Bank's Performance: How It Is Driven by Sustainability and Soundness

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LIST OF ACRONYMS

AMOS	Analysis of a Moment Structures
AQ	Asset Quality
BG	Branch Growth
BI	Bank Indonesia
BPS	Badan Pusat Statistik
CAMEL	Capital, Asset, Management, Earnings, Liquidity
CAR	Capital Adequacy Ratio
CS	Corporate Sustainability
CSR	Corporate Social Responsibility
ED	Environmental Disclosure
EPS	Earnings Per Share
EVA	Economic Value Added
GRI	Global Reporting Initiative
IDX	Indonesia Stock Exchange
IPO	Initial Public Offering
JASICA	Jakarta Stock Exchange Industrial Classification
KMO	Kaiser-Meyer-Olkin
KUM	Kredit Usaha Mikro
KUR	Kredit Usaha Rakyat
LDR	Loan to Deposit Ratio
LG	Loan Growth
LQ	Liquidity
MAC	Middle Class and Affluent Consumers

MGT   Management

MSME   Micro, Small, and Medium Enterprises

NIM   Net Interest Margin

NPL   Non-Performing Loan

OJK   Otoritas Jasa Keuangan

P/E   Price Per Earnings Ratio

ROA   Return on Asset

SDG   Sustainable Development Goals

SEM   Structural Equation Modeling

SP   Share Price

SPSS   Statistical Package for Social Sciences

CHAPTER 1: INTRODUCTION

I.1. BACKGROUND

Indonesia, with a population over 200 million people, is one of the fastest-growing nations in Southeast Asia and is progressing to becoming the world's 7th largest economy in the world by 2030 (Oberman, Budiman, Dobbs, Thompson, & Rossé, 2012). The potential has been felt during these past few years as the nation is experiencing a rapid rise of the Middle Class and Affluent Consumers (MAC). A study published by the Boston Consulting Group states, as of 2017, a third of the Indonesian population is ranked as the MAC approximating over 70 million people (Rastogi, Tamboto, Tong, & Sinburimsit, 2013). A similar study conducted by the World Bank stated that over 50 million people in Indonesia accounts for over 40 percent of total household consumption, reflecting the middle class' substantial purchasing power (Boediono, 2017).

The rise of the MAC provides opportunities for businesses to capture customers (Thapa, 2017). The benefits of rising MAC include the addition of tax revenue for the government and more chances of businesses that create jobs (Thapa, 2017). The financial industry is a significant player to facilitate the population's monetary transactions, further proven by the growing number of customers served by financial companies (Barquin, 2019). A study of the Indonesian banking industry elaborates how the large consumers base and the rising middle-class population are the key drivers of the banking market (Rimbo, *et al*, 2017).

The lucrative market of Indonesia's growing MAC has resulted in footprints. The increased scarcity of raw materials and mounting household wastes are some side effects witnessed in today's soaring economy (Murti & Handayani, 2016). Nevertheless, people are becoming more aware of the environmental footprint left by businesses. This trend triggers companies to be more transparent to its stakeholders, particularly regarding environmental matters (Murti & Handayani, 2016).

Companies disclose their non-financial transparencies through a separate report called the sustainability report, although some companies adjuncts it to their annual reports (Johnson, 2015). Sustainability reporting is regulated by the Government of Indonesia; Regulation No. KEP-432/BL/2012 for Publicly-Listed Companies discloses their Corporate Social Responsibility policies and programs on environmental performance, labor practices, social and community empowerment and product responsibility (Hadad, 2015). It is further specified in Government Regulation No. 47/2012 explicitly requiring companies to include social and environmental responsibilities in their annual reports (Hadad, 2015). As a member of the G20, the Indonesian Government is committed to strengthen the nation's role in reducing greenhouse gas emissions by 2020 (Chrysolite, 2017). Sustainability reporting is one method of implementing the movement. For the Indonesian financial industry, the Financial Services Authority (Otoritas Jasa Keuangan) is highly vigilant in realizing sustainable objectives within the sector.

The rapid increase of sustainability reporting is occurring in numerous countries. Eventually, a global standard of sustainability reporting exists so companies are able to publish an internationally renowned standard of reports. These standards are published by numerous institutions, however one of the most notable institutions in producing reporting framework is the Global Reporting Initiative, known as GRI. GRI is an international Non-Governmental Organization that has produced the globally notable framework for sustainability reporting. The framework affirms principles and indicators that organizations can refer to measure their economic, environmental, and social performance. The aim of the framework is to standardized approach in reporting eventually stimulate demand for sustainability information (Global Reporting Initiative, 2015).

The numbers of sustainability reports in Indonesia has drastically increased. In 2009 there were merely 6 reports published but in 2014 there were more than 35 reports published (Murti & Handayani, 2016). This signals companies' environmental awareness. An OJK statistic reveals how the financial sector is one of the most frequent publishers of sustainability reports along with the mining sector. As of 2017 a total of 118 Sustainability Reports have been published by the financial industry (Otoritas Jasa Keuangan, 2017).

Evidently, banks are facilitators of economy growth by mediating cash movements from households to firms (Kenton, Circular Flow of Income, 2019b). Such vital role makes bank one of the most regulated industries. Regulations aim to stabilize the economy movement and acts as

macro-prudential supervision particularly in analyzing trends to avoid systemic risks and possibly impeding a nation's economy condition (Stackhouse, 2017). Simply put, market failures within financial industry results in substantial consequence for numerous industries as well (Sironi, 2018). Major example was the 2008 financial crises triggered by the U.S. subprime mortgage market, but it affected the shrinkage of Germany's GPD of up to 6%, and recorded as the most notable drop in global trade since the 1930s (Sironi, 2018). These phenomena prove the importance of banking regulations to ensure the system is safe and sound.

Figure 1 – Sustainability Report in Indonesia Based on Sector
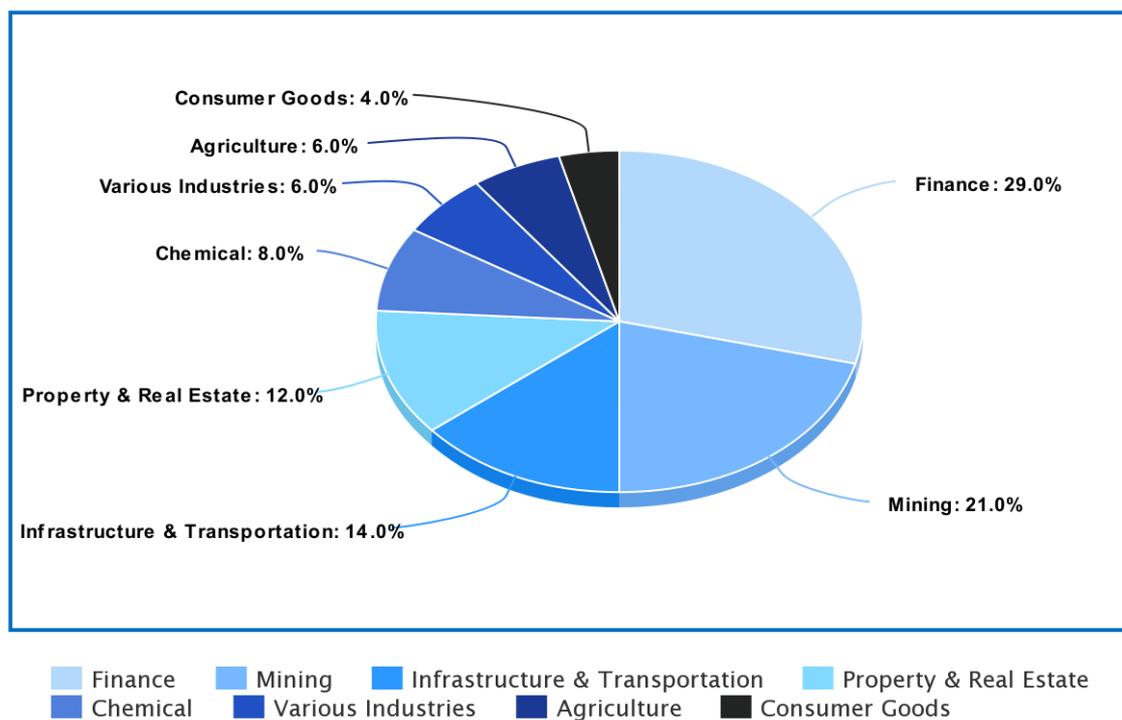
Source: (Otoritas Jasa Keuangan, 2017)

Different countries have different banking regulations to ensure soundness. Indonesian regulatory policies are issued by the Central Bank of

Indonesia which aims to; foster improvement in national economic growth, maintain financial system stability and realize society's financial interdependence (Andreta, *et al*, 2019). According to Bank Indonesia regulations through the Decree of the Board of Directors of BI No. 30/11/KEP/DIR in 1997 and Directors Decree of BI No. 30/277/KEP/DIR in 1998 and Circular Letter of Bank Indonesia Number 06/23/ DPNP, May 31, 2004 determines the system for evaluating the soundness of commercial banks through quantitative and qualitative assessments (Kusumawardani, 2014).

Approximating the soundness of bank is done with an integrated rating of banking performance focusing from their capital, asset quality, management, earnings, and liquidity jointly abbreviated as CAMEL (Kusumawardani, 2014). As stated in the Indonesian Banking Dictionary, CAMEL is the aspect influencing the financial condition and soundness of the bank and is published in the bank's annual report (Hardin, 2016). CAMEL is an internationally applicable rating system to rate financial institutions (Kagan, 2019). A bank is considered safe and sound when their CAMEL ratios are within the required ratios established by the central bank. Thus, CAMEL ratios of banks are standardized for an overall stable, safe, and sound economy system (Kagan, 2019).

The challenge of balancing a good internal operation and leaving a positive footprint on the environment may be immense. Are banks that successfully portray good soundness able to disclose their sustainable actions? To what extent does becoming socially responsible and having

good soundness result in a good bank's performance to their shareholders? This study aims to elaborate the influence of sustainability and soundness, approximated by sustainability report and CAMEL ratio, towards Indonesian bank's performance.

I.2.   RESEARCH PROBLEMS AND QUESTIONS

Table 1 - Research Problems & Research Questions

Research Problems	Research Questions
1. Sustainability influence on banks' performance.	1. How strongly does the bank's sustainable actions influences a bank's performance?
2. CAMEL ratio influence on Bank's performance	2. How strongly does the bank's CAMEL ratio influence a Bank's performance?

I.3.   RESEARCH SCOPE AND LIMITATIONS

The study is limited to the following circumstances:

1. All companies are publicly-listed on the Indonesia Stock Exchange. Under the Jakarta Stock Exchange Industrial Classification (JASICA), the chosen sector is the financial sector. Within the financial sector, the industry chosen is the banking industry.

2. The selected banks for this study are the 10 biggest banks based on total asset by the end of the financial year 2017.

3. This study will cover the period from January 1st 2008 to December 31st 2017.

4. The sustainability indicator for this study is in accordance with justified actions established by the Global Reporting Initiative guidelines.

5. The sustainability indicator is derived from quantifiable outputs based on sustainability report and annual report.

6. One indicator in CAMEL ratio is excluded, which is the sensitivity as the study attempts to focus on internal operations, not market conditions.

CHAPTER 2: LITERATURE REVIEW

II.1 SUSTAINABLE DEVELOPMENT

Ever since the 2000s, governments and companies are becoming more aware of conducting a sustainable development. In a study by Rosen (2017), sustainable development is a concept to achieve an inclusive and prospering future for everyone, without depleting today's natural resources. Officially described by the World Commission on Environment and Development; Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The United Nations General Assembly authorized 17 global goals, known as the Sustainable Development Goals (SDG). Explained further by Morton, Pencheon & Squires (2017) where the objective of SDG is within a universal agreement is to end poverty, makes the planet habitable and inclusive prosperity. As a member of the United Nations, the Government of Indonesia is active in realizing these goals. One approach is through establishing regulations, including the financial sector as mentioned earlier.

As explained in the study by Morton, Pencheon & Squires (2017), the principle of sustainable development consists of 3 fundamentals which are: development; social-economic development in line with ecological scarcity, needs; life quality assurance through equal distribution of resources and the concept of future generations; possibility of long term resource usage

to secure quality life of upcoming generation. Essentially, sustainable development emphasizes on carrying activities without leading to environmental harm but enables repetition and renewal over the long run. Movement towards sustainable development triggers the Government to regulate the publishing of sustainability reports for Indonesian companies, hence the rising trend of sustainability reporting in Indonesia.

Figure 2 – Sustainable Development Goals

Source: (Rosen, 2017)

II.1.1. SUSTAINABILITY REPORTING

Supporting the Government's attempt to becoming an active G20 member and achieving the Sustainable Development Goals, sustainability reporting is regulated in Indonesia and is applicable to various industries as reported by Rahayu (2018). Particularly for the financial sector, the Financial Service Authority issued Regulation No. 51/POJK.03/2017 concerning Sustainable Financial Implementation for financial service institutions, issuers and public companies (IBCSD, 2018).

Regulations issuances from the Financial Services Authority consisted of fourteen articles and were based on four considerations as explained by Jalal (2017). First, to fully achieve a sustainable development other than economic stability nature and communal inclusivity should also be achieved. Second, adequate funding is required for development longevity. Third, the regulation supports Law No. 32/2009 on Environmental Protection and Management issued by Ministry of Living Environment. Fourth, this regulation is part of the enforcement for financial services institutions, issuer companies and public companies in implementing Sustainable Finance Roadmap in Indonesia issued at the end of 2014 (Otoritas Jasa Keuangan, 2017). This explains the trend mentioned in previous chapter, sustainability reporting started off voluntarily but is now regulated and compulsory.

Demand for sustainability reports is growing as described by Tähtinen (2018) because many investors examine company's credibility through its sustainable actions. Investors see a sustainability report as a company's transparency regarding risks and opportunities faced. Amos & Uniamikogbo (2016) states how sustainability reports facilitate companies to communicate with their stakeholders about economic, environmental and social actions. Benefits from publishing a sustainable report are having a risk management tool and quantifying company action. Tähtinen (2018) argues that quantifying company actions can be a measurement for better decision-making. Thereby, the report can bridge trust among customers and stakeholders, additionally impacting the company's bottom line (Amos

& Uniamikogbo, 2016).

Sustainable actions are hardly identical, as the target and circumstances differ. To make the reporting objective and standardized, 90% of published sustainability reports adopt the guidelines issued by the Global Reporting Initiative (GRI) (Murti & Handayani, 2016). Although the GRI guideline is not the only available guideline, according to Diouf & Boiral (2017) the GRI guideline is the most used framework for sustainability reporting. GRI framework aims to elaborate principles and indicators that companies can implement to measure and report their economic, environmental and social actions (Diouf & Boiral, 2017). For this study, the GRI framework is chosen as the reference to measure a bank's sustainable actions as most banks comply to this framework.

II.1.1.1. DIFFERENCES BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND CORPORATE SUSTAINABILITY

Corporate social responsibility (CSR) and corporate sustainability (CS) are two similar terms with distinctive traits. A study conducted by Afiff & Anantadjaya (2013) states that CSR represents the set of programs where firms account their societal involvement. Another study by Djuliardhie, *et al*, (2015); it is explained that CSR is an organization's initiative in applying ethical actions on a bigger scale to environment and local communities. Moreover, the study also explained how some firms execute CSR as a supplement with no alignment with its core business, for instance philanthropy and charities. Although the terms may seem similar, a study by Montiel (2008) confirms how CSR reports disclose past actions. For

example, charity is only reported once it is implemented and donation is reported as an expense after the funds are distributed regardless whether it is aligned with the company's core business or not.

Corporate sustainability (CS) on the other hand, is a more integrated approach. Usually issued as a separate entity, a study by Alhaddi (2015) describes how CS aligns as the holistic operation of the company with outcomes that are beneficial to the economy, environment and society. Klarin (2018) explains in his study that the sustainability report is adhered with an existing global guideline for a more standardized, consistent and transparent result.

Essentially, the difference between CSR and CS does not contradict one another. The fundamental difference is the approach ideology and scope of reporting. Montiel (2008) argues that CSR discloses events and SR reports on the integration of economic, environment and social. Both entities intersect John Elkington's triple bottom line principal; economic, environment and social. The sustainability report is held account for all part of reporting including CSR. This study concentrates on the sustainable actions due to the standardized framework by the Global Reporting Initiative.

