SAK_AISA, SAK_DLTA, SAK_INDF, SAK_MLBI, SAK_MYOR, SAK_SKLT, SAK_ULTJ, SAK_GGRM, SAK_HMSP, SAK_RMBA, SAK_DVLA, SAK_INAF, SAK_KAEF, SAK_KLBF, SAK_MERCK, SAK_PYFA, SAK_SCPI, SAK_TSPC, SAK_MBTO, SAK_MRAT, SAK_TCID, SAK_UNVR, SAK_ROTI, SAK_KDSI, SAK_KICI
Date: 04/27/16 Time: 13:07
Sample: 2009 2013
Exogenous variables: None
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.19430	0.0000	26	104

Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	70.4010	0.0455	26	104
PP - Fisher Chi-square	83.4296	0.0037	26	104

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

- **Variabel PRO?**

Pool unit root test: Summary
Series: PRO_ADES, PRO_AISA, PRO_DLTA, PRO_INDF, PRO_MLBI, PRO_MYOR, PRO_SKLT, PRO_ULTJ, PRO_GGRM, PRO_HMSP, PRO_RMBA, PRO_DVLA, PRO_INAF, PRO_KAEF, PRO_KLBF, PRO_MERCK, PRO_PYFA, PRO_SCPI, PRO_TSPC, PRO_MBTO, PRO_MRAT, PRO_TCID, PRO_UNVR, PRO_ROTI, PRO_KDSI, PRO_KICI
Date: 04/27/16 Time: 13:09
Sample: 2009 2013
Exogenous variables: Individual effects, individual linear trends
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-28.7685	0.0000	26	104
Breitung t-stat	2.71550	0.9967	26	78
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.56359	0.0590	26	104
ADF - Fisher Chi-square	57.9070	0.2665	26	104
PP - Fisher Chi-square	96.6344	0.0002	26	104

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

- **Variabel LNLIQ?**

Pool unit root test: Summary
Series: LNLIQ_ADES, LNLIQ_AISA, LNLIQ_DLTA, LNLIQ_INDF, LNLIQ_MLBI, LNLIQ_MYOR, LNLIQ_SKLT, LNLIQ_ULTJ, LNLIQ_GGRM, LNLIQ_HMSP, LNLIQ_RMBA, LNLIQ_DVLA, LNLIQ_INAF, LNLIQ_KAEF, LNLIQ_KLBF, LNLIQ_MERCK, LNLIQ_PYFA, LNLIQ_SCPI, LNLIQ_TSPC, LNLIQ_MBTO, LNLIQ_MRAT, LNLIQ_TCID, LNLIQ_UNVR, LNLIQ_ROTI, LNLIQ_KDSI, LNLIQ_KICI
Date: 04/26/16 Time: 14:47
Sample: 2009 2013
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0

Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-10.6504	0.0000	26	104
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.11690	0.0009	26	104
ADF - Fisher Chi-square	74.1530	0.0235	26	104
PP - Fisher Chi-square	83.9022	0.0033	26	104

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

- **Variabel RIB?**

Pool unit root test: Summary
Series: RIB_ADES, RIB_AISA, RIB_DLTA, RIB_INDF, RIB_MLBI, RIB_MYOR, RIB_SKLT, RIB_ULTJ, RIB_GGRM, RIB_HMSP, RIB_RMBA, RIB_DVLA, RIB_INAF, RIB_KAEF, RIB_KLBF, RIB_MERCK, RIB_PYFA, RIB_SCPI, RIB_TSPC, RIB_MBTO, RIB_MRAT, RIB_TCID, RIB_UNVR, RIB_ROTI, RIB_KDSI, RIB_KICI
Date: 04/27/16 Time: 13:13
Sample: 2009 2013
Exogenous variables: None
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.71787	0.0000	26	104
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	92.7267	0.0004	26	104
PP - Fisher Chi-square	95.2690	0.0002	26	104

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

- **Variabel TIE?**

Pool unit root test: Summary
Series: TIE_ADES, TIE_AISA, TIE_DLTA, TIE_INDF, TIE_MLBI, TIE_MYOR, TIE_SKLT, TIE_ULTJ, TIE_GGRM, TIE_HMSP, TIE_RMBA, TIE_DVLA, TIE_INAF, TIE_KAEF, TIE_KLBF, TIE_MERCK, TIE_PYFA, TIE_SCPI, TIE_TSPC, TIE_MBTO, TIE_MRAT, TIE_TCID, TIE_UNVR, TIE_ROTI, TIE_KDSI, TIE_KICI
Date: 04/27/16 Time: 13:14
Sample: 2009 2013
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-24.8418	0.0000	26	104
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.01713	0.0000	26	104
ADF - Fisher Chi-square	78.0257	0.0112	26	104
PP - Fisher Chi-square	85.9902	0.0021	26	104

