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# BSTARCT PROCEEDNIG

# MEIT-2019

# CONFERENCE BOOK OF ABSTRACT PROCEEDINGS

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# Book of Abstracts Proceedings

**2nd International Conference on Management Study, Business Economics, Engineering and Information Technology (MEIT)**

Bali, Indonesia
January 23-24, 2019
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Proceedings of the 2nd International Conference on Management Study, Business Economics, Engineering and Information Technology

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# *2nd International Conference on Management Study, Business Economics, Engineering and Information Technology (MEIT)*

**Venue: Hotel Santika Seminyak Bali, Jl. Sunset Road No.17, Seminyak, Kuta, Kabupaten Badung, Bali 80361, Indonesia**

**Conference Theme:** Providing platform for enhancement of research and developmental activities through networking and collaboration.

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## CONFERENCE TRACKS

- Basic Science
- Civil Engineering
- Economics, Finance & Accounting
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- Electrical Engineering
- Life Sciences
- Mechanical Engineering
- Medicine Sciences

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## CONFERENCE CHAIR MESSAGE

**Dr. Ryan Feinstein**

"International Conference of Bali Institute of Research Excellence" is a platform that thrives to support the worldwide scholarly community to analyze the role played by the multidisciplinary innovations for the betterment of human societies. It also encourages academicians, practitioners, scientists, and scholars from various disciplines to come together and share their ideas about how they can make all the disciplines interact in an innovative way and to sort out the way to minimize the effect of challenges faced by the society. All the research work presented in this conference is truly exceptional, promising, and effective. These researches are designed to target the challenges that are faced by various sub-domains of the social sciences and applied sciences.

I would like to thank our honorable scientific and review committee for giving their precious time to the review process covering the papers presented in this conference. I am also highly obliged to the participants for being a part of our efforts to promote knowledge sharing and learning. We as scholars make an integral part of the leading educated class of the society that is responsible for benefitting the society with their knowledge. Let's get over all sorts of discrimination and take a look at the wider picture. Let's work together for the welfare of humanity for making the world a harmonious place to live and making it flourish in every aspect. Stay blessed.

Thank you.
Dr. Ryan Feinstein
Conference Chair
Email: ryan@bireacademy.com



## *Conference Schedule*

**Conference Name: 2nd International Conference on Management Study, Business Economics, Engineering and Information Technology (MEIT)**

**January 23-24, 2019**

**Venue: Hotel Santika Seminyak Bali, Indonesia**
**Time: Registration & Kit Distribution (09:00 am - 09:10 am)**

**Venue: Room 1**

| | |
|---|---|
| 09:10 am - 09: 20 am | Introduction of Participants |
| 09:20 am - 09: 30am | Inauguration and Opening address |
| 09:30 am - 09:40 am | Networking Session |

**Tea/Coffee Break (09:40 am - 10:00 am)**

## Board Of Director Characteristics And Bank Asset Risk

*Nova Novita
STIE Indonesia Banking School, Indonesia
Corresponding Email: nova.novia@ibs.ac.id

**Keywords:** ank Asset Risk, Board of Director, Age, Gender, Education Level, Loan Loss Provision, Risk-Weighted Assets to Total Assets

The banking industry is unique because of the operating system, and their exposure to risk than other industries. Individual efforts in a group will influence the performance of the group. In the context of the board of directors, many researchers believe that the heterogeneity of top management plays an important role in corporate decision-making which later impacts the level of bank risk. A heterogeneous board of directors will gain benefit through the diversity of the executives member. On the other hand, it is possible that a too heterogeneous board of director will complicate communication between executives. The purpose of this research is to investigate the effect of the board of directors characteristics on the bank risk assets. The characteristics of the board of directors in this study were measured through the diversity of age, gender, size and background of education. While the risk of bank assets is measured by using a loan loss provision and a ratio of risk-weighted assets to total assets. The sample used in this research is commercial banks in four ASEAN countries: Indonesia, Malaysia, Singapore and Thailand. The results of the study generally indicate the influence of the diversity of age, education and size of the board of director on the risk of bank assets. While gender diversity does not affect the risk of bank assets. The test also indicates a difference in the risk of bank assets in Indonesia compare with other countries





## Business Planning By Using SWOT-Business Model Canvas And Balanced Scorecard Integration Method To Increase Competitive Advantage On Chemical Construction Industry In Indonesia (Case Study AT PT. YZ)