II.1.1.2. GLOBAL REPORTING INITIATIVE STANDARDS

Ever since the establishment of the GRI framework in 2000, there have been multiple evolutions of the guidelines which according to Murti &

Handayani (2016) these guidelines enable third parties to report the non-economic impact from the company's operation. Within the period of this study (2008 - 2017), there have been two evolutions of the framework. G3 Guidelines were upgraded to G4 Guidelines by the end of 2016 which then evolved to GRI Standard consolidated. According to the issuer of these guidelines, the Global Reporting Initiative, major changes aims to feature a more modular and interrelated structure to make them easier to update. Easier to update is expected to motivate companies in being committed to reporting over the long run. Although materiality remains the same, what distinguish the latest version is the consolidation of guidelines and implementation manual hence simpler. GRI aims to provide greater flexibility and transparency in applying the guidelines. These transitions prompt the increase of sustainability reporting, as mentioned earlier how in Indonesia between 2009 and 2014 the numbers of sustainability report increased over 80%.

Figure 3 – Triple Bottom Line

Source: (Hammer & Pivo, 2017)

For this study, most banks' sustainability report complies to G3 or G4

Guidelines but for data extraction the guideline referred is the latest GRI Standards due to its simpler and more flexible approach. Indicators in the guidelines remain the same as the initial published guidelines, which are: Economic, Environmental and Social (Harper, 2018). These categories are homogenous with the renowned Triple Bottom Line theory initiated by John Elkington in 1997, further enhanced from the study by Hammer & Pivo (2017) which states; for a business to become sustainable it must benefit the people (social) while causing minimum harm to the planet (environmental) and become profitable (economic) to platform future growth. To indicate whether the banks have successfully disclosed their actions according to the GRI guidelines (Economic, Environmental and Social), banks specify the output of their operations in different units. Aspects of each category consist of general aspects that are applicable to any business sectors. Meanwhile the sector specific aspects are only applicable to industry niche. Indicators are explained as follow:

II.1.2. ECONOMICS

The economic category in this guideline attempts to prove how bank's presence is economically beneficial as stated by Wilson (2015). For banks to be economically sustainable, a research by Amos & Uniamikogbo (2016) denounce that banks must generate profit because profit indicates growth opportunities. Under the GRI guidelines, the aspects reflecting economic sustainability are; economic performance, market presence, indirect economic impacts and procurement practices.

This study will focus on the market presence to indicate the economic sustainability of banks. In banking, the market presence is reflected through the number of office networks the banks have. A study by McKinsey & Company states albeit the rapid rise of digital banking, the presence of conventional branches remains essential due to bank's operation and customer-advisory function. Dallerup, *et al,* (2018) further states as branches persist as the ultimate channel for banking product sales. Bank Tabungan Negara, an Indonesian State-Owned Bank, stated the importance of conventional branch to acquire customer engagement (Sudarwan, 2018). Thus, branches growth is a suitable proxy to indicate the economic sustainability of banks because it reflects the growth from operation and the economic impact it has to the branch location.

II.1.3. ENVIRONMENTAL

From the study by Alhaddi (2015) it is explained how environmental line conveys how do companies impact on environmental resources for the following generations. The environmental category in this guideline attempts to disclose bank's impact on living and non-living natural systems (Alhaddi, 2015). It attempts to reveal a bank's footprint from its input (energy used and water consumption) and output (emission, waste, footprint) as officially explained by the Global Reporting Initiative (2015).

Water, electricity and energy are some of the most common resources used daily and leaves footprints. As a form of transparency to its stakeholders, companies disclose the usage of its resources on the

sustainability report, including banks. Public can be vigilant towards banks to ensure banks are not increasing their footprints by providing annual data of resources used. The GRI classified different kinds of environmental outputs that can reported as part of sustainability reporting such as water, energy, electricity, effluents and waste. This study will calculate the percentage of environmental outputs that are disclosed on the bank's report. Higher percentage of environmental aspects means banks are liable to the footprints created, however because banks are service-oriented some environmental aspects have minor relevance to banking operation such as effluents and waste although still applicable.

II.1.4. SOCIAL

The social category in this guideline aims to convey a bank's impact within the social systems in which it operates. Alhaddi (2015) clarifies how the bank's social sustainability can provide value to society and benefit the community. To indicate the bank's sustainable action towards society, this study will use the bank's loan granted towards Micro, Small, and Medium Enterprises (MSME). Channeling loans is one way how banks facilitate economy growth as mentioned in the beginning of this study. Loans distributions to MSMEs are supported by government as a venture in overcoming poverty decrease unemployment, and enhancing the nation's backbone economy, overall improving the society. Additionally, loans to MSMEs are aligned with some of the Sustainable Development Goals. Some banks even denote which SDG's are aligned with each output in the report. For example; Maybank Indonesia and CIMB Niaga disclose its Loan for

MSMEs as the objective towards goals movement Number 1 (No poverty) and Number 8 (Decent work and economic growth) in the Sustainable Development Goals.

Figure 4 – MSME Loan Realization Based on Sector
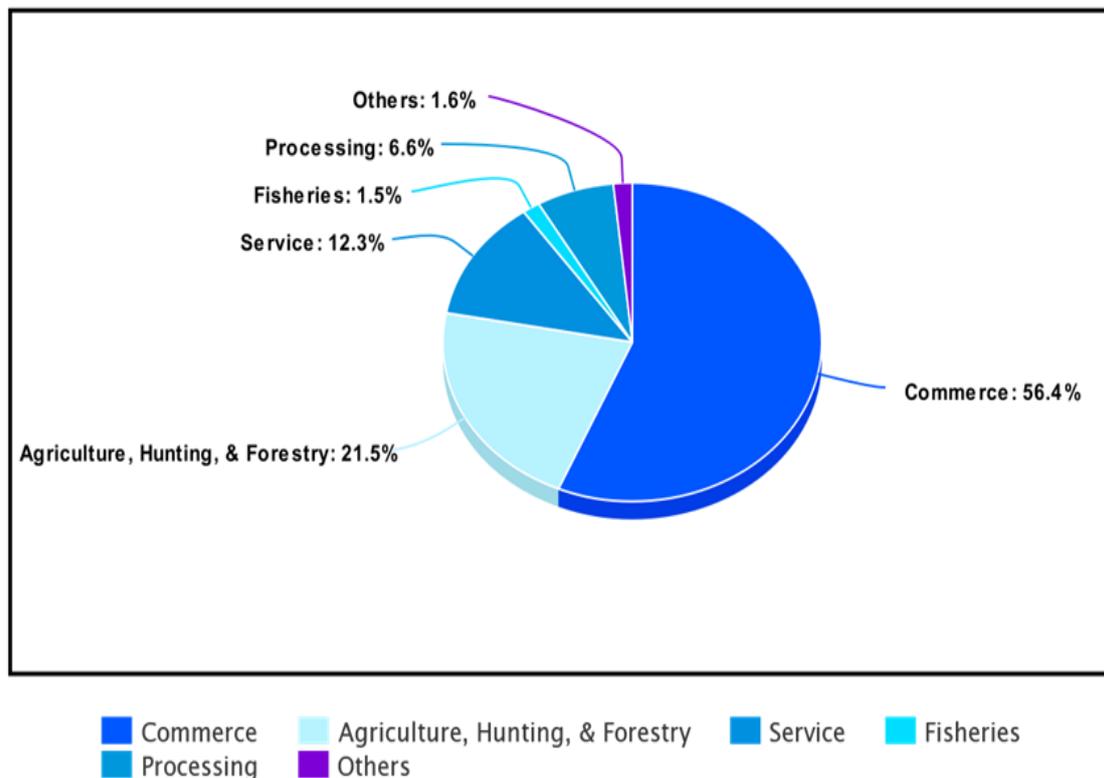
Source: (KUR, 2016)

Loans for MSMEs are regulated under Indonesian Law Number 20 of 2008 concerning Micro, Small, and Medium Enterprises. According to Bank Indonesia, MSME's can be classified based on its assets and workers. Micro Enterprise have maximum asset of RP 50 million with employees of up to 5 people. Small enterprises have maximum asset of RP 500 million with employees of up to 19 people. Medium enterprises have maximum asset of RP 2,5 Billion with employees of up to 29 people. Official loans for MSMEs

are classified as two; Kredit Usaha Mikro (KUM) and Kredit Untuk Rakyat (KUR). These types of loans are officiated by the President of Indonesia to fund and finance MSMEs that are feasible but not yet bankable. KUR is regulated under Presidential Decree Number 14 of 2015 concerning the Financing Policy Committee for Micro, Small and Medium Enterprises and Coordinating Minister for Economic Affairs Regulation Number 11 of 2017 concerning Guidelines for Implementing People's Business Loans (KUR, 2016), thus making the Government involved in guaranteeing loans. Meanwhile KUM are fully authorized by banks, making the terms and conditions solely accountable by the banks with no government intervention as explained by Amalia (2017).

As reported by Kartika (2019) the significance of MSME in Indonesia is indisputable. The Central Agent of Statistics (BPS) reported that MSME accounts over 90% of the 57 million enterprises in Indonesia and absorbs more than 100 million workers. For these reasons, the loan for MSME is seen appropriate to approximate the sustainable actions of banks towards the society.

II.2. CAMEL RATINGS SYSTEM

Other than sustainability report, a bank's performance is also measured from its internal operation as stated by Khalil & Fuadi (2016). Based on the regulation stated by Bank of Indonesia, the assessment required for Indonesian Banks are their risk profile, good corporate governance, earnings and capital. In a study by Pelster (2016) it is explained

that the high dependency of people's financial needs prompts the Government to secure a Bank's operation through strict regulations. Furthermore, Sujarwo (2015) agrees how the health of a bank is reflected through their ability to fulfill the operational objective while remaining compliant with regulations.

A holistic approach to measuring a bank's performance is done through an integrated assessment called CAMEL, an abbreviation of capital adequacy, asset quality, management, earnings and liquidity as affirmed by Munir & Bustamam (2017). CAMEL illustrates the mathematical relationship between bank's numerous aspects of operation and elaborates prudence. A study by Aspal & Dhawan (2016) explains how the rating system was established in 1979 in the United States by the Federal Financial Institution Examination Council and has been globally applied ever since.

According to Munir & Bustamam (2017) CAMEL has become a well-known method to assess financial institutions because it is dynamic. Banks that are compliant may fail to become profitable and banks that are profitable may not have sufficient liquid to meet obligations. CAMEL reduces such possibilities through its holistic assessment, namely giving attention to various perceptions of the bank's operation as proven from the study by Sujarwo (2015).

Bank Indonesia (2015) describes CAMEL rating as the most influential aspect of the bank's financial condition, thus affecting the bank's soundness. The rating is set as a benchmark by regulators to supervise

banking conditions. The official CAMEL ratings are not publicly released yet disclosed strictly to the top management level. Any result may trigger public opinion eventually causing a possible bank run. Each rating ranges from 1 to 5, 1 being the best rate as it represents the least amount of regulatory concern. Kusumawardani (2014) affirms that in Indonesia CAMEL is legitimated through the Decree of the Board of Directors of Bank Indonesia No.30/11/KEP/DIR in 1997 and the Decree of Board of Directors of BI No. 30/227/KEP/DIR in 1998 and Circular Letter of Bank Indonesia No. 06/23/DPNP, May 31, 2004 – dictating the assessment level system of Commercial Bank Regulations.

Kusumawardani (2014) further explained under the regulation, a sixth element of the rating exists; Sensitivity. The sensitivity component measures the bank's sensitivity to market risk, commonly approximated with inclusion of interest rate. For this study, sensitivity is excluded because the focus is on quantifying the internal operation of banks. This study uses the fundamental of CAMEL to quantify the bank's operation in relation to its performance. Each component of CAMEL is acquired from the financial data of the banks listed as the sample. Although each component can be expressed by numerous ratios, in this research the ratio is specified to one ratio explained as follows:

II.2.1. CAPITAL ADEQUACY

Capital adequacy reflects safety protection for stakeholders and denotes the overall financial position of a bank as stated by Aspal & Dhawan

(2016). Bank Indonesia describes capital adequacy ratio (CAR) as the comparison between the number of capital and risk-weighted assets. This ratio reflects the minimum acceptable level of capital for banks to operate. It explains through the study by Syahputra & Saragih (2018) whether the bank has sufficient capital to compensate for unexpected losses.

To calculate CAR, firstly divide Tier 1 and Tier 2 assets with risk weighted assets. Aspal & Dhawan (2016) stated that tier 1 consists of shareholder's equity, perpetual-non-preference shares, disclosed reserves and innovative capital instruments. While tier 2 consists of undisclosed reserves, revaluation reserves of fixed assets and long-term holding of equity securities, general provisions/general loan-loss reserves, hybrid debt capital instruments and subordinated debt. Further explained by Micheti (2018) study, which mentions that risk weighted assets, are loans weighted with its collection tendency. For this study, data of CAR is available from financial reports.

Equation 1 – Capital Adequacy Ratio

$$\frac{Capital}{Risk\ weighted\ assets}$$

Source: (Soemitro & Anantadjaya, 2013)

II.2.2. ASSET QUALITY

Assets can be in many forms but has the capability of generating income. One of bank's most significant assets according to Zedan & Daas (2017), is the loan portfolio; namely having the biggest risk of loss. Bank

Indonesia (2015) affirms how asset quality is the indicator to assess the level of acquiring back funds distributed through loans (principal including interest). The quality of earning asset is ranked based on the level of collection tendency; smooth, special attention, doubtful or loss (Bank Indonesia, 2015). To quantify the asset quality, banks can determine the proposition of non-performing loans out of the total loans (Aspal & Dhawan, 2016). Ideally, banks will maintain a low level of non-performing loans. Sujarwo (2015) agrees that high level of non-performing loans impacts bank profitability due to possibility of collection failure, thus reducing the amount of assets of the bank. For this study, the indicator of asset quality is to divide non-performing loan by the total loans. Data acquired are available under the financial highlights in bank's annual report.

Equation 2 – Non-Performing Loans Ratio

$$\frac{Bad\ credit\ loans}{Total\ credit}$$

Source: (Soemitro & Anantadjaya, 2013)

II.2.3. MANAGEMENT

According to Aspal & Dhawan (2016) management quality is a dynamic approach of assessing the management. Done both quantitatively and qualitatively, the ideal assessment is usually done last after concluding other factors within the CAMEL. Zedan & Daas (2017) stated that management quality is evaluated to indicate the management's effectiveness in decision making, for instance through regulations, strategies and setting goals to direct the bank's business. Management

quality also reflects the capability of the Board of Directors in balancing an effective operation while remaining compliant with regulations according to the study by Rahman & Islam (2017).

For this study, the indicator for management quality is with the Net Interest Margin (NIM) ratio. In banking, NIM exhibits interest earnings from customer's deposits. NIM is calculated from interest margin divided by average earning assets (Chen, 2018). NIM is seen suitable to reflect management because it is based on decision-making and regulations set by management. Data acquired for this study is available in bank's annual report under the financial highlights.

Equation 3 - Net Interest Margin

$$\frac{Net\ interest\ income}{Average\ earning\ assets}$$

Source: (Soemitro & Anantadjaya, 2013)

II.2.4. EARNINGS

Earnings assessment is an indication of sufficient earnings for banks to conserve their capital as mentioned in the study by Kusumawardani (2014). Through the assessment of earnings, the institution indicates its ability to generate returns, possible expansion opportunities and uphold its competitiveness (Syahputra & Saragih, 2018). The quality of earnings suggests a bank's ability to resist disturbance during its operations (Zedan & Daas, 2017). Sujarwo (2015) mentions that earnings also reflect a bank's consistency in generating profit. For this study, the indicator for earning is

Return on Asset (ROA) ratio. ROA is calculated by dividing net income by total assets. Thus, this ratio reflects how banks utilize their assets (input) to generate income (output) (Kusumawardani, 2014). Hargrave (2019) stated that high earnings translate to bank's ability to exploit its resources well. ROA are available in bank's annual report under the financial highlight.

Equation 4 - Return on Assets

$$\frac{Profit\ before\ tax}{Average\ assets}$$

Source: (Soemitro & Anantadjaya, 2013)

II.2.5. LIQUIDITY

Liquidity reflects the company's ability to meet its short-term obligations to creditors. This measurement indicates a bank's performance because liquidity compensates new loans without having to recall existing loans or realize long investments (Zedan & Daas, 2017).

Equation 5 - Loan to Deposit Ratio

$$\frac{Loans}{Deposits}$$

Source: (Soemitro & Anantadjaya, 2013)

Liquidity also signals a bank's ability to meet daily and seasonal turbulence in deposits thus making withdrawals possible in a timely manner as affirmed by Sujarwo (2015). For this study, Loan-to-Deposit (LDR) ratio is used to indicate the liquidity of banks. LDR is calculated by dividing total loans by total deposits, thus showing a bank's ability to cover loan losses

and withdrawals by customers (Team, 2018). LDR of each bank is provided in the annual report, under financial highlight.

