# THE STRATEGY OF SUSTAINABLE BANKING POLICY AND THE DETERMINATION OF LENDERS EFFECT TOWARD BORROWERS WITH CENTRAL BANK AS THE MODERATOR

**Istiana Maftuchah[a], Muliaman D.Hadad[b], Muhammad Zilal Hamzah[c] Eleonora Sofilda[d]**

[a, b] Financial Services Authority of Indonesia (OJK), Jl.Lapangan Banteng Timur No.2-4 Jakarta, Indonesia

[c] Lecture of Sustainable Development Management Program, Trisakti University, Indonesia.

c Indonesian Business School (STIEBI), Jl. Raya Kebayoran lama No. 46 West Jakarta, Indonesia

[d]Sustainable Development Management Program, Economic Faculty, Trisakti University, Jakarta, Indonesia

Corresponding author : istiana.maftuchah@gmail.com

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***Abstract:*** In order to realize a rapid and powerful of national development, a strategic role from a bank is required. The strategic roles of bank are included funds saving role from third-party and the funds distribution which are often knows as credit/finance. For the both role, the banks should be healthy. To achieve a healthy, strong and efficient banking system, needed a stability of the financial system as a whole, and furthermore it will drive the growth of the national economy in a sustainable manner by taking into account the conditions in a sustainable development, those are fair and equitable economy, a peaceful and fair of social life and a protected environment. Of course to maintain a healthy and equitable economy, a peaceful and fair of social life and protected environment, is not only the duty of a banking system (which includes: the investors (lenders), investors and banks as finance manager in construction), but also a shared responsibility for other stakeholders such as: non-banking financial institutions and private or other government organizations. Hence, those all will be well maintained (sustainable). In Indonesia, in implementing the concept of sustainable banking, it is not yet known about how the strategies that should be pursued in the capacity of the bank is as "intermediary between borrowers and lenders of money ". When linked with the application of the concept of sustainable on to green business banking, is also not known to what extent banks have a role in the sustainable development.

This study, trying to analyze the influence of the investors (lenders) to the company (borrowers) that considers to the role of Bank Indonesia as the moderator. This study aims to: (i). To formulate the strategies that need to be done to achieve sustainable banking; (ii). To analyze the effect of capital owners (lenders) to sustainable banking; (iii). To analyze the effect of borrowers on sustainable banking, taking into account the role of Bank Indonesia as the moderator, and (iv). To analyze the direct influence of lenders to the borrowers. This study uses two analysis tools, namely: (i). Analytical Hierarchy Process (AHP) model that is used to formulate alternative strategies that need to be done to achieve sustainable banking and determines the weight (priority) of each element of these factors to answer the first research purposes, and (ii). Structural Equation Model (SEM) model that is used to estimates the second, third and fourth of research objectives. Respondents in the study for the first objective is a total of 18 expert personnel in banking which is competent (measured from the aspects of knowledge, skills and attitude) that is the Director of Compliance and Risk Management from 18 general bank in Indonesia. The data is collected by structured interviews (depth interviews). Respondents for the purpose of the second, the third and the fourth, respectively, of 50 respondents from banks that operating in Indonesia (both national and foreign) which are not implementing a sustainable banking policy (at each bank will be taken one to two persons as respondents); 50 respondents for lenders (taken from the investors, workers, businessmen, and housewives), and 50 respondents from the Borrowers. All samples are selected by purposive sampling method.

Based on the analysis results obtained the following conclusions: (i). an alternative strategy that needs to be done to achieve sustainable banking is emerge a

stepping stone (stages), and a road map for sustainable banking in Indonesia; (ii). the effect of lenders (owners of capital ) towards sustainable banking is significant; (iii). the effect of sustainable banking to the borrowers (corporation) is significant which moderated by Bank Indonesia; (iv). The influence of lenders to borrowers (not through a bank) is not significant; (v). from the conclusion in number (ii), (iii), and (iv), the effect of lenders on the borrowers which mediated by sustainable banking and mediated by Bank Indonesia, are similar with the behavior of lenders to borrowers as indicated by conventional monetary theory, that is "the lenders (owners of capital) affect borrowers (entrepreneurs who need capital) mediated by the bank".

Results of this study have implications for sustainable management of banking and Bank Indonesia, among others: (i). stepping stone and road map of sustainable banking need to be made to be easily operated, (ii). a sustainable banking need to maintain the trust of the borrowers and lenders, particularly on security and a reasonable interest rate determination, (iii). the highest leaders, middle and bottom on sustainable banking should be given a training on the concept of sustainable banking and ways to operate these concepts, and (iv). Bank Indonesia needs to hold comparative studies in developing countries those already runs the concept of sustainable banking as a whole.

**Keywords:** Borrowers; Central Bank; Green Business; Lenders; Sustainable Banking.

## INTRODUCTION

In order to realize a rapid and strong national development, it needs strategic role of banking. The strategic role of banks include the role of third-party funds storage and the role of the disbursement or commonly referred to as credit/financing. For both the main role, the banks should be healthy. To achieve a healthy banking system, strong and efficient needed stability on the overall financial system; which in turn will help drive sustainable growth in the national economy taking into account the conditions in a sustainable development that is healthy and equitable economy, social life of peace and justice as well as environmental performance.