*Intan Permata Sari
Sepuluh Nopember Institute of Technology, Indonesia
Corresponding Email: intan20791@gmail.com

**Keywords:** SWOT Analysis, Business Model Canvas, Balanced Scorecard, Strategic Planning.

The construction chemical industry in Indonesia as a support for construction technology is growing. More companies are entering the construction chemical business, both local and foreign. PT. YZ is a company engaged in chemical construction and originating from within the country. As a developing company, PT. YZ has experienced a sales increase of 51% in 2016 and 71% in 2017. But in 2018, the sale of PT. YZ decreased by 16% due to a weak business situation.PT. YZ has several product segments, including admixture, coating, and supporting products. To improve competitive advantage in the construction chemical industry in Indonesia, the company carried out strategic planning in the production of product portfolios in accordance with the business model of PT. YZ. The method used in this study is SWOT, business model canvas, and balanced scorecard. Based on the analysis of the company's internal and external conditions, the best strategy is to add 100 employees and open 5 branches outside Java. To apply a new strategy in the company, product portfolio and business model canvas are redesigned. Then 9 blocks from the business model canvas are converted into the balance scorecard and the strategy map of PT. YZ.

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# CERTIFICATE
## of Presentation

This certificate is awarded to

NOVA NOVITA

*(STIE Indonesia Banking School, Indonesia, )*

For presentation, recognition and appreciation of research to contribution

in

2nd International Conference on

Management Study, Business Economics, Engineering and Information Technology

(MEIT-2019)

***Venue: Hotel Santika Seminyak Bali, Indonesia***

*Keynote Talk: BOARD OF DIRECTOR CHARACTERISTICS AND BANK ASSET RISK*

*January 23-24, 2019*

DATE

yan feinstein

SIGNATURE

***December 10, 2018***

Nova Novita

STIE Indonesia Banking School, Indonesia

Contact Email: nova.novita@ibs.ac.id

Submission ID: **ETSBS-019-ANI104** (Please use this ID for future correspondence)

Manuscript Title: Board Of Director Characteristics And Bank Asset Risk

Co Author(s):

Dear Nova Novita,

**Congratulations!!**

Your manuscript titled "Board Of Director Characteristics And Bank Asset Risk" has been accepted for Oral presentation in the *28th International Conference on Evolving Trends in Social Sciences and Business Studies (ETSBS)* which is scheduled to be held at *Hotel Santika Seminyak Bali* on *January 23-24, 2019.*

Your paper was processed for double blind peer review and the reviewer's feedback is attached with this acceptance letter. You are requested to improve your abstract / paper as suggested by reviewer and send to us soon. Improved abstracts / papers will be included in the ISBN conference proceeding, which will be published online and will be provided in soft form in USB.

For details of registration, please visit: **https://anissh.com/conferences/etsbs-jan-2019/** In case your paper is multi-authored, each attending author has to register separately and pay the registration fee for the conference. All information related to venue, accommodation and other matters is available at the conference website.

If you require any further assistance, please feel free to contact the conference secretariat at **etsbs019@anissh.com.** We look forward to seeing you at the conference

Vincent W. Ho

Dr. Vincent
Conference Supervisor
ANISSH Secretariat
Email: etsbs019@anissh.com

AKADEMIKA NUSA INTERNASIONAL ANI

***December 10, 2018***

Nova Novita

STIE Indonesia Banking School, Indonesia

Contact Email: nova.novita@ibs.ac.id

Submission ID: **ETSBS-019-ANI104** (Please use this ID for future correspondence)

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For details of registration, please visit: **https://anissh.com/conferences/etsbs-jan-2019/** In case your paper is multi-authored, each attending author has to register separately and pay the registration fee for the conference. All information related to venue, accommodation and other matters is available at the conference website.