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

- **Variabel LNAFI?**

Pool unit root test: Summary
Series: LNAFI_ADES, LNAFI_AISA, LNAFI_DLTA, LNAFI_INDF, LNAFI_MLBI, LNAFI_MYOR, LNAFI_SKLT, LNAFI_ULTJ, LNAFI_GGRM, LNAFI_HMSP, LNAFI_RMBA, LNAFI_DVLA, LNAFI_INAF, LNAFI_KAEF, LNAFI_KLBF, LNAFI_MERCK, LNAFI_PYFA, LNAFI_SCPI, LNAFI_TSPC, LNAFI_MBTO, LNAFI_MRAT, LNAFI_TCID, LNAFI_UNVR, LNAFI_ROTI, LNAFI_KDSI, LNAFI_KICI
Date: 04/26/16 Time: 15:25
Sample: 2009 2013
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-43.7450	0.0000	26	104
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-202.103	0.0000	26	104

ADF - Fisher Chi-square	489.319	0.0000	26	104
PP - Fisher Chi-square	484.353	0.0000	26	104

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

- **Variabel STM?**

Pool unit root test: Summary
Series: STM_ADES, STM_AISA, STM_DLTA, STM_INDF, STM_MLBI, STM_MYOR, STM_SKLT, STM_ULTJ, STM_GGRM, STM_HMSP, STM_RMBA, STM_DVLA, STM_INAF, STM_KAEF, STM_KLBF, STM_MERCK, STM_PYFA, STM_SCPI, STM_TSPC, STM_MBTO, STM_MRAT, STM_TCID, STM_UNVR, STM_ROTI, STM_KDSI, STM_KICI
Date: 04/27/16 Time: 13:15
Sample: 2009 2013
Exogenous variables: Individual effects, individual linear trends
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-16.7802	0.0000	26	104
Breitung t-stat	5.52777	1.0000	26	78
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-9.46120	0.0000	26	104
ADF - Fisher Chi-square	70.3045	0.0462	26	104
PP - Fisher Chi-square	100.376	0.0001	26	104

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

- **Variabel LNNIP?**

Pool unit root test: Summary
Series: LNNIP_ADES, LNNIP_AISA, LNNIP_DLTA, LNNIP_INDF, LNNIP_MLBI, LNNIP_MYOR, LNNIP_SKLT, LNNIP_ULTJ, LNNIP_GGRM, LNNIP_HMSP, LNNIP_RMBA, LNNIP_DVLA, LNNIP_INAF, LNNIP_KAEF, LNNIP_KLBF, LNNIP_MERCK, LNNIP_PYFA, LNNIP_SCPI, LNNIP_TSPC, LNNIP_MBTO, LNNIP_MRAT, LNNIP_TCID, LNNIP_UNVR, LNNIP_ROTI, LNNIP_KDSI, LNNIP_KICI
Date: 04/27/16 Time: 13:15
Sample: 2009 2013
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0

Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-14.9575	0.0000	26	104
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-4.15184	0.0000	26	104
ADF - Fisher Chi-square	82.2353	0.0048	26	104
PP - Fisher Chi-square	106.357	0.0000	26	104

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

A	B	C	D	E	F	G	H	I
				Correlations				
		GRS	SAK	PRO	LNLIQ	RIB	TIE	STM
GRS	Pearson C	1	0.257573	0.243288	-0.11775	0.078187	0.084117	0.05415
	Sig. (2-tailed)		0.003091	0.005285	0.182134	0.376582	0.34135	0.540609
	N	130	130	130	130	130	130	130
SAK	Pearson C	0.257573	1	-0.00762	-0.44095	0.116011	-0.20067	-0.06016
	Sig. (2-taile	0.003091		0.93144	1.52E-07	0.188714	0.022066	0.496546
	N	130	130	130	130	130	130	130
PRO	Pearson C	0.243288	-0.00762	1	-0.10605	0.046174	0.671228	-0.2101
	Sig. (2-taile	0.005285	0.93144		0.2298	0.601906	2.36E-18	0.016431
	N	130	130	130	130	130	130	130
LNLIQ	Pearson C	-0.11775	-0.44095	-0.10605	1	-0.14462	0.020828	-0.06061
	Sig. (2-taile	0.182134	1.52E-07	0.2298		0.100672	0.814051	0.493313
	N	130	130	130	130	130	130	130
RIB	Pearson C	0.078187	0.116011	0.046174	-0.14462	1	-0.1613	0.013504
	Sig. (2-taile	0.376582	0.188714	0.601906	0.100672		0.066743	0.8788
	N	130	130	130	130	130	130	130
TIE	Pearson C	0.084117	-0.20067	0.671228	0.020828	-0.1613	1	-0.07853
	Sig. (2-taile	0.34135	0.022066	2.36E-18	0.814051	0.066743		0.374461
	N	130	130	130	130	130	130	130
STM	Pearson C	0.05415	-0.06016	-0.2101	-0.06061	0.013504	-0.07853	1
	Sig. (2-taile	0.540609	0.496546	0.016431	0.493313	0.8788	0.374461	
	N	130	130	130	130	130	130	130
LNAFI	Pearson C	0.039947	-0.21138	0.407306	0.07601	-0.08645	0.371703	0.092173
	Sig. (2-taile	0.651815	0.015771	1.51E-06	0.390052	0.328059	1.34E-05	0.296945
	N	130	130	130	130	130	130	130
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