II.3. PERFORMANCE

As the subjects of this study are publicly-listed banks, these banks are incorporated and listed in the Indonesian Stock Exchange. Kapoor, *et al* (2015) explains the responsibility of conducting good operation increases because part of the company is owned by many individuals and organizations that own share of the business. The owners possess shares and shares hence the term shareholders or shareholders. According to the book *Business: A Changing World*, the aim of business is to increase shareholder's value (Ferrel, Hirt, & Ferrell, 2014). Shareholder's values are the value of the shares possessed by owners.

The value or price of shares are driven by numerous factors but mostly driven by the organization's performance. Evaluating performance is vital to convince stakeholders and exhibit the bank's overall condition. Because these banks are incorporated and its shares are publicly-traded, the performance indicators chosen are share price - to indicate how attractive the bank is in the market, earnings per share - to indicate the portion of a company's profit allocated to each share, and price earnings ratio- to indicate how much investors pay for a company's earnings power. These indicators are chosen because as publicly-listed banks traded in Indonesian Stock Exchange, parameters of performance are perceived from the market's point of view and derived from share prices.

II.3.1. SHARE PRICE

Basic form of ownership for a corporation is the share. As explained from the book *Personal Finance,* shares are issued when corporations attempt to finance its business and its business activities. The book further explains how selling shares is favorable for companies because once buyers purchase shares; companies are not required to buy back the shares (Kapoor, Dlabay, Hughes, & Hart, 2015). The share can be sold to other parties once shares are purchased by individuals (or organization). The price is determined by how much the buyer is willing to pay. These prices are influenced by information of the company's future prospect, which are triggered by important developments within the firm. Thus, the company's performance will impact the development of the firm and influence the price of its share (Kapoor, Dlabay, Hughes, & Hart, 2015).

The share price reflects the principle expected value of companies as mentioned by Soemitro & Anantadjaya (2013). Puspitaningtyas (2017) affirms how share price illustrates a company's attractiveness in the market. When a company's financial performance is well, it will attract buyers and trigger demand, while the supply of share remains stagnant the price will increase. For these reasons, share price are reflectors of the company's state being. Since sustainable actions and CAMEL ratings aims to increase trust between banks and stakeholders, the attractiveness is perceived in the share exchange through its main determinant, the share price. Thus, share price is chosen to indicate the bank's performance in this study.

II.3.2. EARNINGS PER SHARE

To further approximate the bank's performance, earnings per share (EPS) is also a measurement highly deemed by the market. By definition, Barron's Dictionary of Finance and Investment Terms describes earnings per share as a portion of a company's profit allocated to each outstanding share of common share (Downes & Goodman, 2007). According to a study by Yuliza (2018), EPS are earnings generated for shareholders; in other words, it is the profit from each share. EPS commonly signals investors about the excellence of management in delivering profit and is one of the pivotal measurements for potential investors as elaborated in a study by Islam, *et al* (2014). Wet (2013) further confirms how EPS is linked to performance as remuneration for management levels are based on the EPS of companies. As elaborated by *Financial Accounting* book, EPS is useful to determine profitability (Wygandt, Kimmel, & Kieso, 2013). When a company is profitable, it hints at a good performance because it shows growth. Investors also consider a company's EPS when determining the financial health of a company. Thus, an increase in EPS is a healthy sign for corporation.

From these explanations, it is seen that EPS is one of the significant factors used by investor to evaluate a company. Moreover, being profitable is one of the outcomes from sustainable actions; hence the indicator is relevant for this study.

Equation 6 - Earnings Per Share

$$EPS = \frac{Net\ Income - Preferred\ Dividends}{Weighted\ Average\ Numbers\ of\ Shares\ Outstanding}$$

Source: (Wygandt, Kimmel, & Kieso, 2013)

II.3.3. PRICE EARNINGS RATIO

To illustrate the connection of the share price and its earnings per share, the ratio suitable to indicate is the Price Earnings Ratio (P/E). As explained in *Financial Accounting* book published by Wiley; this ratio measures price of each share to the earnings per share. Additionally, the *Financial Markets and Institution* book published by Pearson states how P/E Ratio measures how much the market is willing to pay for $1 of earnings. According to the Corporate Finance Institute, the ratio conveys investors on the price that must be paid for each unit of its earnings (CFI Education, 2019). P/E Ratio is the result of dividing the share price and the earnings per share as assured by Gottwald (2012).

Equation 7 - Price Earnings Ratio

$$P/E = \frac{Market\ Price\ per\ Share}{Earnings\ per\ Share}$$

Source: (Wygandt, Kimmel, & Kieso, 2013)

Ghaeli (2017) explains in his study that a high P/E ratio suggests higher earnings growth for upcoming years, conversely a low P/E ratio suggest lower earnings. While in the book explains that a high P/E Ratio signals two things; (1) P/E Ratio higher than average means the market expects the earnings of company to rise in the future, and (2) High P/E Ratio is coming from a low risk company therefore the market are willing to pay

premium for the company (Mishkin & Eakins, 2015).

The ratios within the same industry are normally similar. For this reason, the P/E ratio is seen appropriate to indicate the bank's performance because through this ratio investors determines whether they are paying a fair price of the company or not.

II.4. PREVIOUS STUDIES & RESEARCH DIFFERENCES

Table 2 - Previous Studies

Title of Research	Variables & Sub-Variables	Findings
1. Sustainable Profitability of Ethical and Conventional Banking (Costa-Climent & Martínez-Climent, 2018)	Ethical Banking Sustainable Banking Corporate Social Responsibility FinTech	• Sustainability report and social projects are related to sustainable profit. • CSR practice positively impacts firm's reputation. • Sustainability positively impacts transparencies to stakeholders.
2. Sustainability Reporting Quality:	Sustainability Report: • Environmental	• Positive correlation between

Title of Research	Variables & Sub-Variables	Findings
The Analysis of Companies in Croatia (Krivačić, 2017)	• Social Company Size • Number of employees Company Shares	sustainability report and the size of the company, namely due to its social impact. • No significant correlation between sustainability report and company share.
3. The Impact of SME's Lending and Credit Guarantee on Bank Efficiency in South Korea (Liang, Huang, Liao, & Gao, 2017)	SME Lending Profitability • Return on assets Management Capability • Cost to income ratio	• SME Lending negatively related to management capability due to higher credit risk. • SME Lending has insignificant impact towards profitability.
4. Application of the CSR Measuring Model in	Triple bottom line: • Economic	• CSR index positively related

Title of Research	Variables & Sub-Variables	Findings
Commercial Bank in Relation to Their Financial Performance (Paulík, Majková, Tykva, & Červinka, 2015)	• Social • Environmental Financial performance: • Return on asset • Return on equity • Profit per employee • Interest margin • Capital adequacy	with financial performance of the banks. • CSR index has highest correlation with return on equity. • Negative correlation is shown from CSR index and capital adequacy.
5. CSR & Performance: Any Evidence from Indonesian LQ45? - (Afiff & Anantadjaya, 2013)	CSR: • Employee • Environment • Community Financial: • Size • Profitability	• As the CSR's employee initiatives increase by 1%, firm's stock price declines by 17%. • As the CSR's community

Title of Research	Variables & Sub-Variables	Findings
	• Leverage • Crisis Stock Price	initiatives increases by 1%, the prevailing stock price slides by 15.3% • As firm's leverage increases by 1%, the prevailing stock price slides by 51.8%.
6. The Empirical Analysis of the Impact of Bank Capital Regulations on Operating Efficiency (Lotto, 2018)	Capital Adequacy Ratio Return to Asset Loan to Deposit Ratio Non-performing Loan Size	• Capital adequacy is positively related bank non-performing loans. • Loan to deposit ration inversely related non-performing loans.
7. CAMEL Ratio on Profitability Banking	Capital: • Debt to equity ratio • Non-performing	• CAMELS have significant influence towards

Title of Research	Variables & Sub-Variables	Findings
Performance (Munir & Bustamam, 2017)	loans Asset quality: • Return on asset Management: • Cost per income Earning: • Return on equity Liquidity: • Interest expense • Deposit Profitability: • Return on investment	profitability. • Capital & Management have the least significance towards Profitability.
8. The Impact of Indonesia's Banks Performance Towards Share Price Using CAMEL	Capital adequacy • Capital adequacy ratio Asset quality	• CAMEL ratings have simultaneous impact towards the bank's share price.

Title of Research	Variables & Sub-Variables	Findings
Analysis (Sujarwo, 2015)	• Non-performing loan to total loan Management quality • Efficiency ratio Earnings • Net operating margin Liquidity • Loan to deposit ratio Share Price	• CAMEL ratings have individual impact towards the bank's share price.
9. Ratio VS. EVA: A Performance Analysis in Indonesian Publicly-Listed Banks (Soemitro & Anantadjaya, 2013)	Ratio analysis: • Capital adequacy ratio • Loan deposit ratio • Net interest margin • Non-performing loan • Return on asset	• Ratio analysis influences performance as much as -17.5%, as ratio analysis increases, performance drops.

Title of Research	Variables & Sub-Variables	Findings
	Economic value added: • Invested capital • Net operating after tax • Weighted average capital Performance management: • Total asset • Total liabilities • Interest expense	• Economic value-added influences performance as much as 101.7%.
10. The Effects of Earning Per Share and Firm Size to Share Price LQ45 Company Listed in Indonesian Securities (Yuliza, 2018)	Share Price Earnings Per Share Firm Size	• EPS has significance towards share price, seen as positive signals for investors. • Firm size has significance towards share

Title of Research	Variables & Sub-Variables	Findings
		price.
11. Is Financial Performance Reflected in Share Prices? (Puspitaningtyas, 2017)	Liquidity • Current ratio Profitability • Return on equity Sales growth Earnings Per Share Share price	• High market valuation reflected by earnings per share indicates good performance. • Growth, profitability and liquidity have no direct impact towards share price.
12. How Earnings Per Share (EPS) Effects on Share Price and Firm Value (Islam, Khan, Choudhury, & Adnan, 2014)	Earnings Per Share Share Price Firm Value	• EPS is not significantly related to share price. • EPS is affected by company's annual report and macroeconomic condition.

Sources: Various

Differences of the current research in comparison to the previous studies;

1. This study combines three variables, which are Sustainability, CAMEL and Bank Performance.

2. Previous studies conducted study on Corporate Social Responsibility and Sustainability Report with the GRI G4 Guidelines, focuses whether the subject discloses its aspect of CSR or SR (economic, environment & social). While this study uses indicator from latest GRI Guideline that translates the output of each aspects (economic, environment & social) to indicate bank's sustainability. The latest guideline referred to are from the GRI Topic – Specific Standards Guidelines (Economics from GRI 200, Environment from GRI 300 and Social from GRI 400).

3. Previous studies used CAMEL ratio to assess bank's overall health in comparison to the required CAMEL ratio, while this study uses CAMEL ratio as a tool to reflect bank's operation.

4. Previous studies elaborate the movement of share price, earnings per share and price earnings ratio within one company while this study uses the mentioned indicators as a reflection of bank performance.

II.5. HYPOTHESIS AND BASIC RESEARCH MODEL

Figure 5 – Research Model
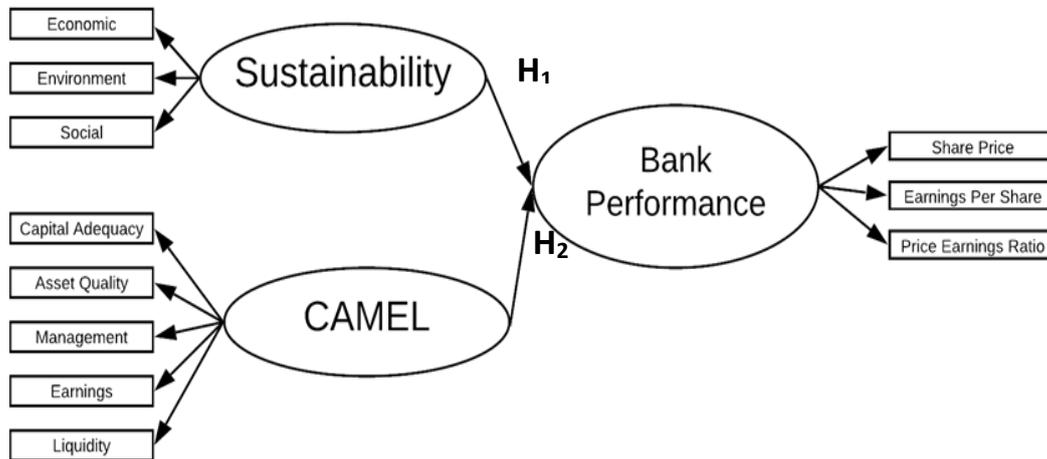
Source: (LucidChart, 2019)

From the above research model, the following hypotheses can be formulated:

H_1: Sustainability influences bank's performance

H_2: CAMEL influences bank's performance

CHAPTER 3: RESEARCH METHODOLOGY

III.1. RESEARCH PROCESS

Figure 6 - Research Process
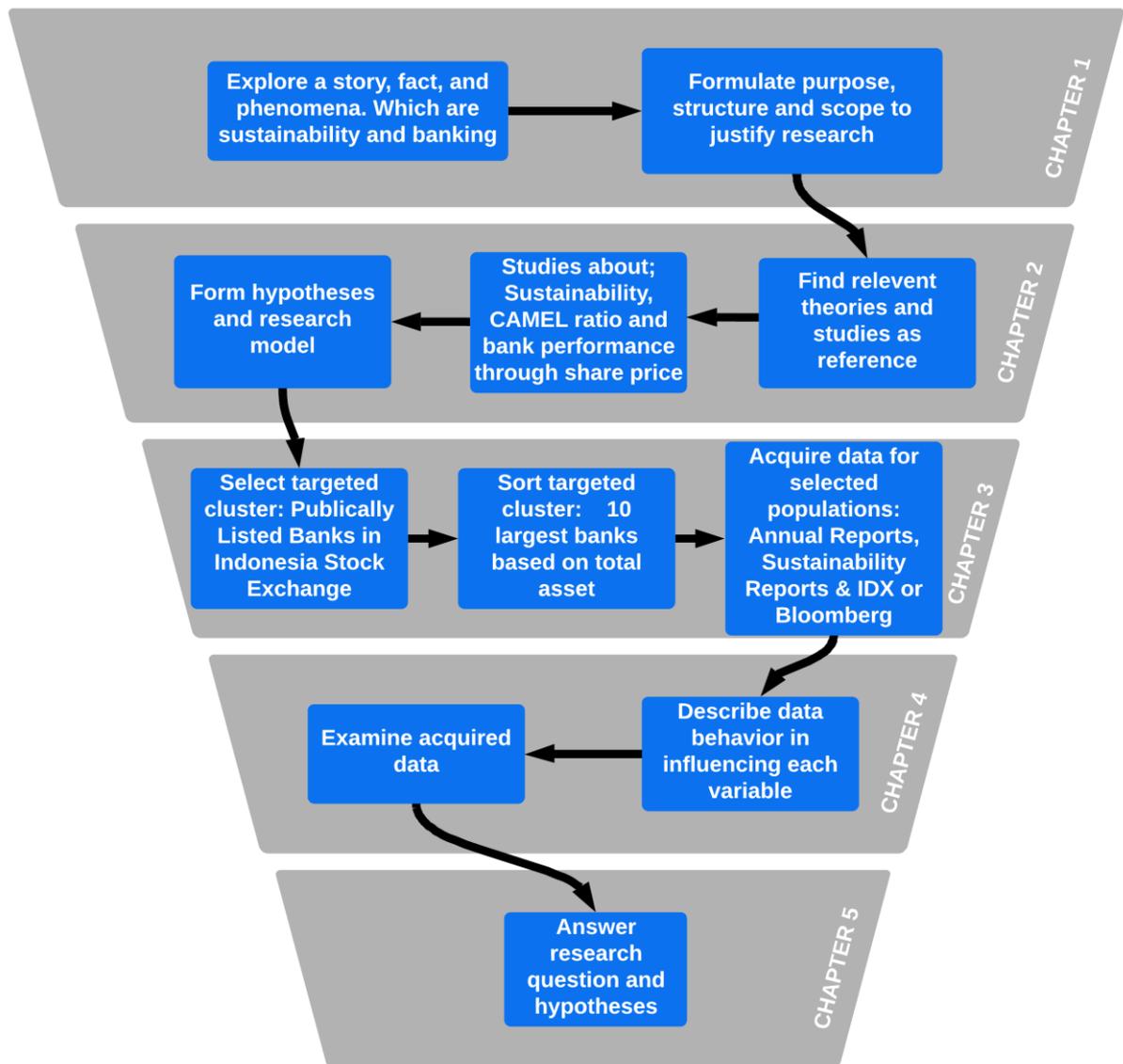
Source: (LucidChart, 2019)

The research process begins with recognizing an arising phenomenon. Chapter 1 elaborates the phenomenon of the rising middle

class and affluent consumers, how banks facilitate the rise of the economy and eventually how companies leave a footprint on the environment. The purpose, structure and scope with these limitations are formulated to justify the research.