If you require any further assistance, please feel free to contact the conference secretariat at **etsbs019@anissh.com.** We look forward to seeing you at the conference

Vincent W. Ho

Dr. Vincent
Conference Supervisor
ANISSH Secretariat
Email: etsbs019@anissh.com

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Headoffice: Business Center, Al Shmookh Building,
UAQ Free Trade Zone, Umm Al Quwain, UAE
WhatsApp Contact No: + 971-56-5989114
Email: info@anissh.com
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# PANEL REVIEW REPORT

(Submission ID: ETSBS-019-ANI104)

## Title: Board Of Director Characteristics And Bank Asset Risk

| Comment from Reviewer | Weighted out of 5 |
|---|---|
| Thank you for providing me the opportunity to review the abstract titled "Board Of Director Characteristics And Bank Asset Risk" I would like to appreciate your work. Below I provide my comments on this abstract. | |
| 1. Abstract is based on sound methodology/ well written or well presented. The main objective of study is clear. You need to elaborate research process and source of information. | 3.00 |
| 2. The study is concluded nicely. Nevertheless, Inclusion of theoretical and practical implications will enhance the quality of research work. | 3.00 |

Your great deal of effort is appreciable. It can provide significant insights into growing body of knowledge. I wish you best of luck in this research project as you continue with it.

Akademika Nusa Internasional
Association of Social Sciences and Humanities

Headoffice: Business Center, Al Shmookh Building,
UAQ Free Trade Zone, Umm Al Quwain, UAE
WhatsApp Contact No: + 971-56-5989114
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|---|---|---|---|---|---|
| **Presenter/ Professional/ Practitioner** | 300 | 350 | Presenter/ Professional/ Practitioner | 250 | 300 |
| **Listener/Key Note Speaker** | 250 | 300 | Listener/Key Note Speaker | 150 | 200 |
| **Student/ PhD Candidate** | 250 | 300 | Student/ PhD Candidate | 150 | 200 |
| **Virtual** | 200 | 250 | Virtual | 100 | 150 |

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- We should receive the full amount of fee as per above schedule, bank/service charges are to be borne by the participant.

# BOARD OF DIRECTORS CHARACTERISTICS AND BANK ASSET RISK

**Nova Novita**
STIE Indonesia Banking School
nova.novita@ibs.ac.id

**Abstract**

In the context of the board of directors, many researchers believe that the heterogeneity of top management teams plays an important role in corporate decision making which will later impact the level of risk. A heterogeneous board of directors will benefit through a variety of experiences, ages and areas of expertise. On the other hand, it is possible that a board that is too heterogeneous will complicate communication between executives. This study aims to investigate the impact of the characteristics of the board of directors on bank risk. The sample used in this research is public commercial banks in four ASEAN countries, namely: Indonesia, Malaysia, Thailand and Singapore. Bank risk in research is measured through Bank Asset Risk (using a proxy ratio of risk-weighted assets to total assets and Loan loss provisions) and Overall bank risk (using Z-Score and liquidity creation). The characteristics of the board of directors are measured using age, gender percentage, the size of the board of directors and the board of directors' education.

The results showed that: Age was proven to reduce the risk of bank assets but had a positive effect on the overall risk of the bank. Education levels generally increase bank risk. The general size of the Board of Directors can reduce the risk of the bank. Gender, in general, does not affect bank risk. These results indicate that the composition of directors has a mixed impact on efforts to reduce bank risk. In general, it can be concluded that the diversity of the board of directors is still inconclusive. This opens-up space for subsequent research.

Keywords: Bank Risk, Bank Asset Risk, Overall Bank Risk, Age, Education Level, Board of Directors Size, Gender, Board of Directors

## 1. INTRODUCTION

A healthy banking system is always considered a pillar of stability and sustainable economic growth. The 2007 crisis and bank failures have made banks' attention to risk broader and higher than before, making banks under the watchful eye of regulators and supervisors (Akbar et al, 2017). Improving the quality of risk management and disclosure by companies in the regulators' fixed agenda in various countries. Ntim et al., (2013) had documented that the efforts of stakeholders and regulators in relation to improving risk reporting and risk management practices have a positive impact on the quality of risk disclosure and risk management in their sample organizations. Given the importance of the financial sector in the global economy, the relationship between the structure of the board of directors and bank decision making is interesting. The banking industry is very unique because the operating system and the way income is generated in this industry is different, plus this sector is more exposed to risk than other industries.

In the context of the board of directors, many researchers believe that the heterogeneity of top management teams plays an important role in corporate decision making which will later impact the level of risk. Homogeneous groups will more easily agree on making a decision than heterogeneous ones (Janis, 1982). A heterogeneous board of directors will benefit through a variety of experiences, ages and areas of expertise. On the other hand, it is possible that a board that is too heterogeneous will complicate communication between executives.