LNNIP? GRS? SAK? PRO? LNLIQ? RIB? TIE? LNAFI? STM?

POOL

Dependent Variable: LNNIP?
Method: Pooled Least Squares
Date: 04/27/16 Time: 13:17
Sample: 2009 2013
Included observations: 5
Cross-sections included: 26
Total pool (balanced) observations: 130

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GRS?	-0.001845	0.003324	-0.555009	0.5799
SAK?	0.005272	0.004389	1.201154	0.2320
PRO?	0.166993	0.019951	8.370357	0.0000
LNLIQ?	-0.242247	0.085201	-2.843247	0.0052
RIB?	-0.000561	0.000616	-0.910959	0.3641
TIE?	1.15E-05	1.06E-05	1.086290	0.2795
STM?	0.000596	0.000101	5.898620	0.0000
LNAFI?	-0.008478	0.083202	-0.101902	0.9190

R-squared	0.642167	Mean dependent var	0.977675
Adjusted R-squared	0.621636	S.D. dependent var	1.200647
S.E. of regression	0.738534	Akaike info criterion	2.291265
Sum squared resid	66.54281	Schwarz criterion	2.467729
Log likelihood	-140.9322	Hannan-Quinn criter.	2.362968
Durbin-Watson stat	0.837011		

REGRESS FIXED

Dependent Variable: LNNIP?
Method: Pooled Least Squares
Date: 04/27/16 Time: 13:18
Sample: 2009 2013
Included observations: 5
Cross-sections included: 26
Total pool (balanced) observations: 130

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.785564	1.234662	-1.446196	0.1514
GRS?	-0.003778	0.002501	-1.510695	0.1342
SAK?	-0.004638	0.008876	-0.522580	0.6025
PRO?	0.064220	0.026934	2.384377	0.0191
LNLIQ?	-0.111575	0.074000	-1.507767	0.1349
RIB?	-0.000496	0.000401	-1.236075	0.2194
TIE?	1.30E-05	9.20E-06	1.417772	0.1595
STM?	0.000137	8.97E-05	1.528067	0.1298
LNAFI?	0.941086	0.414590	2.269917	0.0254
Fixed Effects (Cross)				
_ADES--C	1.789242			
_AISA--C	-0.115292			

_DLTA--C	-0.258997
_INDF--C	-0.100581
_MLBI--C	0.817367
_MYOR--C	0.433943
_SKLT--C	-1.002891
_ULTJ--C	0.015457
_GGRM--C	0.056170
_HMSP--C	0.419896
_RMBA--C	0.285566
_DVLA--C	-0.363541
_INAF--C	-0.377108
_KAEF--C	-0.045479
_KLBF--C	0.088484
_MERCK--C	-0.439915
_PYFA--C	-0.192876
_SCPI--C	0.939506
_TSPC--C	0.077560
_MBTO--C	-0.189161
_MRAT--C	-1.167617
_TCID--C	-0.269014
_UNVR--C	1.703399
_ROTI--C	1.132101
_KDSI--C	-1.615307
_KICI--C	-1.620912

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.902058	Mean dependent var	0.977675
Adjusted R-squared	0.868390	S.D. dependent var	1.200647
S.E. of regression	0.435572	Akaike info criterion	1.395576
Sum squared resid	18.21338	Schwarz criterion	2.145547
Log likelihood	-56.71246	Hannan-Quinn criter.	1.700314
F-statistic	26.79302	Durbin-Watson stat	1.718674
Prob(F-statistic)	0.000000		

CHOW TEST (POOL VS FIXED)

Redundant Fixed Effects Tests
Pool: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	9.943471	(25,96)	0.0000
Cross-section Chi-square	166.139707	25	0.0000