Maintain a healthy and equitable economy, peaceful social life, and fair and protected environment, not only the duty of a banking system which includes: the investors (lenders), investor and banking as a finance manager in construction, but also a shared responsibility for other stakeholders such as non-banking financial institutions and private organizations and government or other. So that all will be well maintained (sustainable). Banks are expected to become agents of sustainable development taking into account the three main pillars of sustainable development, namely economic - profit, social - people and the environment - the planet (see Munasinghe, 1992). Sustainable development is an attempt to meet the needs of present without compromising the ability of future generations to meet their needs (World Commission on Environment and Development; WCED, 1987). It is sustained by the Indonesian government with exposure to development strategy 2010-2014 (*Declaration Siring*) by strengthening the green economy, which harmonized through "pro-growth; pro-jobs; pro-poor and pro-environment" and is backed by the issuance of Law No.32 of 2009 on the Protection and Management of the Environment and Plan Regulation on Economic Instruments (2012).

Jeucken (2001) suggested that the level of awareness of various groups such as investors (lenders), investors and banks as finance manager in construction is a positive thing in response to environmental changes. This is followed by almost all financial institutions and banks around the world to pay more attention to social and environmental conditions as a result of the construction industry in particular.

General conditions in the Year 2012 about the allocation of credit/financing by sector, still dominated by other sectors compared to sectors that add value. Credit to other sectors were the highest (33% or equivalent to Rp.731 trillion for Public bank). Credit allocation to the agricultural sector of 5.33%, equivalent to the value of Rp. 117 trillion, and the manufacturing sector amounted to 16.14%, equivalent to the value of Rp.355 trillion (see Indonesian Banking Statistics - SPI December, 2012). In general, the performance of the banking sector in Indonesia in 2012 has increased (see Tables 1 and 2). When viewed from several indicators, there is no doubt about the role of banks in the development. But the extent to which banks have a role in sustainable development? Although there has been no data to support, it is believed that the contribution of banking is still relatively low in green business practices (Croston, 2009). These issues will be raised as a central issue in this study.

Table 1. The position of Commercial Bank Credit by Sector and state-owned

| Sector | Public Bank | Government Bank |
|---|---|---|
| **Agriculture, Hunting and Agricultural Facilities** | 5.33 | 8.61 |
| **Mining** | 3.85 | 4.32 |
| **Industry** | 16.14 | 14.15 |
| **Electricity, Gas and Water** | 2.36 | 3.41 |
| **Construction** | 3.45 | 3.60 |
| **Trade, Restaurants and Hotels** | 18.08 | 16.66 |
| **Transportation, Warehousing and Communications** | 4.30 | 4.24 |
| **Business Services** | 10.65 | 5.45 |
| **Social Services / Community** | 2.62 | 1.82 |
| **Others** | **33.17** | **37.68** |
| | 100 | 100 |

Source: Indonesian Banking Statistic, 2012

Table 2. National Banking Ratios 2006 – 2012

| Ratio | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|
| **BOPO (Opr Cost/Opr Rev)** | 86.98 | 84.05 | 88.59 | 86.63 | 86.14 | 85.42 | **74.10** |
| **ROA (*Return on Asset*)** | 2.64 | 2.78 | 2.33 | 2.60 | 2.86 | 3.03 | **3.11** |
| **NIM (*Net Interest Margin*)** | 5.80 | 5.70 | 5.66 | 5.56 | 5.73 | 5.91 | **5.49** |
| **NPL (*Non Performing Loan*)** | 6.07 | 4.07 | 3.20 | 3.31 | 2.56 | 2.17 | **2.33** |
| **LDR (*Loan to Deposit Ratio*)** | 61.56 | 66.32 | 74.58 | 72.88 | 75.21 | 78.77 | **83.58** |
| **CAR(*Capital Adequacy Ratio*)** | **21.27** | **19.30** | **16.78** | **17.42** | **17.18*** | **16.05*** | **17.43*** |

Source: Indonesian Banking Statistic, 2012
Note: *Include Operational Risk

Banking conditions in Indonesia are generally still reluctant to give greater attention to environmental issues (Salim, 2010). This is related to the old paradigm that says that banks as the unity of all businesses (business entity) that is intended to make a high profit. Basically there are two interactions between sustainable development and banking businesses. First, businesses that have a negative impact on the environment, will lead to discontinuation of business activities, and affect bank performance (related reputational risk). For that Bank Indonesia has issued Bank Indonesia Regulation No.7/2/PBI/2005 about the necessity to perform the Debtor business environment associated with the maintenance of effort (BI Regulation No. 7/2/PBI/2005 regarding Asset Quality Rating for Commercial Banks; No.SE.7/3/DPNP January 31, 2005 is the use of EIA and PROPER; Law.23, 1997 on Environmental Management). Second, the Bank will benefit from the implementation of sustainable development because of the need for increased environmental equipment investment (Maftuchah and Harun, 2010). On the other hand the government is also encouraging the import fee exemption for equipment or machinery supporting environmentally friendly industry, through tax exemptions.