The stereotype that women are more risk-averse than men can explain the proportion of women sitting in bank top management (Sunden and Surette, 1998). This stereotype is the main reason for the "Glass Ceiling" on promotional ladders in banks (Mateos de Cabo et al., 2012). Adams and Ferreira (2009) argue that the board of directors tend to be more homogeneous and less diverse when companies operate in a more risky environment. Similar things were also found by Skala and Weill (2018). Furthermore, a number of studies have found that female CEOs are considered more dislike of risk compared to male CEOs, because they have a low dependency on long-term debt (Graham et al, 2013), have a small income volatility and have a survival rate higher (Faccio et al., 2016) and less involved in acquisition activities (Huang and Kisgen, 2013). However, Farag and Mallin (2017) find different results, that female directors sitting on the board of directors are not risk-averse.

In terms of risk, very little research has examined the influence of the age diversity of directors on company risk. Young directors tend to be more courageous in making risky decisions (Cheng et al., 2010), it aims to signal to the market that they have more ability (Prendergast and Stole, 1996). Older managers prefer lower risks, due to threats to their lower financial security, lower capital expenditure, and higher cash holdings (Berger et al, 2014). But this view is not proven in the study of Talavera et al. (2018) which failed to prove a link between the age of directors and risk.

One aspect that can affect the ability of the board of directors in decision making is the board size. Lipton and Lorsch (1992) argue that the larger size of the board of directors leads to slow decision making and the emergence of free rider problem so that the board of directors functions ineffectively (Jensen, 1993). On the other hand, larger council sizes provide benefits, especially in terms of better views or advice (Coles et al, 2008). Despite the fact that there is no optimal board size for all companies, the size of the board of directors turns out to influence company value, policy choices and company risk (Coles et al., 2008; Uchida, 2011) and investment decisions (Wang, 2012). However, this finding was not proven in the study of Akbar et al. (2017).

The difficulty of finding studies on the characteristics of the board of directors on the risks of companies, especially banks, is the main contribution of this research. Whether or not in Indonesia, this study will expand the sample by using banks in other ASEAN countries. The results of this research are expected to provide input to regulators, especially related to the qualifications of bank directors. So that every bank can compete well in the era of ASEAN banking liberalization in 2020. This research is a development of the research of Bernile et al. (2018), Akbar et al. (2017) and Khan et al. (2017).

## 2. LITERATURE REVIEW

The relationship between the diversity of the board of directors and company performance can be explained by several theories such as Resource dependence theory, agency, human capital and social psychology theories (Carter et al, 2010). According to the theory of resource dependence, the presence of female directors brings different benefits and resources to the company (Carter et al., 2010). Female directors will provide new opinions and perspectives that will not be obtained if the board of directors is homogeneous, and this can improve financial performance (Mateos de Cabo et al., 2012). Thus, the theory of resource dependence provides a theoretical foundation relating to board diversity and shows that diverse councils have a wider range, opportunities to have a more talented and well-connected board of directors. The diversity of experience and expertise possessed in the ranks of the board of directors will help the company to read all risk opportunities and anticipate steps. In other words, the more diversified members of the board of directors will further reduce the risks faced by the company.

Agency theory uses the assumption that directors are risk-averse parties, this is based on the reputation and security risks of positions held by the board of directors (Fama, 1980; Jensen and Meckling, 1976). However, in the banking industry, the magnitude of monetary incentives will encourage directors to take great risks (Kirkpatrick, 2009; Minton et al; Pathan, 2009). Agency theory assumes that women's representation on the board can improve the monitoring role of the board and this can reduce agency costs (Carter et al, 2003; Hillman and Dalziel, 2003; Farag and Mallin, 2016). Carter et al. (2010) argue that directors with different backgrounds will be more independent and thus provide a better monitoring role.

According to human capital theory, directors with diverse experiences, backgrounds and other intellectual capacities will be better able to cope with diverse environmental dependencies (Hillman et al. 2000). The Human capital theory also states that directors with diverse experience, expertise and educational background will improve the overall performance of the company (Terjesen et al., 2009). thus it can be concluded that the more diverse members of the board of directors are more able to overcome all the risks faced by the company and reduce them.