HIPOTESIS CHOW

Regress Random

Dependent Variable: LNNIP?
Method: Pooled EGLS (Cross-section random effects)
Date: 04/27/16 Time: 13:20
Sample: 2009 2013
Included observations: 5
Cross-sections included: 26
Total pool (balanced) observations: 130
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.574420	0.830438	-1.895890	0.0604
GRS?	-0.004158	0.002312	-1.798711	0.0746
SAK?	0.004823	0.006043	0.798241	0.4263
PRO?	0.108364	0.020792	5.211801	0.0000
LNLIQ?	-0.130054	0.067568	-1.924799	0.0566
RIB?	-0.000644	0.000390	-1.652222	0.1011
TIE?	1.38E-05	8.56E-06	1.607426	0.1106
STM?	0.000233	8.27E-05	2.817302	0.0057
LNAFI?	0.657827	0.273432	2.405811	0.0177
Random Effects (Cross)				
_ADES--C	1.183340			
_AISA--C	-0.204653			
_DLTA--C	-0.087643			
_INDF--C	-0.177140			
_MLBI--C	0.291093			
_MYOR--C	0.468132			
_SKLT--C	-0.804568			
_ULTJ--C	0.021011			
_GGRM--C	0.208571			
_HMSP--C	0.212262			
_RMBA--C	0.551622			
_DVLA--C	-0.258154			
_INAF--C	-0.176955			
_KAEF--C	-0.038588			
_KLBF--C	0.140353			
_MERCK--C	-0.346242			
_PYFA--C	-0.282159			
_SCPI--C	1.003795			
_TSPC--C	0.155332			
_MBTO--C	0.011793			
_MRAT--C	-0.784877			
_TCID--C	-0.237709			
_UNVR--C	0.970925			
_ROTI--C	0.696631			
_KDSI--C	-1.319752			
_KICI--C	-1.196421			

Effects Specification	S.D.	Rho
Cross-section random	0.531125	0.5979

Idiosyncratic random		0.435572	0.4021

Weighted Statistics

R-squared	0.363923	Mean dependent var	0.336642
Adjusted R-squared	0.321868	S.D. dependent var	0.569701
S.E. of regression	0.469141	Sum squared resid	26.63134
F-statistic	8.653558	Durbin-Watson stat	1.318358
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.568529	Mean dependent var	0.977675
Sum squared resid	80.23663	Durbin-Watson stat	0.437576

HAUSMAN TEST (Fixed VS Random)

Correlated Random Effects - Hausman Test
Pool: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	27.369748	8	0.0006

REGRESI DENGAN MODEL TERBAIK *FIXED EFFECT*

Dependent Variable: LNNIP?
Method: Pooled Least Squares
Date: 04/27/16 Time: 13:21
Sample: 2009 2013
Included observations: 5
Cross-sections included: 26
Total pool (balanced) observations: 130

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.785564	1.234662	-1.446196	0.1514
GRS?	-0.003778	0.002501	-1.510695	0.1342
SAK?	-0.004638	0.008876	-0.522580	0.6025
PRO?	0.064220	0.026934	2.384377	0.0191
LNLIQ?	-0.111575	0.074000	-1.507767	0.1349
RIB?	-0.000496	0.000401	-1.236075	0.2194
TIE?	1.30E-05	9.20E-06	1.417772	0.1595
STM?	0.000137	8.97E-05	1.528067	0.1298
LNAFI?	0.941086	0.414590	2.269917	0.0254
Fixed Effects (Cross)				
_ADES--C	1.789242			

_AISA--C	-0.115292
_DLTA--C	-0.258997
_INDF--C	-0.100581
_MLBI--C	0.817367
_MYOR--C	0.433943
_SKLT--C	-1.002891
_ULTJ--C	0.015457
_GGRM--C	0.056170
_HMSP--C	0.419896
_RMBA--C	0.285566
_DVLA--C	-0.363541
_INAF--C	-0.377108
_KAEF--C	-0.045479
_KLBF--C	0.088484
_MERCK--C	-0.439915
_PYFA--C	-0.192876
_SCPI--C	0.939506
_TSPC--C	0.077560
_MBTO--C	-0.189161
_MRAT--C	-1.167617
_TCID--C	-0.269014
_UNVR--C	1.703399
_ROTI--C	1.132101
_KDSI--C	-1.615307
_KICI--C	-1.620912

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.902058	Mean dependent var	0.977675
Adjusted R-squared	0.868390	S.D. dependent var	1.200647
S.E. of regression	0.435572	Akaike info criterion	1.395576
Sum squared resid	18.21338	Schwarz criterion	2.145547
Log likelihood	-56.71246	Hannan-Quinn criter.	1.700314
F-statistic	26.79302	Durbin-Watson stat	1.718674
Prob(F-statistic)	0.000000		

REGRESI DENGAN MODEL TERBAIK *FIXED EFFECT* DENGAN PENIMBANG *CROSS SECTION WEIGHT*

Dependent Variable: LNNIP?
Method: Pooled EGLS (Cross-section weights)
Date: 04/27/16 Time: 13:22
Sample: 2009 2013
Included observations: 5
Cross-sections included: 26
Total pool (balanced) observations: 130
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.