Chapter 2 supports the research with theories relevant to the study and uses previous studies as a reference. Previous studies acquired for this research are studies revolving around sustainable actions within the banking industry, how banks are assessed based on their CAMEL ratios and how bank's performance is reflected. Various sources are chosen for previous studies but rely mainly on academic journals. Thus, to validate the research structure formation of hypotheses and research model are configured.

Chapter 3 focuses on data collection to execute the research method. In this section, the technicalities will be discussed in acquiring data collection. As mentioned earlier how banks will be the field of this study, in this chapter will specify what cluster of banks are chosen for the data collection. Banks chosen will belong to a certain classification and those banks' data are to be used in this study. Data acquired for this study are strictly from bank's publications (annual report, financial report and sustainability report) and other secondary sources such as; Indonesia Stock Exchange and Bloomberg Terminal.

Chapter 4 explores the data and further examines the result of data. The statistical description is conveyed in this section to describe the

behavior of the data in influencing each variable. Any findings from the data will be explained in this chapter. The program to run the data analyses are Statistical Package for Social Sciences (SPSS) and Analysis of a Moment Structure (AMOS). Subsequently, this chapter also elaborates any findings obtained from data examination and analyses.

Following data collection and processing, chapter 5 summarizes and concludes the findings. Chapter 5 answers the research purposes and questions mentioned in the beginning of this study, based on the data examined in previous chapters.

III.2. RESEARCH PURPOSE

According to the *Simple Steps for Your Business Research*, this research is classified as predictive research because this study examines the relationship among variables including the degree of influence from one variable to the others. Data extracted to indicate each variable are then analyze to note the degree of relationships. Main objective of predictive research is to formulate substantial predictions among variables, hence the hypotheses formulation (Anantadjaya & Nawangwulan, 2018)

The purpose of this study is to find how Indonesian publicly-listed bank's performance is influenced by their sustainability and their soundness (CAMEL ratio). To answer the 'how', each variable's characteristics is described, examining the degree of relationship and the influence significance of sustainable actions and CAMEL ratio towards the bank's

performance.

III.3. RESEARCH TYPE

This research is categorized as a causal correlational research because this research examines the degree of influence among variables, according to the *Simple Steps for Your Business Research*. As mentioned in the research questions earlier; "How strongly does the bank's sustainability influences bank's performance?" and "How strongly does the bank's CAMEL ratio influences bank's performance?". To answer those questions, a simple "yes" or "no" will not suffice. The answers will convey strength of relationship or degree of influences of the sustainable actions and the bank's CAMEL ratio on the bank's performance, hence the research purpose.

III.4. DATA COLLECTION

The sources on data collection for this study are from secondary data. The study relies on available data of the banks in marketplaces. Essentially, secondary data means the data is provided through 1st and 2nd parties, not directly from the source. The main source of collections is the bank's annual reports and sustainability reports.

To complete the data for sustainability indicators; the information and figures are collected from the bank's sustainability report. Some banks

provide a separated sustainability report, while some include it in the annual report under the section Corporate Social Responsibility. Within the reports, banks disclose its sustainable actions according to the bottom-line outcome (Paulík, Majková, Tykva, & Červinka, 2015). For instance, a bank's economic sustainability is reflected through sales growth, asset growth, expansion of branches and net profit growth (Costa-Climent & Martinez-Climent, 2018). A bank's social sustainability is reflected through the loans distributed to Micro, Small and Medium Enterprises, People's Business Loans, and employee training and development expenses (Liang, Huang, Liao, & Gao, 2017). Lastly, a bank's environment sustainability is disclosed through the resource usage; water, electricity and paper consumption (Krivačić, 2017).

A bank's CAMEL ratios are all extracted strictly from annual report to ensure figures are accurate and validated (Lotto, 2018). From each annual report all ratios of CAMEL are available under the financial highlights (Munir & Bustamam, 2017). The ratios extracted from the annual reports are: capital adequacy ratio (capital adequacy), non-performing loan ratio (asset quality), net interest margin (management), return on assets (earnings), and loan deposit ratio (liquidity).

For the Performance indicator; share price, earnings per share (EPS) and price earnings ratios (P/E), Indonesia Stock Exchange website (IDX) and Bloomberg terminal are used to complete any missing figures from the report. These two sources are chosen because it facilitates the movement of shares complete with its supporting information (Shen, 2017).

Furthermore, these two facilities summarize share information such as EPS and P/E for the convenience of buyers (Puspitaningtyas, 2017). From the annual report, share prices are found under share highlights.

III.4.1. VARIABLES AND INDICATORS

Table 3 - Variables and Indicators

Variables	Indicators	Explanation	Scale
Sustainability (Amos & Uniamikogbo, 2016)	Economic (Dallerup, *et al* 2018)	Bank's economic sustainable action is indicated through the growth percentage of branches.	Ratio
	Environment (Krivačić, 2017)	Bank's environmentally sustainable action is indicated through the percentage of resources usage disclosed in report.	Ratio
	Social (Liang, *et al,* 2017)	Bank's social sustainable action is indicated through the growth of loans distributed to MMSME.	Ratio
CAMEL (Pelster, 2016)	Capital Adequacy (Sujarwo, 2015)	For capital adequacy, the indicating ratio is Capital Adequacy Ratio (CAR)	Ratio
	Asset Quality (Sujarwo, 2015)	For asset quality, the indicating ratio is Non-Performing Loan (NPL)	Ratio
	Management (Sujarwo, 2015)	For management, the indicating ratio is Net Interest Margin (NIM)	Ratio
	Earnings (Sujarwo, 2015)	For earnings, the indicating ratio is Return on Assets (ROA)	Ratio
	Liquidity (Sujarwo, 2015)	For liquidity, the indicating ratio is Loan to Deposit	

Variables	Indicators	Explanation	Scale
		Ratio (LDR)	Ratio
Performance (Kapoor, Dlabay, Hughes, & Hart, 2015)	Share Price (Puspaningtyas, 2017)	Performance is indicated by share price	Interval
	Earnings Per Share (Puspaningtyas, 2017)	Performance is indicated by earnings per share	Interval
	Price Earnings Ratio (Shen, 2017)	Performance is indicated by price earnings ratio	Ratio

III.5. POPULATION AND SAMPLE

III.5.1. POPULATION

The population in this study is all publicly-traded banks in Indonesia. These banks are listed in the Indonesian Stock Exchange.

III.5.2. SAMPLING PROCESS

This study is quantitative analyses thus probability sampling method is chosen. The sample is chosen based on cluster because each cluster within the Indonesia Stock Exchange is mutually exclusive; segregated based on industrial sectors.

Extracting the population is done with cluster sampling because the classification from the whole population is based on the industrial sectors. As explained by Gupta (2012) cluster sampling essentially splits the parent population into mutually exclusive sub-group thus this study focuses on the

banks listed on the Indonesia Stock Exchange (IDX). All publicly-listed companies listed in Indonesia Stock Exchange are classified into 9 different sectors, and banks are categorized under the 8ᵗʰ sector, which is financial sector. Within the financial sector there are multiple industries. For this study, banking industry is selected containing 43 listed banks (Indonesia Stock Exchange, 2018).

Table 4 – Publicly-Listed Banks in Indonesia Stock Exchange

No.	Bank Code	Bank Name	IPO Date
1	AGRO	PT Bank Rakyat Indonesia Agroniaga Tbk	8 August 2003
2	AGRS	PT Bank Agris Tbk	22 December 2014
3	ARTO	PT Bank Artos Indonesia Tbk	12 January 2016
4	BABP	PT Bank MNC International Tbk	15 July 2002
5	BACA	PT Bank Capital Indonesia Tbk	4 October 2007
6	BBCA	PT Bank Central Asia Tbk	31 May 2000
7	BBHI	PT Bank Harda Internasional Tbk	12 August 2015
8	BBKP	PT Bank Bukopin Tbk	10 July 2006
9	BBMD	PT Bank Mestika Dharma Tbk	8 July 2013
10	BBNI	PT Bank Negara Indonesia (Persero) Tbk	25 November 1996
11	BBNP	PT Bank Nusantara Parahyangan Tbk	10 January 2001
12	BBRI	PT Bank Rakyat Indonesia (Persero) Tbk	10 November 2003
13	BBTN	PT Bank Tabungan Negara (Persero) Tbk	17 December 2009
14	BBYB	PT Bank Yudha Bhakti Tbk	13 January 2015
15	BCIC	PT Bank JTrust Indonesia Tbk	25 June 1997
16	BDMN	PT Bank Danamon Indonesia Tbk	6 December 1989

No.	Bank Code	Bank Name	IPO Date
17	**BEKS**	PT Bank Pundi Indonesia Tbk	13 July 2001
18	**BGTG**	PT Bank Ganesha Tbk	12 May 2016
19	**BINA**	PT Bank Ina Perdana Tbk	16 January 2014
20	**BJBR**	PT Bank Pembangunan Daerah Jawa Barat dan Banten Tbk	8 July 2010
21	**BJTM**	PT Bank Pembangunan Daerah Jawa Timur Tbk	12 July 2012
22	**BKSW**	PT Bank QNB Indonesia Tbk	21 November 2002
23	**BMAS**	PT Bank Maspion Indonesia Tbk	11 July 2013
24	**BMRI**	PT Bank Mandiri (Persero) Tbk	14 July 2003
25	**BNBA**	PT Bank Bumi Arta Tbk	31 December 2009
26	**BNGA**	PT Bank CIMB Niaga Tbk	29 November 1989
27	**BNII**	PT Bank Maybank Indonesia Tbk	21 November 1989
28	**BNLI**	PT Bank Permata Tbk	15 January 1990
29	**BSIM**	PT Bank Sinarmas Tbk	13 December 2010
30	**BSWD**	Bank of India Indonesia Tbk	1 May 2002
31	**BTPN**	PT Bank Tabungan Pensiunan Nasional Tbk	12 March 2008
32	**BVIC**	PT Bank Victoria Internasional Tbk	29 August 1990
33	**DNAR**	PT Bank Dinar Indonesia Tbk	11 July 2014
34	**INPC**	PT Bank Artha Graha Internasional Tbk	29 August 1990
35	**MAYA**	PT Bank Mayapada Internasional Tbk	29 August 1997
36	**MCOR**	PT Bank China Construction Bank Indonesia Tbk	3 July 2007
37	**MEGA**	PT Bank Mega Tbk	17 April 2000
38	**NAGA**	PT Bank Mitraniaga Tbk	9 July 2013

No.	Bank Code	Bank Name	IPO Date
39	**NISP**	PT Bank OCBC NISP Tbk	20 October 1994
40	**NOBU**	PT Bank National Nobu Tbk	20 May 2013
41	**PNBN**	PT Bank Pan Indonesia Tbk	29 December 1982
42	**PNBS**	PT Bank Panin Dubai Syariah Tbk	15 January 2014
43	**SDRA**	PT Bank Woori Saudara Indonesia 1906 Tbk	15 December 2006

Source: (Indonesia Stock Exchange, 2018)

From the total of 43 publicly-listed banks within the banking industry, the banks selected are based on its strata. The study focuses on the 10 largest banks based on total assets as per 2017. The 10 banks listed on the table below are selected because according to the publication by Rimbo (2017), as of 2017 these 10 banks are the key players of the Indonesian Banking Industry due to their significant market share.

Table 5 - 10 Largest Publicly-Listed Banks by Total Asset As of 2017

No.	Bank Name	Bank Code	Total Asset (RP Billion)
1	PT Bank Rakyat Indonesia (Persero) Tbk	**BBRI**	1,076,438,066
2	PT Bank Mandiri (Persero) Tbk	**BMRI**	978,377,431
3	PT Bank Central Asia Tbk	**BBCA**	734,705,608
4	PT Bank Negara Indonesia (Persero) Tbk	**BBNI**	661,658,373
5	PT Bank CIMB Niaga Tbk	**BNGA**	264,160,781
6	PT Bank Tabungan Negara (Persero) Tbk	**BBTN**	261,365,267
7	PT Bank Pan Indonesia Tbk	**PNBN**	196,630,282
8	PT Bank Maybank Indonesia Tbk	**BNII**	159,899,681
9	PT Bank Danamon Indonesia Tbk	**BDMN**	153,442,082
10	PT Bank Permata Tbk	**BNLI**	147,992,131

Source (Indonesia Stock Exchange, 2018)

III.5.3. SAMPLE SIZE

Anantadjaya & Nawangwulan (2018) explains the importance of sample size for this study due to its statistical approximation towards generalization of the research findings. Acquiring the approximate sample size for this study can be done with Raosoft, an online sample size calculator. With 10% margin of error, and 95% confidence level, Raosoft calculated that this study requires at least 96 samples. Samples for this study is rounded up to 100 to proportionate all the samples. To fulfill 100 samples, the data is acquired from the year 2008 until 2017 on top 10 banks on total asset. 2018 is omitted because during the time of this data collection research, not all banks have published their annual report.

Figure 7 - Sample Size Calculator

Source: (Raosoft, Inc, 2004)

III.6. DATA ANALYSIS

Once collection of data is fulfilled, the data is analyzed to extract the

desired output in answering the research problems and questions. As the approach is quantitative, the outcome of data analysis is to find evidence from the processed raw numbers. To conduct the process, there are two programs that will be used to analyze the data; which are SPSS and AMOS.

III.6.1. STATISTICAL PACKAGE FOR THE SOCIAL SCIENCE (SPSS)

The Statistical Package for the Social Sciences, otherwise known as SPSS, will be used to assist the statistical data analysis for this study. SPSS was designed to be used for the management and statistical analysis of social science data, originally launched in 1968 and then acquired by IBM in 2009 (Foley, 2018). SPSS will be used with the intention of describing statistical analysis. The outcome of the SPSS descriptive will be based the discussion of the study. As mentioned earlier about how the study attempts to explore the influence and significance amongst variables, SPSS will assist understanding data and analyze trends prior to drawing conclusions.

III.6.1.1. DESCRIPTIVE STATISTICS

First output from SPSS descriptive statistics. This aims to summarize the data set given for this study. Descriptive statistics conveys the characteristics of a data set. It measures central tendency and measure of variability, which includes; mean, median, and model. Variability is translated through standard deviation, variance, minimum and maximum variables, and kurtosis and skewness (Kenton, Descriptive Statistics, 2019a).

III.6.1.2. RELIABILITY AND VALIDITY

Reliability and validity aim to reduce the error in measurement for a research (Gupta & Gupta, 2012). Reliability measures the outcome of

research consistency (Anantadjaya & Nawangwulan, 2018). Validity test is done to determine that the data collected can reflect the intention of the research (Gupta & Gupta, 2012). To assure that the data acquired is valid, all data inputs are tested on SPSS for the reliability; Cronbach's Alpha and validity test; Kaiser-Meyer-Olkin (KMO) test.

III.6.1.3. STEPS FOR RELIABILITY AND VALIDITY TEST
The following steps are the ways to approach reliability test in SPSS.

1. After all data are imported to SPSS, click Analyze > Scale > Reliability Analysis

2. Input all the sub-variables to the Items box

3. Ensure the Model is set as "Alpha"

4. Click the Statistics buttons which will then open the dialogue box

5. Select everything inside the dialogue box

6. Click continue. Then click the OK button to generate the output.

7. Output of the data is under "Cronbach's Alpha Based on Standardized Items"

Table 6 - Cronbach Alpha Value Scale

Cronbach Alpha Value Scale	
0.93 – 0.94	Excellent
0.84 – 0.93	Reliable
0.64 – 0.84	Adequate
0.45 – 0.64	Acceptable
< 0.45	Not satisfactory

Source: (Taber, 2017; Hidayat, 2014; Tavakol & Dennick, 2011)

Studies by Taber (2017), Hidayat (2014), and Tavakol & Dennick (2011) stated that reliability above 0.5 is acceptable. Summary of the

reliability acceptance scale is shown on Table 6.