## 2.1 Age of the Board of Directors and Bank Risk

Empirical evidence shows that the impact of age on the courage to take risks is quite diverse. The more a person ages, the more experience, resources, knowledge and networks will increase, which in turn will improve his performance. On the other hand, the diversity of the age of the board of directors will encourage cognitive conflict and address cohesion among directors (Talavera et al, 2018). Young managers have a higher tendency to make risky decisions (Cheng et al, 2010). Agarwal et al. (2009) add the findings that younger individuals make more mistakes than parents in financial decisions related to credit behaviour. Whereas senior managers have the knowledge and ability to handle risk better than young managers (Grable et al, 2009). Research on the age diversity of the board of directors tends to be associated with corporate governance aspects, and so far has had mixed results. Some studies show that the diversity of the age of directors can improve the company's financial performance (Ararat et al., 2010; Kim and Lim, 2010; Mahadeo et al., 2012). While other researchers found that age diversity weakened the company's social performance (Hafsi and Turgut, 2013), reducing profitability (Ali et al., 2014). When it comes to career problems, younger managers may be more risk-averse because they face more uncertainty about their future careers than older managers (Holmstrom, 1999). Older managers are not afraid of careers because of their cumulative human capital (Nguyen et al, 2015). Given that age diversity may have positive and negative effects on company risk, it is hypothesized:
Ha1: The age of the Board of Directors influences the risk of the bank.

## 2.2. Gender Composition in the Board of Directors and Bank Risk

Research in psychology and economics states that there are differences in risk aversion behaviour between men and women (Skala and Weill, 2018; Croson and Gneezy, 2009). There is a general view that women are more risk-averse in financial decision making (Barsky et al. 1997; Jianakoplos and Bernasek, 1998; and Agnew et al. 2003). Niederle and Vesterlund (2007) also found that women were more confident than men. Conversely, Liu et al. (2014) found that the proportion of women in the structure of directors proved to improve the performance of companies in China. While Liang et al. (2013) failed to find a relationship between female directors and bank performance in China. Based on the above arguments, it is hypothesized:
Ha2: The composition of gender in the board of directors influences the risk of the bank.

## 3. Education of the Board of Directors and Bank Risk

According to the resource dependence theory, the effectiveness of the functions of the board of directors depends on the availability of qualified human resources (Pfeffer, 1972; Pfeffer and Salancik, 1978). In particular, the main benefits obtained by the company from the diverse backgrounds of the board of directors are legitimacy, advice and business relations with the external environment (Toumi et al, 2016). The concept of diversity of the board of directors requires balanced board membership from different professional fields. This diversity creates synergy and helps the board of directors in carrying out their duties and responsibilities (Carpenter and Westphal, 2001). in the realm of governance, the concept of diversity is related to demographic characteristics such as gender, age, ethnicity and cognitive attributes such as experience and educational qualifications (Erhardt et al., 2003; Kang et al., 2007). proving the

benefits of this diversity on company performance, in general, has been done by Camelo et al. (2010) who found a positive relationship between diversity of education in top management and performance innovation. Toumi et al. (2016) prove the existence of a positive relationship between the level of education of directors and the creation of corporate value. Specifically, Bernile et al. (2018) found that various directors will produce lower company risks. Unlike Mahadeo et al. (2012) who found a negative relationship between board member education and corporate value creation. Based on the argument, the next hypothesis proposed is:
Ha3: The higher the level of education of the board of directors will be the lower the risk of the bank.

2.4. Board of Directors and Bank Risk
There are no provisions regarding the number of members of the board of directors. This certainly opens up a discussion about the impact of the number of board members on the decision-making process. The number of members of the board of directors that are too large has a negative possibility because it will make the decision-making process become longer. The positive impact is the greater the number of board of directors, the greater the accumulation of knowledge and experience possessed in the structure of directors. This can be utilized in improving the quality of decision making. Based on this, it can be hypothesized that:
Ha4: The size of the Board of Directors affects the level of risk of the bank.

## 3. RESEARCH METHODS

The dependent variable in this study is Bank Asset Risk. Bank Assets Risk in this study was measured using 2 proxies:
a. The Ratio of risk-weighted assets to total assets. Consider the ratio of risk-weighted assets to total assets as a proxy for bank risk because this is a measure of major credit risk in accordance with Basel provisions. Risk-weighted assets are calculated according to the Basel regulation for capital regulations because the deposit of regulatory capital is based on the bank's weighted assets. Therefore, risk-weighted assets are a measure of relevant assets and in turn are risky. All banks report their risk-weighted assets.
b. Loan loss provisions. Loan loss provisions show the quality of bank assets (Delis et al., 2014; Lee and Hsieh 2013). Banks must maintain the level of Loan loss provisions if there is a possibility of loan impairments. Therefore, a higher allowance for loan losses indicates that banks are taking riskier assets.