C	-1.624186	0.770359	-2.108350	0.0376
GRS?	-0.003559	0.001467	-2.426206	0.0171
SAK?	-0.008235	0.005809	-1.417589	0.1595
PRO?	0.062786	0.018787	3.342001	0.0012
LNLIQ?	-0.097645	0.046846	-2.084399	0.0398
RIB?	-0.000455	0.000294	-1.545287	0.1256
TIE?	8.55E-06	6.76E-06	1.264516	0.2091
STM?	9.88E-05	5.78E-05	1.707999	0.0909
LNAFI?	0.939799	0.242921	3.868737	0.0002
Fixed Effects (Cross)				
_ADES--C	1.837205			
_AISA--C	-0.066724			
_DLTA--C	-0.359149			
_INDF--C	-0.046203			
_MLBI--C	0.922370			
_MYOR--C	0.410405			
_SKLT--C	-0.978121			
_ULTJ--C	0.043989			
_GGRM--C	-0.003330			
_HMSP--C	0.448066			
_RMBA--C	0.258133			
_DVLA--C	-0.405495			
_INAF--C	-0.434738			
_KAEF--C	-0.096973			
_KLBF--C	0.050655			
_MERCK--C	-0.387981			
_PYFA--C	-0.170585			
_SCPI--C	0.966682			
_TSPC--C	0.043527			
_MBTO--C	-0.278084			
_MRAT--C	-1.251549			
_TCID--C	-0.285020			
_UNVR--C	1.857448			
_ROTI--C	1.239701			
_KDSI--C	-1.638438			
_KICI--C	-1.675792			

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.962561	Mean dependent var	1.091841
Adjusted R-squared	0.949691	S.D. dependent var	1.677971
S.E. of regression	0.431345	Sum squared resid	17.86163
F-statistic	74.79300	Durbin-Watson stat	2.040266
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.901234	Mean dependent var	0.977675
Sum squared resid	18.36650	Durbin-Watson stat	1.702140

1. Non Multikolinieritas

Correlations

		GRS	SAK	PRO	LNLIQ	RIB	TIE	STM	LNAFI
GRS	Pearson Correlation	1	.258**	.243**	-.118	.078	.084	.054	.040
	Sig. (2-tailed)		.003	.005	.182	.377	.341	.541	.652
	N	130	130	130	130	130	130	130	130
SAK	Pearson Correlation	.258**	1	-.008	-.441**	.116	-.201*	-.060	-.211*
	Sig. (2-tailed)	.003		.931	.000	.189	.022	.497	.016
	N	130	130	130	130	130	130	130	130
PRO	Pearson Correlation	.243**	-.008	1	-.106	.046	.671**	-.210*	.407**
	Sig. (2-tailed)	.005	.931		.230	.602	.000	.016	.000
	N	130	130	130	130	130	130	130	130
LNLIQ	Pearson Correlation	-.118	-.441**	-.106	1	-.145	.021	-.061	.076
	Sig. (2-tailed)	.182	.000	.230		.101	.814	.493	.390
	N	130	130	130	130	130	130	130	130
RIB	Pearson Correlation	.078	.116	.046	-.145	1	-.161	.014	-.086
	Sig. (2-tailed)	.377	.189	.602	.101		.067	.879	.328
	N	130	130	130	130	130	130	130	130
TIE	Pearson Correlation	.084	-.201*	.671**	.021	-.161	1	-.079	.372**
	Sig. (2-tailed)	.341	.022	.000	.814	.067		.374	.000
	N	130	130	130	130	130	130	130	130
STM	Pearson Correlation	.054	-.060	-.210*	-.061	.014	-.079	1	.092
	Sig. (2-tailed)	.541	.497	.016	.493	.879	.374		.297
	N	130	130	130	130	130	130	130	130
LNAFI	Pearson Correlation	.040	-.211*	.407**	.076	-.086	.372**	.092	1
	Sig. (2-tailed)	.652	.016	.000	.390	.328	.000	.297	
	N	130	130	130	130	130	130	130	130

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).