The following steps are the ways to approach validity test in SPSS.

1. After all data are imported to SPSS, click Analyze > Dimension Reduction > Factor

2. Input all the sub-variables to the Items box

3. In the Descriptive, ensure to tick the KMO and Bartlett's test of sphericity

4. Click continue. Then click the OK button to generate the output.

5. Output of the data is under KMO and Barlett's Test table.

As for validity, the test computes sampling sufficiency for each variable in the model. The output for this test is the Kaiser-Meyer-Olkin (KMO) test and any value above 0.49 is acceptable. The table below summarizes the acceptance rule of validity according to Cerny & Kaiser (2016), Hidayat (2014), Anantadjaya & Nawangwulan (2018).

Table 7 - KMO Value Scale

Kaiser – Meyer – Olking Value Scale	
0.90 – 1.00	Marvellous
0.80 – 0.89	Meritorious
0.70 – 0.79	Middling
0.60 – 0.69	Mediocre
0.50 – 0.59	Miserable
< 0.49	Unacceptable

Source: (Cerny & Kaiser, 2016)

III.6.2. ANALYSIS OF A MOMENT STRUCTURES (AMOS)

Another software will be used to deepen the analysis of acquired data

called AMOS, an abbreviation of Analysis of a Moment Structures. According to Byrne (2010), AMOS is a program used to perform structural equations, thus enabling more precise models to test hypotheses and confirm relationships among variables moving beyond regression. As explained by Cerny & Kaiser (2016), AMOS is an appropriate tool to examine the behavior of variables because this study has more than one dependent variable. The output from AMOS will be a path diagram analysis examined in chapter 4.

III.6.2.1. PATH DIAGRAM ANALYSIS

As this study is purposed as causal correlational, the output to address the purpose is through path diagram analysis. This form of multiple regression statistical analysis, examines degree of influence between two or more variables (Crossman, 2019)**.** Output is exhibited by Structural equation modeling (SEM), a statistical modeling technique to portray relationships in behavioral science. The structural equation model implies correlations between one variable and the other. SEM provides a general framework for statistical analysis that includes numerous analyses such as factor analysis, regression analysis and correlation analysis. Through path diagram analysis, connections between variables are conveyed. Path diagram analysis enables researchers to comprehend relationships in order to address the research hypothesis and question (Wuensch, 2016)

Table 8 - Correlation Coefficient Size Rule of Thumb

Size of Correlation	Interpretation
0.90 to 1.00 (-0.90 to −1.00)	Very high positive (negative) correlation

Size of Correlation	Interpretation
0.70 to 0.90 (-0.70 to -0.90)	High positive (negative) correlation
0.50 to 0.70 (-0.50 to -0.70)	Moderate positive (negative) correlation
0.30 to 0.50 (-0.30 to -0.50)	Low positive (negative) correlation
0.00 to 0.30 (0.00 to -0.30)	Insignificant correlation

Source: (Schober, *et al*, 2018; Hinkle, et al, 2002)

Referring to the table above, the estimate indicates the level of correlation between variables. According to numerous studies by Boer, & Schwarte (2018) and Hinkle, Wiersma, & Jurs (2002) the level of correlation interprets differently according to the numbers. The correlation level rule of thumb in summarized on the table above.

III.6.2.2. MODIFICATION INDICES

Modification indices suggests alternative to increase the significance of executed model and the estimated model (Akhtar, 2017). The modification indices provide another approach in increasing the goodness model fit in AMOS (Akhtar, 2017). AMOS is able to provide modifications to the model in order to obtain a better-fit model.

Previous study by Hox (2014) explains how deleting parameters that are not significant or adding parameters to improve can modify inadequate model fit. This is done with modification indices. Any suggested modifications are acceptable when theoretical justification is applicable (Hox, 2014).

As explained by Gaskin (2011), modification can be executed when

the variables and sub-variables are theoretically and logically accepted meaning that the variable is suitable to become the proxy of the desired variables. Variables that are not theoretically possible cannot be connected to enhance the significance (Byrne, 2010). For example, share price does not reflect efficiency thus it is not appropriate to modify bank's efficiency with indicator of share price.

CHAPTER 4: RESULTS AND DISCUSSIONS

IV.1 INDONESIA BANKING INDUSTRY OVERVIEW

As defined by the Financial Service Authority, banks are business entities that collect funds from public in the form of deposits. Then these funds are channeled back to public in form of credits with the purpose of improving the living standard of the community (Otoritas Jasa Keuangan, 2017). The type of bank carrying such purpose is the commercial bank. Banks that conduct operation in the conventional manner. Commercial banks may also perform activities in co-financing such as leasing, venture capital, securities, insurance and clearing settlement and deposit institution. All under provisions stipulated by the central bank, Bank Indonesia (Otoritas Jasa Keuangan, 2017).

Reported by Indonesian Investments, under the current Indonesian Government banks are highly relied to boost economic activity and economic growth through distribution of loans. In previous chapter is explained the meaning of capital adequacy ratio and its safety margin for banks to operate (Indonesia Investments, 2018). The overall trend of CAR in Indonesia Banking is relatively high, meaning that banks have plenty of space to boost lending before becoming insolvent and lose depositor's fund (Rossiana, 2018). The bigger the bank, the more it can grant loans because of its sufficient capital.

Another trend emerging in the Indonesian banking industry is sustainable financing. Sustainability started off as a voluntarily operation but now it has been officially regulated by the Government and Financial Services Authority (Sulaiman, 2016). Sustainable Finance Roadmap contains guidance and policy in approaching a sustainable development. Financial institutions play a substantial role in the development as a party that accelerates development and increase economy to achieve social prosperity (Muhammad, 2019). Part of the Sustainable Finance Roadmap is to enhance funding for green projects, such as; renewable energy, efficiency energy, green building, and organic farming (Sulaiman, 2016). Stated in chapter 3 the banks for this study are main players in Indonesia, brief overview of the banks are as follows:

IV.1.1. PT BANK RAKYAT INDONESIA (PERSERO) TBK

PT Bank Rakyat Indonesia (Persero) Tbk, commonly known as BRI, covers business segment of Micro Banking, Retail Banking, Middle and Corporate Banking. This bank was established on December 18th 1895 by the name De Poerwokertosche Hulp en Spaarbank der Inlandsche Hoofden and currently employs over 90,000 workers. 56.75 % of the shares is owned by the Government of The Republic of Indonesia and the 43.25% is owned by the public. BRI made history on June 18th 2016 by launching BRISat, a first ever satellite owned and operated by a bank (PT Bank Rakyat Indonesia (Persero) Tbk., 2018).

Table 9 - PT Bank Rakyat Indonesia (Persero) Tbk

Bank Code	BBRI
Total Asset (RP Billion)	1,076,438,066

Initial Public Offering	10 November 2003
Shareholders	56.75 % Government of The Republic of Indonesia
	43.25% Public

IV.1.2. PT BANK MANDIRI (PERSERO) TBK

The shareholders for PT Bank Mandiri Persero (Tbk) includes The Government of the Republic of Indonesia with 60% of ownership, while 7.01% is owned by Indonesian Nationals and the remaining 32.99% owned by foreigners. The Bank's business segments cover wholesale (corporation and commercial), retail, institution, and treasury. PT Bank Mandiri Persero (Tbk) has over 10 subsidiaries. Bank Mandiri is the formation of former State-Owned Banks which are; Bank Ekspor Impor Indonesia, Bank Dagang Negara, Bank Bumi Daya and Bank Pembangun Indonesia (PT Bank Mandiri (Persero) Tbk, 2018).

Table 10 - PT Bank Mandiri (Persero) Tbk

Bank Code	BMRI
Total Asset (RP Billion)	978,377,431
Initial Public Offering	14 July 2003
Shareholders	60 % Government of The Republic of Indonesia
	7.01% Indonesian Nationals
	32.99 % Foreigners

IV.1.3. PT BANK CENTRAL ASIA TBK

PT Bank Central Asia Tbk, namely called BCA, is a commercial bank established on October 10th 1955. BCA was listed in the Indonesia Stock

Exchange on May 31st 2000. Currently the bank's ownership belongs to PT Dwimuria Investama Andalan, accounting 54.94% of the share and 45.06% is owned by the public. BCA has over 8 subsidiaries. Through its subsidiary BCA Finance, BCA develops expertise in lending particularly vehicle financing. In 2016, BCA became Southeast Asia's biggest lender by value with a market capitalization of USD 24.5 Billion (PT Bank Central Asia Tbk, 2018).

Table 11 - PT Bank Central Asia Tbk

Bank Code	BBCA
Total Asset (RP Billion)	734,705,608
Initial Public Offering	31 May 2000
Shareholders	54.94 % PT Dwimuria Investama Andalan
	45.06% Public

Source: (PT Bank Central Asia Tbk, 2018)

IV.1.4. PT BANK NEGARA INDONESIA (PERSERO) TBK

PT Bank Negara Indonesia (Persero) Tbk, namely called BNI covers segments of business banking cooperatives, medium and small, consumers banking, and international banking and treasury. BNI was established on July 5th 1946. Currently the Bank's ownership belongs to the Government of the Republic of Indonesia for 60%, and belongs to the public for 40%. BNI as a State-Owned Enterprise was the first to become a public company after listing its shares on the Jakarta Stock Exchange and the Surabaya Stock Exchange in 1996. BNI has branches in Seoul, Singapore, Hong Kong, Tokyo, London and New York (PT Bank Negara Indonesia (Persero) Tbk, 2018).

Table 12 - PT Bank Negara Indonesia (Persero) Tbk

Bank Code	BBNI
Total Asset (RP Billion)	661,658,373
Initial Public Offering	25 November 1996
Shareholders	60% Government of The Republic of Indonesia
	40% Public

Source: (PT Bank Negara Indonesia (Persero) Tbk, 2018)

IV. 1. 5. PT BANK CIMB NIAGA TBK

PT Bank CIMB Niaga Tbk was established on September 26th 1955. Bank Niaga merged with PT Bank Agung on in 1973, then merged with PT Bank Tabungan Bandung in 1978, and merged again with PT Bank Amerta in 1983. In 2008, the bank merged with PT Bank Lippo Tbk. At the same year the bank changed its name to CIMB Niaga, and become part of the ASEAN Regional CIMG Group. As of 2018, CIMB Group Sdn Bhd accounting for 91.48% of the shares owns the majority of shares, PT Commerce Kapital owns 1.02% and the public owns the remaining 7.5%. CIMB Niaga is also the third largest mortgage provider in Indonesia accounting approximately 11% of market share. Under the Indonesian Central Securities Depository, CIMB Niaga is ranked as the largest payment bank based on transaction value (PT CIMB Niaga Tbk, 2018).

Table 13 - PT CIMB Niaga Tbk

Bank Code	BNGA
Total Asset (RP Billion)	661,658,373
Initial Public Offering	29 November 1989
Shareholders	91.48% CIMB Group Sdn Bhd
	7.5% Public

	1.02 % PT Commerce Kapital

Source: (PT CIMB Niaga Tbk, 2018)

IV.1.6. PT BANK TABUNGAN NEGARA (PERSERO) TBK

PT Bank Tabungan Negara (Persero) Tbk, commonly called, as BTN is a state-owned commercial bank incorporated on February 9th 1950. The Government of the Republic of Indonesia holds majority of shares for 60%, foreign public holds 29.95% of the shares and local public holds 10.05% of the shares. In 1897 the company was established under the name "Postspaarbank" during the Dutch Era. BTN was appointed by the Government as a commercial bank to focus on housing finance (PT Bank Tabungan Negara (Persero) Tbk, 2018).

Table 14 - PT Bank Tabungan Negara (Persero) Tbk

Bank Code	BBTN
Total Asset (RP Billion)	261,365,267
Initial Public Offering	17 December 2009
Shareholders	60% Government of The Republic of Indonesia
	29.95% Foreign Public
	10.05% Local Public

Source: (PT Bank Tabungan Negara (Persero) Tbk, 2018)

IV.1.7. PT BANK PAN INDONESIA TBK

PT Bank Pan Indonesia Tbk was established in 1971 from the business merger of Bank Kemakmuran, Bank Industri Djaja, and Bank Industri & Dagang Indonesia, Panin Bank acquired a license as foreign exchange bank in 1972. Furthermore, in 1982, Panin Bank performed initial public offering and became the first bank in Indonesia to list its share on the stock

exchange. Panin Bank continues to grow to become one of the leading Micro, Small, and Medium Enterprise (MSME) banks in Indonesia through a variety of products and services in the consumers, MSME and micro, commercial, corporate, and commercial banking segments (PT Bank Pan Indonesia Tbk, 2018).

Table 15 - PT Bank Pan Indonesia Tbk

Bank Code	PNBN
Total Asset (RP Billion)	196,630,282
Initial Public Offering	29 December 1982
Shareholders	45.9% PT Panin Financial Tbk
	37.1% Australia & New Zealand Banking Group Ltd.
	17% Public

Source: (PT Bank Pan Indonesia Tbk, 2018)

IV.1.8. PT BANK MAYBANK INDONESIA TBK

PT Bank Maybank Indonesia Tbk, namely called Maybank, was established on May 15th 1959. Prior to changing the name to PT Bank Maybank Indonesia Tbk in 2015, the bank was formally named PT Bank Internasional Indonesia Tbk. The Majority of share is owned by Sorak Financial Holdings Pte. Ltd. owning 45.02% of the shares, Maybank Offshore Corporate Services (Labuan) Sdn. Bhd owning 33.96%, UBS AG London owning 18.31% and the public owning 2.71% of the shares (PT Bank Maybank Indonesia Tbk, 2018).

Table 16 - PT Bank Maybank Indonesia Tbk

Bank Code	BNII
Total Asset (RP Billion)	159,899,681

Initial Public Offering	21 November 1989
Shareholders	45.02% Sorak Financial Holdings Pte. Ltd.
	33.96% Maybank Offshore Corporate Services
	18.31% UBS AG London
	2.71% Public

Source: (PT Bank Maybank Indonesia Tbk, 2018)

IV.1.9. PT BANK DANAMON INDONESIA TBK

PT Bank Danamon Indonesia, Tbk. ("Danamon") was established in 1956. Danamon serves all segments of banking customers in the Consumers segment, Commercial segment, Small Medium Enterprises, Micro businesses and Enterprise (Commercial and Corporate) banking segments. As of December 31, 2018, the shares of Danamon are owned by The MUFG Bank, Ltd. (40.00%), Asia Financial (Indonesia) Pte. Ltd. (33.83%), and the public (26.17%).

Table 17 - PT Bank Danamon Indonesia Tbk

Bank Code	BDMN
Total Asset (RP Billion)	153,442,082
Initial Public Offering	6 December 1989
Shareholders	40.00% MUFG Bank Ltd.
	33.83% Asia Financial (Indonesia) Pte. Ltd
	26.17% Public

Source: (PT Bank Danamon Indonesia Tbk, 2018)

Danamon operates an extensive distribution network spread out from Aceh to Papua, with more than 1,100 branches and service outlets

comprising conventional Branches, Danamon Simpan Pinjam (DSP) units, Sharia units and the Branch Networks of Adira Finance and Adira Insurance (PT Bank Danamon Indonesia Tbk, 2018).

IV.1.10. PT BANK PERMATA TBK

PT Bank Permata Tbk (Permata Bank) is the result of a merger of 5 (five) banks, PT. Bank Bali Tbk, PT. Bank Universal Tbk, PT. Bank Prima Express, PT. Bank Artamedia and PT Bank Patriot in 2002. PT Astra International Tbk and Standard Chartered Bank owned equally 44.56 % of the shares and the public owns the remaining 10.88% (PT Bank Permata Tbk, 2018).

Table 18 - PT Bank Permata Tbk

Bank Code	BNLI
Total Asset (RP Billion)	147,992,131
Initial Public Offering	15 January 1990
Shareholders	44.56% PT Astra International Tbk
	44.56% Standard Chartered Bank
	10.88% Public

Source: (PT Bank Permata Tbk, 2018)

IV.2. DESCRIPTIVE ANALYSIS

The descriptive statistics of the compiled data in this study are shown in the table below.

Summary of collected data is conveyed on the table above, with a total of 100 data collection and analyzed using SPSS. Standard deviation

conveys deviations of data from the centralize value, or mean (Gupta & Gupta, 2012). Small standard deviation indicates closer to the mean of the data set, while large standard deviation indicates farther from the mean of the data set (Rumsery, 2018). From the data above, LG (Loan Growth), SP (Share Price), EPS (Earnings per Share) and PE (Price earnings ratio) shows a relatively high deviation. These indicate that the numbers of the mentioned data fluctuate annually resulting in high variations. Loan growth and share price does deviate due to the sensitivity of the market. Loan growth is impacted by the demand from the market.