The independent variable used to measure the characteristics of the board of directors in this study are: Age of Directors: measured using the average number of ages of the board of directors (Talavera et al. 2018). Gender composition: measured using the proportion of female directors in the board structure (Berger et al. 2014). Size of the Board of Directors; measured using board members (Berger et al. 2014). Education of the Board of Directors: measured by the percentage of directors who have graduate education (Berger et al. 2014). Dummy Country, 1 is Indonesia while the others is 0.

This study uses several control variables, namely: Bank size, measured by ln total assets. Capital ratio, measured using the ratio of total equity to total assets. Economic growth, economic growth is thought to influence the risks faced by banks in each country.

### 3.3. Research model

To test the hypothesis proposed in this study used 4 research models:

1. $RWATA_{it} = \beta_0 + \beta_1 Age_{i,t} + \beta_2 Edu_{,t} + \beta_3 Bodsize_{i,t} + \beta_4 Gender_{i,t} + \beta_5 Cap_{,it} + \beta_6 Ecogrow_{i,t} + \beta_7 Lnta_{i,t} + \beta_8 Dcountry_{i,t} e_{i,t}$ (1)
2. $LLP_{it} = \beta_0 + \beta_1 Age_{i,t} + \beta_2 Edu_{,t} + \beta_3 Bodsize_{i,t} + \beta_4 Gender_{i,t} + \beta_5 Cap_{,it} + \beta_6 Ecogrow_{i,t} + \beta_7 Lnta_{i,t} + \beta_8 Dcountry_{i,t} e_{i,t}$ (2)

## 4. Results and Discussion

4.1 Data and Samples

The data obtained from conventional commercial banks used in this research consisted of 14 Indonesian commercial banks, 8 Malaysian public banks, 5 Singapore commercial banks and 8 Thai commercial banks. The total initial observation before the outlier is 140 (4 years of observation).

4.2 Results 1: Characteristic of the Board of Directors and Bank Asset Risk: risk-Weighted Assets to Total Assets

Tabel 1: Model 1 Testing Result: RWATA

$$Rwata = 0.621562 - 0.007316Age + 0.186478\,Edu - 0.033488Bodsize + 0.087736\,Gender + 1.052410\,Cap - 6.990429\,Ecogrow + 0.044233Lnta + 0.240276\,Dcountry + \varepsilon$$

| Variables | Predicted Sign | Coefficient | t-Statistic | Prob. |
|---|---|---|---|---|
| C | | 0.621562 | 2.480799 | 0.0145 |
| Age | +/- | -0.007316 | -1.970249 | 0.0512* |
| Edu | - | 0.186478 | 3.592498 | 0.0005*** |
| Bodsize | +/- | -0.033488 | -6.626101 | 0.0000*** |
| Gender | +/- | 0.087736 | 1.055657 | 0.2933 |
| Cap | - | 1.052410 | 3.435006 | 0.0008*** |
| Ecogrow | + | -6.990429 | -3.331561 | 0.0012*** |
| Lnta | - | 0.044233 | 3.041302 | 0.0029*** |
| DCountry | +/- | 0.240276 | 3.260112 | 0.0015*** |
| R-squared | | | 0.298913 | |
| Adjusted R-squared | | | 0.251382 | |
| F-statistic | | | 6.288765 | ***) α: 1% |
| Prob(F-statistic) | | | 0.000001 | *) α: 10% |

Model 1 examines the impact of the characteristics of the board of directors on the risk of bank assets as measured by the risk of weighted assets weighted by total assets. This model is able to explain the variation in bank risk through its independent variable of 25%. The test results show that hypotheses 1 and 3 are supported by data. Where the age variable and the size of the Directors are proven to affect the risk of bank assets. These results indicate that the increasingly senior age of the board of directors will be better in decision making so that it can reduce the risk of the bank. The large size of the Board of Directors based on the test results can reduce the level of risk of the bank, this result proves that the size of the board of directors does not have a negative impact on the directors' decision-making process. An interesting finding in this model is that the Education Level has a positive effect on bank risk, while this research predicts a negative influence, meaning that hypothesis 2 is rejected. This might be due to the courage to take higher risks to someone who is highly educated. High scientific knowledge will increase a director's self-confidence and will ultimately encourage the courage of riskier decision making. The Gender variable in this research is not proven to have an influence on bank risk, thus hypothesis 4 is rejected. The proportion of female directors that is less than 20% shows that there are not many women who sit as bank directors. This small amount may result in a small ability to influence the decision-making in the alignment of the directors. So that the presence or absence of women on the board of directors in this research has no influence on bank risk.