Table 19 - Descriptive Statistics

	Mean	Std. Deviation	Variance	Skewness	Kurtosis
BG	4.69	13.56	183.79	-0.935	10.360
ED	39.16	27.69	766.84	0.616	-0.906
LG	-4.07	85.56	7319.86	-5.387	35.484
CAR	16.68	2.74	7.53	0.426	-0.432
AQ	2.49	1.30	1.70	1.084	4.276
MGT	6.21	1.81	3.28	1.174	0.704
EA	2.27	1.31	1.72	-1.328	7.814
LQ	86.00	12.02	144.50	-0.683	0.608
SP	3791.87	4094.98	16768828.78	1.673	3.290
EPS	290.74	291.54	84996.76	1.055	0.405
PE	15.21	39.79	1583.43	-6.361	58.385

Source: (SPSS, 2018)

As discussed in chapter 2, Government also plays vital role in loan distribution towards MSME. These are some factors in the fluctuation of loan growth. Share price also fluctuates as the stock market price is driven by the macro economy condition. Within the periods of the study, major occasions such as political election and natural disaster occurred in

Indonesia thus impacting the overall stock exchange including the banks. Changes in share prices directly impacts EPS and PE.

Similarly, variance measures the variation in the data set. BG, ED, LG, LQ, SP, EPS, and PE have high variance meaning that these data varies annually (Rumsery, 2018). It is apparent for banks to have non identical data annually since banks are highly market driven and regulations that adheres to frequent revisions from the Government (Johnston, 2018) Loan growth tends to have rising trend as seen from the data of this study, because within the period of 2008 until 2017 there has been revisions of Government regulations regarding loans to MSME. This either triggers banks to boost their lending capital as previously mentioned in this chapter, or surge the demand of loans for small businesses. Explained in chapter 2 that loan is one of bank's most significant asset, therefore with more granted loans it impacts the bank's LQ (liquidity) and SP (share price).

Skewness measures the asymmetry of the probability distribution of variable from its mean, in other words it reflects the degree of lopsidedness in the distribution (Zainotz, 2018). The most substantial figure can be seen from LG (loan growth). Evidently, throughout the period of data collection there are changes of Government regulations regarding people's business loan and the rapid rise of micro, small, and medium enterprises. For these reasons, figures are negatively skewed meaning there have been drastic movements from year to year regarding loans to micro, small, and medium enterprises as explained in chapter 2 by (Amalia, 2017).

Kurtosis measures the outliers present in the distributions. It describes extreme values in one data set; hence higher kurtosis indicates more outliers (Zainotz, 2018). Evidently from the data set BG, LG, and PE have the highest outliers. One mutual comprehension amongst these three aspects are that branch growth, loan growth and price earnings ratio are impacted by external stakeholders, thus numbers circulate based on macro economy condition (Chai, Tan, & Goh, 2016).

IV.3. RELIABILITY AND VALIDITY TESTING

Data for this research are acquired from annual reports, sustainability reports and the Indonesia Stock Exchange that have endured internal and external audit. Thus, the data are officially reliable and valid. Nevertheless, the data will still be tested using SPSS to assure data's validity and reliability.

Table 20 - Reliability Statistics

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.132	0.498	11

Source: (SPSS, 2018)

The above table conveys the reliability of the data. As seen in the Cronbach's Alpha Based on Standardized Items, the data measures a total of 0.498 out of 1. Referring to the theory explained by Taber (2017), Hidayat (2014), and Tavakol & Dennick (2011), this means the data for the sub-variables is 50% acceptable and valid to indicate the variables.

Table 21 - Validity Statistics conveys the validity of the data. As seen

in the Kaiser-Meyer-Olkin (KMO) Adequacy, the data measures a total 0.587 out of 1. Referring to the theory explained by Cerny & Kaiser (2016) and Hidayat (2014), this means the data for the sub-variables is 59% reliable to indicate the variables and can be accepted.

Table 21 - Validity Statistics

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.587
	Approx. Chi-Square	372.044
	df	55
	Sig.	0.000

Source: (SPSS, 2018)

IV.4. PATH DIAGRAM ANALYSIS

Figure 8 - Path Diagram Result
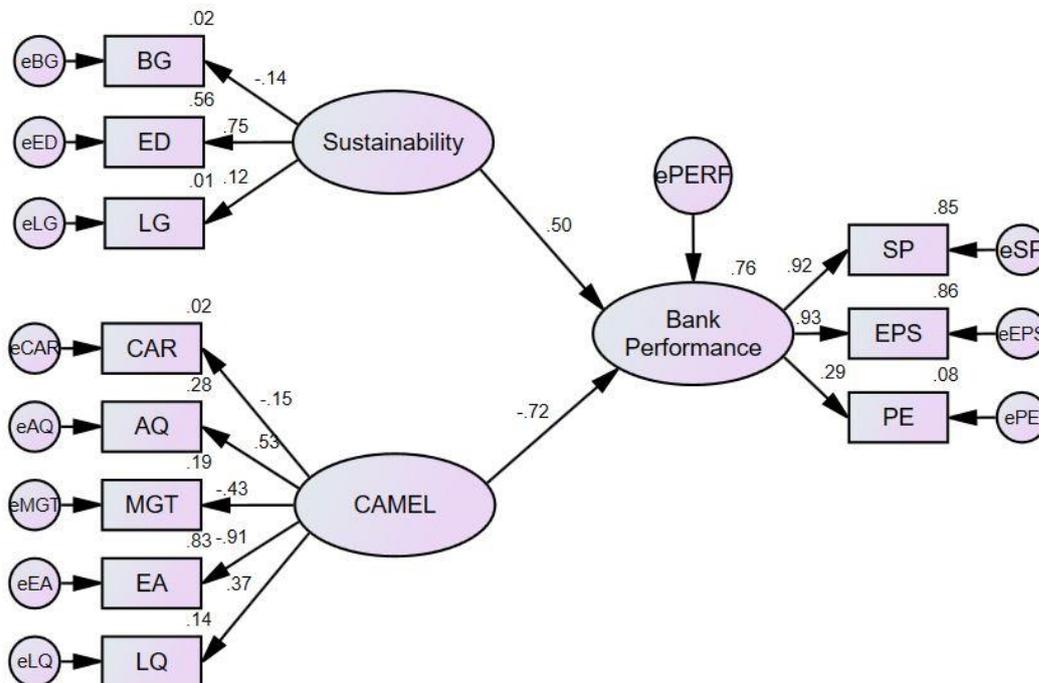
Source: (AMOS, 2018)

The structural equation modeling in Figure 8 - Path Diagram Result

explains the correlation of sustainability to bank performance and CAMEL ratio to bank performance. Table 22 - Standardized Regression Weights provides coefficient details among variables and indicators in the structural equation model of this study.

Table 22 - Standardized Regression Weights

			Estimate
Performance	<---	Sustainability	0.498
Performance	<---	CAMEL	-0.718
LG	<---	Sustainability	0.118
ED	<---	Sustainability	0.75
BG	<---	Sustainability	-0.14
LQ	<---	CAMEL	0.368
EA	<---	CAMEL	-0.913
MGT	<---	CAMEL	-0.434
AQ	<---	CAMEL	0.533
CAR	<---	CAMEL	-0.146
SP	<---	Performance	0.922
EPS	<---	Performance	0.928
PE	<---	Performance	0.285

Source: (AMOS, 2018)

Sustainability has direct relation towards bank's performance of up to 50%. As supported by previous studies from Weber (2018), Paulik, Majková, Tykva & Červinka (2015) and by publishing sustainability reports, banks are disclosing its output. Explicitly disclosed outputs triggers banks to take control of their resources which impacts in cost reduction and risk control. Thus, sustainable actions positively correlate to performance.

Based on the coefficient benchmark in Table 8 - Correlation Coefficient Size Rule of Thumb, this relationship is rated as low.

Table 23 - Sustainability Indicator Correlation Value

			Estimates
LG	<---	Sustainability	0.12
ED	<---	Sustainability	0.75
BG	<---	Sustainability	-0.14

Source: (AMOS, 2018)

CAMEL ratio has inverse relation towards bank's performance of up to 72%. It can be addressed that an increase in bank performance, CAMEL decreases by 72%. Studies by Soemitro & Anantadjaya (2013) and Lelissa & Kuhil (2018), discovered similar findings. Evidently, the inverse relation of CAMEL ratio and bank's performance can be due to one possibility where when loan increases bank is exposed to more risk (uncollectible loans). To cover this risk, assets are reduced. The asset shortage is covered by capital, thus the inverse relationship.

From Table 23 - Sustainability Indicator Correlation Value, it is evident that environmental disclosure has the most significant explanatory power 75% in indicating sustainability. Though the calculated result of influence for sustainability is severely minimal, loan growth still has explanatory power of 12% and branch growth still has explanatory power of -14% in indicating sustainability.

LG (loan growth) has the explanatory power of 12% in explaining sustainability. A study from Karadag (2016) addresses that loan growth is a better proxy for macro economy condition as because it depends on market

demand. A better alternative to indicate as suggested by Weber (2018) is the financing grants from banks towards impact investments and environmental related projects. For banks to be impactful in sustainable development, it must be involved in financing greener projects such as renewable energy and infrastructure development for the long-term development not solely micro, small, and medium enterprises (Weber, 2018).

ED (environmental disclosure) has the explanatory power of 72% in explaining sustainability. Study by Costa-Climent & Martinez-Climent, (2018) explains that disclosed energy usage triggers banks to consume energy wiser. Tracing energy usage enables banks to control expense and prevent potential risks according to the study. The study by Paulík, *et al* (2015), explains how sustainability report is aligned with cost reduction and risk control.

BG (branch growth) has the explanatory power of -14% in explaining sustainability, albeit relatively minor, branch growth still implies a minor influence for sustainability. This circumstance is supported by the study from Dzombo, Kilika & Maingi (2017) where it is discovered that agency (branch) banking has inverse influence in financial performance. The study suggests that branch expansion may signal capital expansion, but it exposes to more cost thus impacting economic sustainability.

Concerning the above explanation, it is apparent that sustainability evidently influences the bank's performance. Therefore, the hypothesis 1

has been appropriately addressed.

Table 24 - CAMEL Indicator Correlation Value

			Estimates
LQ	<---	CAMEL	0.368
EA	<---	CAMEL	-0.913
MGT	<---	CAMEL	-0.434
AQ	<---	CAMEL	0.533
CAR	<---	CAMEL	-0.146

Source: (AMOS, 2018)

LQ (liquidity) has the explanatory power of 37% in indicating CAMEL. Based on rule of thumb in chapter 3, this explanatory power is low. Previous study by Aspal & Dhawan (2016) stated that sufficient liquid is required to bear any sort of emergencies thus adequate liquidity reflects the bank's soundness.

EA (earnings) has the explanatory power of -91% in indicating CAMEL. This inverse relation is due to the logical sense that high earnings (return on asset) indicate higher loans. Thus, when the earnings are higher banks are granting bigger loans eventually exposing bigger risks of uncollectible loans as explained by Winarso & Salim (2017). For this reason, it is logical that the relation of EA and CAMEL is inversed.

MGT (management) has the explanatory power of -43% in explaining CAMEL. MGT is translated through the net interest margin. Study from Saksonova (2014) depicts the volatility of bank's NIM is caused by vulnerabilities in the banking sector. Vulnerability in this case refers to the amount people depositing and the amount of credit granted. The balance

between these two determines the soundness of banks thus making the correlation of MGT to CAMEL inverse, in other words the more bank grant bigger credits while acquiring low deposits, the lower net interest margin is generated.

AQ (asset quality) has the explanatory power of 53% in explaining CAMEL. This degree of influence appears to be logical since collection of loans results in higher interest, thus giving the bank bigger safety margin as explained by Sujarwo (2015).

CAR (capital adequacy ratio) has the explanatory power of -15% in explaining CAMEL. This correlation is considered minor. Evidently from the data for this study CAR ratio fluctuates from year to year. Alkadami (2015) explained that fluctuating CAR is caused by changes in risk-weighted asset (uncollectible loans). Granted loans are recorded as potential income, but when the likelihood of collection is minimal banks record it as loss hence the fluctuation.

Table 25 - Performance Indicator Correlation Value

			Estimates
SP	<---	Performance	0.922
EPS	<---	Performance	0.928
PE	<---	Performance	0.285

Source: (AMOS, 2018)

Concerning the above explanation, it is apparent that CAMEL evidently influences the bank's performance. Therefore, the hypothesis 2 has been appropriately addressed.

SP has the explanatory power of 92% in explaining bank performance. This correlation is highly significant. The study from Puspitaningtyas (2017) depicts how performance is strongly reflected through share price. Share price signals market valuation of the company's stock stimulated by the signaling theory based on the company's performance. The study further explains, when the public receive information containing positive value, the market will react positively.

EPS has the explanatory power of 93% in explaining bank performance. This correlation is highly significant. EPS has the most significant correlation in explaining performance. Relating back to one of the previous studies by Islam, et al (2014), EPS is one of the most frequently used factors in making investment decisions. Essentially, this ratio reflects the amount of additional wealth for investors from each share purchased. EPS is highly regarded that it becomes a key driver of share prices for upcoming time. For this reason, EPS indicates bank's performance the strongest.

Price earnings ratio has the explanatory power of 29% in explaining bank performance. This correlation is minor compared to previous indicators. The study from Wiederman (2012), explains how PE reveals the sentiment of investors and how much investor is willing to pay. Trainer (2018) further explains, PE in banking industry is relatively low in the market due to riskier investments as banks grant loans to generate income.

IV.5. PATH MODIFICATION INDICES

Suggestions for modifying the model, output in the modification indices section is provided in Table 26.

Table 26 - Modification Indices Table

			M.I.	Par Change
eEPS	**<- ->**	**ePE**	5.115	-1213.646
eCAR	**<- ->**	**Sustainability**	13.532	12.386
eAQ	**<- ->**	**Sustainability**	7.153	3.742
eMGT	**<- ->**	**eEPS**	6.572	59.723
eMGT	**<- ->**	**eAQ**	14.284	0.703
eLQ	**<- ->**	**eSP**	8.064	-6387.621
eLQ	**<- ->**	**eCAR**	7.373	8.29
eEC	**<- ->**	**eCAR**	5.63	15.652
eEC	**<- ->**	**eAQ**	8.383	7.935
eEC	**<- ->**	**eEA**	5.337	4.757

Source: (AMOS, 2018)

Referring to Table 26 - Modification Indices Table, eEPS to ePE can be modified with par change -1213. Theoretically speaking, these indicators reflect the share price and its earnings. The negative correlation can be explained that EPS is the denominator to acquire the price earnings ratio (Shen, 2017).

Another suggested modification is eLQ to eSP with par change of -6387. This highly significant change is theoretically acceptable. Supported by previous studies from Amihud & Mendelson (1986), Datar, Naik & Radcliffe (1998), and Stambaugh (2003), they were addressing that the more liquid the stock is, the lower the return. The study implies that holding longer period of stocks increases net expected return from illiquid assets.