4.3 Results 2: Characteristic of the Board of Directors and Bank Asset Risk: *Loan loss provisions (LLP)*

Tabel 2: Model 2 Testing Result: LLP

LLP = 0.033991 - 0.000838Age + 0.003643 Edu + 0.001520 Bodsize + 0.006252 Gender + 0.237782 Cap - 0.252951Ecogrow - 0.001626Lnta - 0.016501Dcountry + ε

| **Variables** | **Predicted Sign** | **Coefficient** | **t-Statistic** | **Prob.** |
|---|---|---|---|---|
| C | | 0.033991 | 1.749504 | 0.0831 |
| Age | +/- | -0.000838 | -3.544722 | 0.0006*** |
| Edu | - | 0.003643 | 0.583423 | 0.5609 |
| Bodsize | +/- | 0.001520 | 2.916908 | 0.0043*** |
| Gender | +/- | 0.006252 | 0.716723 | 0.4751 |
| Cap | - | 0.237782 | 5.503645 | 0.0000*** |
| Ecogrow | + | 0.252951 | 1.684274 | 0.0951 |
| Lnta | - | -0.001626 | -1.463476 | 0.1463 |
| DCountry | +/- | -0.016501 | -2.354582 | 0.0204** |
| R-squared | | | 0.736927 | |
| Adjusted R-squared | | | 0.716883 | |
| F-statistic | | | 36.76602 | ***) α: 1% |
| Prob(F-statistic) | | | 0.000000 | **) α: 10% |

Model 2 examines the impact of the characteristics of the board of directors on the risk of bank assets as measured by Loan loss provisions (LLP) which are weighted with total assets. This model is able to explain the variation in bank risk through its independent variable of 71.68%. The test results show that hypotheses 1 and 3 are supported by data. Where the age and size of the Board of Director variables are proven to affect the risk of bank assets. These results indicate that the increasingly senior age of the board of directors will be better in decision making so that it can reduce the risk of the bank. The size of the Board of Directors based on the test results increases the risk of the bank. In contrast to the results in model 1, this finding proves that if a bank's risk is measured through LLP, the size of a large board of directors will have a negative impact on the directors' decision-making process, even though hypothesis 3 in this model is accepted. The greater the number of directors may have an impact on courage in risk-taking, especially in terms of determining the allowance for financing losses. The greater the size of the Board of Directors, the greater the accumulation of experience and knowledge used in decision making, thus encouraging the decision to take more risky decisions due to better risk calculations through a large number of directors. Education level in this model does not affect bank risk, so hypothesis 2 is rejected. More than 50% of directors in the sample banks have a graduate education, the low variation in this level of education might lead to why the level of education does not affect the risk of the bank. Another factor that might influence is the existence of regulations regarding the level of LLP, so that as high as any level of education of directors, they will continue to make regulation the basis for decision making. The Gender variable in this research is not proven to have an influence on bank risk, thus hypothesis 4 is rejected. The proportion of female directors that is less than 20% shows that there are not many women who sit as bank directors. This small amount may result in a small ability to affect the decision-making in the alignment of the directors. So that the presence or absence of women on the board of directors in this research has no influence on bank risk. The test results show that in general there are differences in the level of risk on assets of commercial banks in Indonesia compared to other countries. As for the overall risk of the bank, there is no difference between the overall risk of banks in Indonesia and other countries.

## 5. Conclusion

This study aims to examine the impact of the characteristics of the board of directors on bank risk. The characteristics of the board of directors are measured by using Age, Education Level, Board of Directors Size and Gender. While the risk of the bank uses four proxies, namely the ratio of risk-weighted assets to total assets, loan loss provisions, Z-Score and liquidity creation. The results of the study indicate that:

1. Age Variable is able to reduce the risk of bank assets.
2. Variable Education levels generally increase bank risk.
3. The variable size of the Board of Directors, in general, has a mixed result to the risk of the bank.
4. Gender variables generally do not affect bank risk

This study has a number of limitations. The sample used in this research is only conventional banks, further research is recommended to test Sharia-based banks. The sample used is still limited to four ASEAN countries, further research can expand the sample by using public banks in all ASEAN countries.

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