Figure 9 - Modified Path Analysis
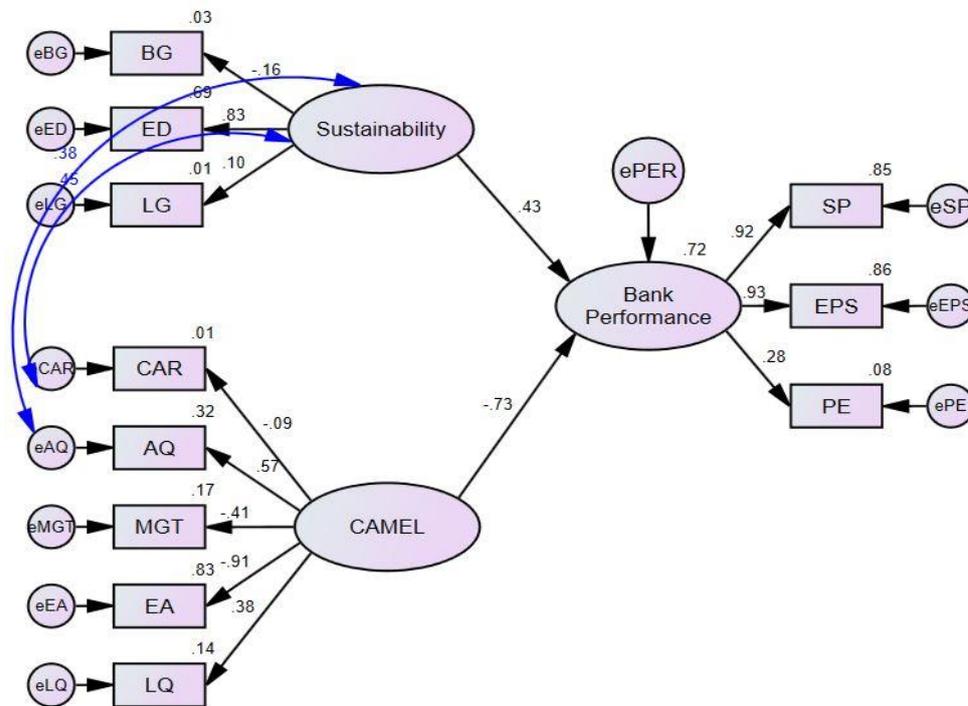
Source: (AMOS, 2018)

Another alternative is proposed on the Modification Indices to address the H$_2$. eCAR and eAQ can correlate to sustainability for a more significant model relation. CAR is appropriate to indicate sustainability because with capital adequacy, banks are able to embrace risks. Based on various studies, an adequate capital enables bank to become stable over the long run in other words, economically sustainable (Jumreornvong, Chakreyavanich, Treepongkaruna, & Jiraporn, 2018; Mwasanguti, Mutasa, & Yabu, 2017; Zyadat, 2017)

Evidently AQ is also capable in explaining sustainability. AQ, which is measured by non-performing loans signal the possibilities of uncollectible loans. As studied by Melich & Civelek (2018), for banks to be sustainable it

must possess adequate reservation to operate and AQ indicates the possibility of uncollected loans that impact bank's cash flow. Essentially, a good non-performing loan ratio is one approach to reflect better cash flow according to Lassala, Apetrei & Sapena (2017), banks with better cash flow are therefore more sustainable.

Referring to Modified Path Analysis the relation of influence from CAMEL towards bank performance increases by -1% while the influence of sustainability towards bank performance is reduced to 43%.

IV.6. MANAGERIAL DISCUSSION/IMPLICATIONS

Figure 10 – Sustainability Indicators
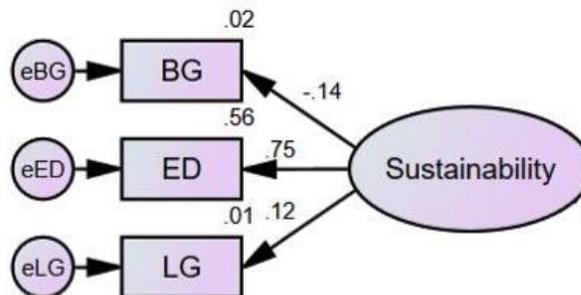
Source: (AMOS, 2018)

Referring to the diagram above, banks can prioritize in their environmental disclosure, as it is evident to have the most significance in indicating sustainability. This elaborates the purpose of sustainability report as it takes account environmental factors for bank's operations. Numerous approach are possible in enhancing environmental disclosure; allocating cost for recording outputs, regulating firm to being transparent in resources usage, and human resources training to increase knowledge regarding

environmental awareness are some possible approach as examined by Bhatia (2019).

While branch growth and loan growth to MSME has minor significance, it still depicts a degree of influence. Branch growth and loan growth to MSME is not prioritized for banks to be more sustainable. Referring back to the study by Bhatia (2019) and Weber (2018), another alternative to enhance bank's sustainability is focusing on renewable energy financing, infrastructure financing, and credits to community development.

Figure 11 – CAMEL Indicators
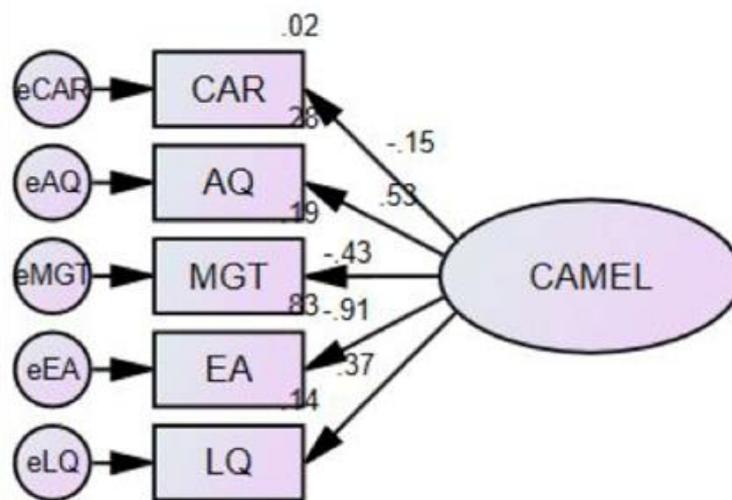
Source: (AMOS, 2018)

Referring to the diagram above, earnings (EA) have the biggest explanatory power of CAMEL. As elaborated in the literature review, earnings are calculated by the net interest margin. Net interest margin are determined by bank's management decision in regulating interests given to depositors and creditors. This income is crucial because an extensive

portion of bank's income is through interest. Banks may rate themselves as "sound" when their income is sustaining. For this logic, it is believed that banks strategy in regulating interest is vital for the soundness of the bank. The right amount of interest will stimulate more depositors, eventually giving banks more reserved capital. While unattractive rate of interests can hinder depositors, and even hinder collectible loans eventually forcing banks to record loss.

The vitality of interest rates is indisputable; hence the government has established limits for banks to set their interest rates. As mentioned in a study by Ansari & Goyal (2014) banks compete with one another by offering different interest rates to sustain customers.

Figure 12 – Bank Performance Indicator
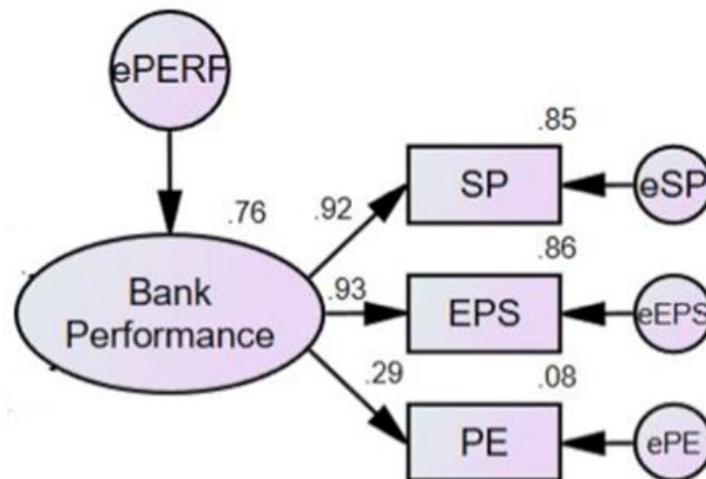
Source: (AMOS, 2018)

It is apparent from the figure above both share price and earnings per share have substantial significant explanatory power indicating bank's performance. Positive reaction will increase demand of stock, which then

decreases the supply and share price will increase. Share price movement is a great motivation for companies to maintain good performance, because price can be driven by public opinion. Thus, good performance stimulates the public's opinion.

For the banking industry PE is highly driven by macro economy where during economy expansion, demand for loans increases and bad debt declines thus impacting the bank's earnings. Essentially, PE is a derived from share price not the direct reflection of performance (Wiederman, 2012).

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

V.1. CONCLUSION

Based on the occurring phenomena, this study attempts to answer two main questions stated at the beginning of the research: Firstly, how strongly do the bank's sustainability influence a bank's performance? Secondly, how strongly does the bank's CAMEL ratio influence a bank's performance? Thus, the study examines the degree of influences of sustainable actions and the bank's CAMEL ratio on its performance.

The degree of influence of the bank's sustainability towards its share price and earnings per share is positive. As concluded from the data analyses, the most significant factor indicating bank's sustainability that correlates performance is the environmental disclosure. Environmental disclosure controls various risks in advance because banks are being transparent in their inputs for operation. Consequently, by disclosing the environmental aspects, banks are able to control cost and be more mindful about leaving footprints. These cost controls will impact the company's bottom line that determines the company's profit distributed to shareholders (share price and earnings per share). Evidently by focusing more on environmental disclosure banks are expected to have better performance. Branch growth and loan to MSME growth have minor explanatory power in indicating bank's sustainability that correlates to

performance. It is suggested for banks to prioritize disclosing environmental outputs to enhance performance through sustainability without neglecting branch growth and loans to MSME.

The degree of influence of the bank's CAMEL ratio on its performance is inverse. Although not all sub-variables correlate negatively, the logic behind this as examined by previous studies is that the objective of CAMEL is to maintain the bank's soundness. Thus, CAMEL does not indicate the bank's profitability but CAMEL is to ensure the bank's safety and prudence. The health of banks is related to what extent the bank can cover any immediate risks without disrupting its current operation. For this reason, it is vital for banks to reserve adequate capital to strengthen their readiness in facing various risks.

From these two answers, it is clear that sustainability and CAMEL ratios are two forms of risk management. Sustainability manages risks through operational transparency and long-term decision making while CAMEL ratios are safety barriers required to abide from the central banks. For the banking industry, the business philosophy "high risk, high expected return" is undesirable due to the high dependency of the economy on the banking sector. Evidently, publicly-listed banks in Indonesia are prudent and compliant with regulations.

V.2. RECOMMENDATIONS

This study hopes to motivate banks to keep publishing sustainability

reports, because the sustainability report is a great way of conveying transparency for stakeholders. It decreases moral hazard and can trigger public pressure for banks to be sensible in conserving the environment. Although the Financial Services Authority regulates Sustainable Financing, not all banks are proven to have their own sustainability report, but the future seems optimist, as the Financial Services Authority implements the sustainable finance roadmap. The sustainability report itself must be consumed with adequate skepticism because it weighs on the reporting approach rather than implementation.

Furthermore, another possible approach in assessing the bank's sustainability is by tracking the kinds of projects that the banks are financing. Because banks are prominent parties in driving the economy, the kinds of projects funded by banks can also indicate whether banks are active in sustainable development.

This study proves how CAMEL ratio has inverse relation towards bank's performance. Simply put, the more the bank is sound the less the performance is. This implies that regulations are not aiming for profitability. It is understood for an industry with substantial stake, that stability and longevity is favored compared to profit. In assuring bank's soundness, future studies can use more ratios in indicating each CAMEL component for a more thorough and holistic explanatory power for soundness.

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APPENDIX A. SPSS Output

ANOVA with Tukey's Test for Nonadditivity			Sum of Squares	df	Mean Square	F	Sig
Between People			172463915.500	99	1742059.753		
Within People	Between Items		1282932069.725	10	128293206.973	84.840	0.000
	Residual	Nonadditivity	1490105354.000[a]	1	1490105354.287	212023.528	0.000
		Balance	6950710.643	989	7028.019		
		Total	1497056064.929	990	1512177.843		
	Total		2779988134.655	1000	2779988.135		
Total			2952452050.155	1099	2686489.582		

Grand Mean = 386.477550299999960

a. Tukey's estimate of power to which observations must be raised to achieve additivity = -.052.

Item Statistics			
	Mean	Std. Deviation	N
BG	4.69	13.56	100
EC	39.16	27.69	100
LG	-4.07	85.56	100
CAR	16.68	2.74	100
AQ	2.49	1.30	100
MGT	6.21	1.81	100
EA	2.27	1.31	100
LQ	86.00	12.02	100
SP	3791.87	4094.98	100
EPS	290.74	291.54	100
PE	15.21	39.79	100

Inter-Item Covariance Matrix											
	BG	EC	LG	CAR	AQ	MGT	EA	LQ	SP	EPS	PE
BG	183.79	-37.82	-93.73	-6.34	-1.69	-1.43	2.33	-3.23	177.01	42.72	17.15
EC	-37.82	766.84	209.33	26.67	7.69	-4.00	4.41	-9.23	39852.98	3431.32	184.09
LG	-93.73	209.33	7319.86	34.59	-17.87	6.96	9.41	-1.83	31822.75	3079.81	56.10
CAR	-6.34	26.67	34.59	7.53	-0.37	0.60	0.46	6.41	2844.00	229.39	11.41
AQ	-1.69	7.69	-17.87	-0.37	1.70	0.11	-0.87	3.02	-1614.86	-102.66	-5.44
MGT	-1.43	-4.00	6.96	0.60	0.11	3.28	0.99	-1.23	2160.05	200.35	0.53
EA	2.33	4.41	9.41	0.46	-0.87	0.99	1.72	-5.27	3367.01	235.25	13.44
LQ	-3.23	-9.23	-1.83	6.41	3.02	-1.23	-5.27	144.50	-18452.13	-852.60	-26.21
SP	177.01	39852.98	31822.75	2844.00	-1614.86	2160.05	3367.01	-18452.13	16768828.78	1028621.97	51546.26
EPS	42.72	3431.32	3079.81	229.39	-102.66	200.35	235.25	-852.60	1028621.97	84996.76	2441.75
PE	17.15	184.09	56.10	11.41	-5.44	0.53	13.44	-26.21	51546.26	2441.75	1583.43

Hotelling's T-Squared Test				
Hotelling's T-Squared	F	df1	df2	Sig
7685.514	698.683	10	90	0.000

Inter-Item Correlation Matrix											
	BG	EC	LG	CAR	AQ	MGT	EA	LQ	SP	EPS	PE
BG	1.00	-0.10	-0.08	-0.17	-0.10	-0.06	0.13	-0.02	0.00	0.01	0.03
EC	-0.10	1.00	0.09	0.35	0.21	-0.08	0.12	-0.03	0.35	0.43	0.17
LG	-0.08	0.09	1.00	0.15	-0.16	0.04	0.08	0.00	0.09	0.12	0.02
CAR	-0.17	0.35	0.15	1.00	-0.10	0.12	0.13	0.19	0.25	0.29	0.10
AQ	-0.10	0.21	-0.16	-0.10	1.00	0.05	-0.51	0.19	-0.30	-0.27	-0.10
MGT	-0.06	-0.08	0.04	0.12	0.05	1.00	0.41	-0.06	0.29	0.38	0.01
EA	0.13	0.12	0.08	0.13	-0.51	0.41	1.00	-0.33	0.63	0.61	0.26
LQ	-0.02	-0.03	0.00	0.19	0.19	-0.06	-0.33	1.00	-0.37	-0.24	-0.05
SP	0.00	0.35	0.09	0.25	-0.30	0.29	0.63	-0.37	1.00	0.86	0.32
EPS	0.01	0.43	0.12	0.29	-0.27	0.38	0.61	-0.24	0.86	1.00	0.21
PE	0.03	0.17	0.02	0.10	-0.10	0.01	0.26	-0.05	0.32	0.21	1.00

Summary Item Statistics							
	Mean	Minimum	Maximum	Range	Max/Min	Variance	N of Items
Item Means	386.5	-4.1	3791.9	3795.9	-932.3	1282932.1	11
Item Variances	1533076.2	1.7	16768828.8	16768827.1	9883800.7	2553473509 2052	11
Inter-Item Covariances	20898.4	-18452.1	1028622.0	1047074.1	-55.7	19076986626.3	11
Inter-Item Correlations	0.1	-0.5	0.9	1.4	-1.7	0.1	11

Intraclass Correlation Coefficient							
	Intraclass Correlation[b]	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.014[a]	-0.012	0.049	1.152	99	990	0.157
Average Measures	.132[c]	-0.144	0.364	1.152	99	990	0.157

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intraclass correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

Descriptive Statistics			
	Mean	Std. Deviation	Analysis N
BG	4.69	13.56	100
EC	39.16	27.69	100
LG	-4.07	85.56	100
CAR	16.68	2.74	100
AQ	2.49	1.30	100
MGT	6.21	1.81	100
EA	2.27	1.31	100
LQ	86.00	12.02	100
SP	3791.87	4094.98	100
EPS	290.74	291.54	100
PE	15.21	39.79	100

Communalities		
	Initial	Extraction
BG	1.000	0.339
EC	1.000	0.775
LG	1.000	0.519
CAR	1.000	0.623
AQ	1.000	0.805
MGT	1.000	0.817
EA	1.000	0.773
LQ	1.000	0.436
SP	1.000	0.839
EPS	1.000	0.829

PE	1.000	0.390

Extraction Method: Principal Component Analysis.

APPENDIX B. AMOS Output

Assessment of Normality (Group number 1)

Variable	min	max	skew	c.r.	Kurtosis	c.r.
PE	-330.00	97.50	-6.27	-25.58	55.45	113.18
EPS	-293.35	1073.60	1.04	4.24	0.33	0.67
SP	0.00	21900.00	1.65	6.73	3.07	6.26
CAR	10.80	23.10	0.42	1.71	-0.47	-0.96
AQ	0.40	8.80	1.07	4.36	4.01	8.18
MGT	3.06	11.30	1.16	4.72	0.61	1.25
EA	-4.90	5.15	-1.31	-5.34	7.37	15.04
LQ	50.30	108.86	-0.67	-2.75	0.52	1.06
BG	-67.13	61.50	-0.92	-3.76	9.79	19.98
ED	8.30	100.00	0.61	2.48	-0.92	-1.88
LG	-652.40	78.24	-5.31	-21.66	33.68	68.74
Multivariate					110.92	32.79

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Performance	<---	Sustainability	182.849	200.495	0.912	0.362	par_9
Performance	<---	CAMEL	-603.848	176.522	-3.421	***	par_10
LG	<---	Sustainability	1				
ED	<---	Sustainability	2.052	2.421	0.847	0.397	par_1
BG	<---	Sustainability	-0.188	0.252	-0.744	0.457	par_2
LQ	<---	CAMEL	1				
EA	<---	CAMEL	-0.271	0.082	-3.287	0.001	par_3
MGT	<---	CAMEL	-0.178	0.064	-2.782	0.005	par_4
AQ	<---	CAMEL	0.157	0.051	3.071	0.002	par_5
CAR	<---	CAMEL	-0.091	0.072	-1.267	0.205	par_6
SP	<---	Performance	1				
EPS	<---	Performance	0.072	0.005	13.585	***	par_7
PE	<---	Performance	0.003	0.001	2.874	0.004	par_8

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Performance	<---	Sustainability	0.498
Performance	<---	CAMEL	-0.718
LG	<---	Sustainability	0.118
ED	<---	Sustainability	0.75
BG	<---	Sustainability	-0.14
LQ	<---	CAMEL	0.368
EA	<---	CAMEL	-0.913
MGT	<---	CAMEL	-0.434
AQ	<---	CAMEL	0.533
CAR	<---	CAMEL	-0.146
SP	<---	Performance	0.922
EPS	<---	Performance	0.928
PE	<---	Performance	0.285

Intercepts: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
LG	-4.067	8.556	-0.475	0.635	par_11
ED	39.164	2.769	14.143	***	par_12
BG	4.694	1.356	3.462	***	par_13
LQ	85.996	1.202	71.539	***	par_14
EA	2.273	0.131	17.309	***	par_15
MGT	6.209	0.181	34.303	***	par_16
AQ	2.487	0.13	19.097	***	par_17
CAR	16.679	0.274	60.787	***	par_18
SP	3791.87	402.795	9.414	***	par_19
EPS	290.739	28.671	10.141	***	par_20
PE	15.208	3.973	3.828	***	par_21

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Sustainability	101.378	213.851	0.474	0.635	par_22
CAMEL	19.333	11.088	1.744	0.081	par_23
e12	3217125.572	2970617.302	1.083	0.279	par_24
eLG	7145.278	1023.558	6.981	***	par_25
eED	332.449	354.129	0.939	0.348	par_26
eBG	178.389	25.662	6.952	***	par_27
eLQ	123.725	18.111	6.832	***	par_28
eEA	0.286	0.217	1.313	0.189	par_29
eMGT	2.633	0.389	6.767	***	par_30
eAQ	1.202	0.182	6.602	***	par_31
eCAR	7.293	1.04	7.01	***	par_32
eSP	2405976.923	779264.646	3.087	0.002	par_33
eEPS	11227.191	3917.685	2.866	0.004	par_34
ePE	1435.513	206.021	6.968	***	par_35

Squared Multiple Correlations: (Group number 1 - Default model)

		Estimate
Performance		0.764
PE		0.081
EPS		0.862
SP		0.85
CAR		0.021
AQ		0.285
MGT		0.188
EA		0.833
LQ		0.135
BG		0.02
ED		0.562
LG		0.014

Matrices (Group number 1 - Default model)

Implied (for all variables) Covariances (Group number 1 - Default model)

	Sustainability	CAMEL	Performance	PE	EPS	SP	CAR	AQ	MGT	EA	LQ	BG	ED	LG
Sustainability	101.378													
CAMEL	0	19.333												
Performance	18536.906	-11674.47	13656179.77											
PE	56.544	-35.611	41655.939	1562.577										
EPS	1328.585	-836.737	978771.174	2985.581	81378.07									
SP	18536.906	-11674.47	13656179.77	41655.939	978771.17	16062157								
CAR	0	-1.757	1061.213	3.237	76.06	1061.213	7.453							
AQ	0	3.04	-1835.412	-5.599	-131.548	-1835.412	-0.276	1.68						
MGT	0	-3.434	2073.467	6.325	148.61	2073.467	0.312	-0.54	3.243					
EA	0	-5.243	3166.03	9.657	226.917	3166.03	0.477	-0.824	0.931	1.707				
LQ	0	19.333	-11674.47	-35.611	-836.737	-11674.47	-1.757	3.04	-3.434	-5.243	143.058			
BG	-19.016	0	-3477.073	-10.606	-249.21	-3477.073	0	0	0	0	0	181.956		
ED	207.992	0	38030.953	116.007	2725.77	38030.953	0	0	0	0	0	-39.014	759.172	
LG	101.378	0	18536.906	56.544	1328.585	18536.906	0	0	0	0	0	-19.016	207.992	7246.657

Implied (for all variables) Correlations (Group number 1 - Default model)

	Sustainability	CAMEL	Performance	PE	EPS	SP	CAR	AQ	MGT	EA	LQ	BG	ED	LG
Sustainability	1													
CAMEL	0	1												
Performance	0.498	-0.718	1											
PE	0.142	-0.205	0.285	1										
EPS	0.463	-0.667	0.928	0.265	1									
SP	0.459	-0.662	0.922	0.263	0.856	1								
CAR	0	-0.146	0.105	0.03	0.098	0.097	1							
AQ	0	0.533	-0.383	-0.109	-0.356	-0.353	-0.078	1						
MGT	0	-0.434	0.312	0.089	0.289	0.287	0.063	-0.231	1					
EA	0	-0.913	0.656	0.187	0.609	0.605	0.134	-0.487	0.396	1				
LQ	0	0.368	-0.264	-0.075	-0.245	-0.244	-0.054	0.196	-0.159	-0.335	1			
BG	-0.14	0	-0.07	-0.02	-0.065	-0.064	0	0	0	0	0	1		
ED	0.75	0	0.374	0.107	0.347	0.344	0	0	0	0	0	-0.105	1	
LG	0.118	0	0.059	0.017	0.055	0.054	0	0	0	0	0	-0.017	0.089	1

Implied (for all variables) Means (Group number 1 - Default model)

Sustainability	CAMEL	Performance	PE	EPS	SP	CAR	AQ	MGT	EA	LQ	BG	ED	LG
0	0	0	15.208	290.739	3791.87	16.679	2.487	6.209	2.273	85.996	4.694	39.164	-4.067

Implied Covariances (Group number 1 - Default model)

	PE	EPS	SP	CAR	AQ	MGT	EA	LQ	BG	ED	LG
PE	1562.577										
EPS	2985.581	81378.07									
SP	41655.939	978771.17	16062156.7								
CAR	3.237	76.06	1061.213	7.453							
AQ	-5.599	-131.548	-1835.412	-0.276	1.68						
MGT	6.325	148.61	2073.467	0.312	-0.54	3.243					
EA	9.657	226.917	3166.03	0.477	-0.824	0.931	1.707				
LQ	-35.611	-836.737	-11674.47	-1.757	3.04	-3.434	-5.243	143.058			
BG	-10.606	-249.21	-3477.073	0	0	0	0	0	181.956		
ED	116.007	2725.77	38030.953	0	0	0	0	0	-39.014	759.172	
LG	56.544	1328.585	18536.906	0	0	0	0	0	-19.016	207.992	7246.657

Implied Correlations (Group number 1 - Default model)

	PE	EPS	SP	CAR	AQ	MGT	EA	LQ	BG	ED	LG
PE	1										
EPS	0.265	1									
SP	0.263	0.856	1								
CAR	0.03	0.098	0.097	1							
AQ	-0.109	-0.356	-0.353	-0.078	1						
MGT	0.089	0.289	0.287	0.063	-0.231	1					
EA	0.187	0.609	0.605	0.134	-0.487	0.396	1				
LQ	-0.075	-0.245	-0.244	-0.054	0.196	-0.159	-0.335	1			
BG	-0.02	-0.065	-0.064	0	0	0	0	0	1		
ED	0.107	0.347	0.344	0	0	0	0	0	-0.105	1	
LG	0.017	0.055	0.054	0	0	0	0	0	-0.017	0.089	1

Implied Means (Group number 1 - Default model)

PE	EPS	SP	CAR	AQ	MGT	EA	LQ	BG	ED	LG
15.208	#####	3791.87	16.679	2.487	6.209	2.273	85.996	4.694	39.164	-4.067

Standardized Residual Covariances (Group number 1 - Default model)

	PE	EPS	SP	CAR	AQ	MGT	EA	LQ	BG	ED	LG
PE	0.023										
EPS	-0.485	0.239									
SP	0.569	0.262	0.236								
CAR	0.743	1.921	1.588	0							
AQ	0.041	0.759	0.428	-0.261	0						
MGT	-0.807	0.925	0.086	0.577	2.698	0					
EA	0.691	0.136	0.272	-0.067	-0.216	0.174	0				
LQ	0.203	-0.021	-1.33	2.467	-0.033	1.012	0.016	0			
BG	0.515	0.752	0.671	-1.695	-0.954	-0.578	1.301	-0.197	0		
ED	0.602	0.803	0.121	3.492	2.122	-0.793	1.206	-0.276	0.042	0	
LG	-0.003	0.704	0.378	1.466	-1.595	0.447	0.833	-0.018	-0.639	-0.003	0

Standardized Residual Means (Group number 1 - Default model)

	PE	EPS	SP	CAR	AQ	MGT	EA	LQ	BG	ED	LG
	0	0	0	0	0	0	0	0	0	0	0

Factor Score Weights (Group number 1 - Default model)

	PE	EPS	SP	CAR	AQ	MGT	EA	LQ	BG	ED	LG
Sustainability	0.003	0.008	0.001	-0.025	0.263	-0.135	-1.906	0.016	-0.036	0.212	0.005
CAMEL	-0.001	-0.002	0	-0.03	0.316	-0.163	-2.295	0.02	-0.002	0.012	0
Performance	2.015	6.054	0.394	3.556	-37.321	19.243	270.908	-2.306	-1.395	8.185	0.186

Total Effects (Group number 1 - Default model)

	Sustainability	CAMEL	Performance
Performance	182.849	-603.848	0
PE	0.558	-1.842	0.003
EPS	13.105	-43.279	0.072
SP	182.849	-603.848	1
CAR	0	-0.091	0
AQ	0	0.157	0
MGT	0	-0.178	0
EA	0	-0.271	0
LQ	0	1	0
BG	-0.188	0	0
ED	2.052	0	0
LG	1	0	0

Standardized Total Effects (Group number 1 - Default model)

	Sustainability	CAMEL	Performance
Performance	0.498	-0.718	0
PE	0.142	-0.205	0.285
EPS	0.463	-0.667	0.928
SP	0.459	-0.662	0.922
CAR	0	-0.146	0
AQ	0	0.533	0

	Sustainability	CAMEL	Performance
MGT	0	-0.434	0
EA	0	-0.913	0
LQ	0	0.368	0
BG	-0.14	0	0
ED	0.75	0	0
LG	0.118	0	0

Direct Effects (Group number 1 - Default model)

	Sustainability	CAMEL	Performance
Performance	182.849	-603.848	0
PE	0	0	0.003
EPS	0	0	0.072
SP	0	0	1
CAR	0	-0.091	0
AQ	0	0.157	0
MGT	0	-0.178	0
EA	0	-0.271	0
LQ	0	1	0
BG	-0.188	0	0
ED	2.052	0	0
LG	1	0	0

Standardized Direct Effects (Group number 1 - Default model)

	Sustainability	CAMEL	Performance
Performance	0.498	-0.718	0
PE	0	0	0.285
EPS	0	0	0.928
SP	0	0	0.922
CAR	0	-0.146	0
AQ	0	0.533	0
MGT	0	-0.434	0
EA	0	-0.913	0
LQ	0	0.368	0
BG	-0.14	0	0
ED	0.75	0	0
LG	0.118	0	0

Indirect Effects (Group number 1 - Default model)

	Sustainability	CAMEL	Performance
Performance	0	0	0
PE	0.558	-1.842	0
EPS	13.105	-43.279	0
SP	182.849	-603.848	0
CAR	0	0	0
AQ	0	0	0
MGT	0	0	0
EA	0	0	0
LQ	0	0	0
BG	0	0	0
ED	0	0	0
LG	0	0	0

Standardized Indirect Effects (Group number 1 - Default model)

	Sustainability	CAMEL	Performance
Performance	0	0	0
PE	0.142	-0.205	0
EPS	0.463	-0.667	0
SP	0.459	-0.662	0
CAR	0	0	0
AQ	0	0	0
MGT	0	0	0
EA	0	0	0
LQ	0	0	0
BG	0	0	0
ED	0	0	0
LG	0	0	0

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

			M.I.	Par Change
eEPS	<-->	**ePE**	5.115	-1213.646
eCAR	<-->	**Sustainability**	13.532	12.386
eAQ	<-->	**Sustainability**	7.153	3.742

eMGT	<-->	eEPS	6.572	59.723
eMGT	<-->	eAQ	14.284	0.703
eLQ	<-->	eSP	8.064	-6387.621
eLQ	<-->	eCAR	7.373	8.29
eEC	<-->	eCAR	5.63	15.652
eEC	<-->	eAQ	8.383	7.935
eEC	<-->	eEA	5.337	4.757

Regression Weights: (Group number 1 - Default model)

			M.I.	Par Change
EPS	<---	PE	4.087	-0.676
CAR	<---	Sustainability	13.532	0.122
AQ	<---	Sustainability	7.153	0.037

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest Eigenvalues	Diameter	F
0	e	5		-0.323	9999	438.685
1	e	4		-0.422	1.688	267.842
2	e*	3		-0.366	0.385	224.36
3	e	2		-0.101	0.441	195.961
4	e	2		-0.315	1.048	163.283
5	e	1		-0.044	0.574	146.187
6	e	1		-0.033	0.737	134.825
7	e	1		-0.139	1.335	123.707
8	e	0	450596.473		0.127	117.544
9	e	0	469780.459		5.16	112.78
10	e	0	451805.352		0.616	110.324
11	e	0	898504.546		0.786	109.756
12	e	0	992991.82		0.469	109.103
13	e	0	1813700.004		0.581	108.955
14	e	0	2212348.755		0.408	108.804
15	e	0	4365726.395		0.798	108.8
16	e	0	4292079.703		0.288	108.693
17	e	0	5603006.52		0.385	108.68
18	e	0	6346555.54		0.269	108.672
19	e	0	7384920.247		0.268	108.669
20	e	0	7779168.97		0.103	108.668
21	e	0	7828609.099		0.051	108.668
22	e	0	7995575.22		0.004	108.668
23	e	0	8037970.788		0	108.668

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	35	108.668	42	0	2.587
Saturated model	77	0	0		
Independence model	22	389.76	55	0	7.087

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	0.721	0.635	0.808	0.739	0.801
Saturated model	1		1		1
Independence model	0	0	0	0	0

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	0.764	0.551	0.612
Saturated model	0	0	0
Independence model	1	0	0

NCP

Model	NCP	LO 90	HI 90
Default model	66.668	39.628	101.385
Saturated model	0	0	0
Independence model	334.76	275.846	401.162

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.098	0.673	0.4	1.024
Saturated model	0	0	0	0
Independence model	3.937	3.381	2.786	4.052

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.127	0.098	0.156	0
Independence model	0.248	0.225	0.271	0

AIC

Model	AIC	BCC	BIC	CAIC
Default model	178.668	188.324		
Saturated model	154	175.241		
Independence model	433.76	439.829		

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.805	1.532	2.155	1.902
Saturated model	1.556	1.556	1.556	1.77
Independence model	4.381	3.786	5.052	4.443

HOELTER

Model	HOELTER 0.05	HOELTER 0.01
Default model	53	61
Independence model	19	21

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