Environmental risk has not been a factor in the calculation of risk management by banks in considering lending to industrial borrowers (Rasdiani, 2005). One reason may be because the banks do not have a system to calculate the environmental risk factors of raw , as already used in banks and insurance companies in the country that has been

applying the principles of environmental management. Sahoo and Nayak (2007) in their research on sustainable bank in Bangladesh, provide input on the importance of the social and environmental risks in the business of banking and other financial institutions. In the development of the concept of sustainable banking community participation to develop small and medium enterprises are concerned. Generally international guidance standard mostly adopted for reporting and guidance on the implementation of sustainable policies is the Equator Principle banks (TEP) and IFC Safeguard Policies (Word Bank).

Results of previous studies either in the form of scientific writing in various countries can be concluded that the analysis of social and environmental risks is necessary in any process related to the implementation of credit/financing undertaken by banks. Related to the policy of sustainable banking in Indonesia will be able to bridge those things in addition to the policies of other governments.

In Indonesia in implementing the concept of sustainable banking, is not yet known how the strategy should be pursued. As known in the economic system, a bank is an "intermediary between Borrowers and lenders of money" (Jeucken, 2001). As a financial intermediary between entities in the market, the bank has four functions transform money with respect to the magnitude, duration, place, as well as its risks. In terms of risk, associated with uncertainty, the bank can use a variety of interest rate on the basis of a sustainable financing. Governments can encourage differentiation interest rates even further with tax incentives. For example, the Dutch government provide tax incentives for investment in green project.

From the above description above, this study aims to find what strategy should be applied so that the bank can be sustainable taking into account economic factors/ profit, social (people) and environmental (planet)?, how much influence the "lenders" (owners of capital) affect sustainable banking?, how much influence sustainable banking with Bank Indonesia policy considering the "Borrowers" (company)? And how much influence the owners of capital "lenders" to the "Borrowers" without banking services?

## THEORETICAL BACKGROUND AND METHODS

### Theoretical Background

The idea of sustainable development begins with the publication of the Brundtland Report (1987), "Our Common Future", which formulates the basic principles of sustainable development (Salim, 2010: 72-73). According to the Brundtland Report, sustainable development is a process of development (land, cities, business, communities and so on) that principled meet present needs without compromising the needs of future generations. One of the factors that must be overcome to achieve sustainable development is how to improve the environmental destruction without compromising the needs of economic development and social justice.

In its development, many of the emerging literature related to sustainable development (such as the Earth Summit 2002 - the World Summit on Sustainable Development in Johannesburg, South Africa). At the meeting argued that sustainable development has three pillars, namely stated: economic, social and environmental (triple bottom line - profit, people, planet). Sustainable development is economic development of environmentally. The main drawback of sustainable development in Indonesia is the lack of a benchmark. The benchmark should reflect the important issues and aspirations of the government and people of Indonesia that comes to economic (profit), social (people) and environmental (planet), so that sustainable development can respond to important issues and their aspirations (Soemarwoto, 2006).

### 1. Green Banking and Sustainable Banking

Strengthening monetary stability is not enough to encourage sustainable economic growth (pro-growth, pro-job, pro-poor, pro-environment) without being accompanied by optimal involvement of the banking sector (Maftuchah and Harun, 2010). Effect of monetary policy will first be felt by the banking sector, which is then transferred on the real sector. The position of the Central Bank to be very important in the development process, with the implementation of policies that are sustainable, of course, with synchronization on government programs related.

Discourse about Green Banking has actually been around since the 1990s, but research or scientific studies on the issue was still very limited. Sahoo and Nayak (2007) in their study of the policy of sustainable banking in India defines green banking is a bank conducting business primarily in lending / financing, has incorporated environmental risk factors into the procedures for granting loans to customers. Financing concept that involves aspects of the environment in Indonesia has been applied to include the certificate of environmental impact

Table 3. The Hierarchy Composition

| *No* | *Target, Factors, Objectives and Alternatives* | *Explanation* |
|---|---|---|
| **1.** | Targeting or focus to be achieved | Sustainable banking Policy in Indonesia |
| **2.** | Determination of factors that affect the existence of a policy | - Economy<br>- Social<br>- Live Environtment<br>- Government Policy |
| **3.** | Determining the purpose of policy making | - Long Term<br>- Short Term<br>- CSR<br>- Donation Incidental<br>- Land, Water, Air<br>- Equity, Growth, taxation |
| **4.** | Determination of policy alternatives | - Triple P Concept (profit, people, planet)<br>- Internalize the external costs in the banking industry<br>- Required steping stone and road map for sustainable banking in Indonesia |

Source: Data processed

assessment (AMDAL) as a condition of his or her credit application, while other documents such as Performance Rating Program in Environmental Management (PROPER) is a supporting document for credit application which have significant impacts on the social and environmental conditions (Maftuchah and Harun, 2010).

Sustainable banking is an implementation of management of credit / financing the banking sector and other financial institutions to incorporate risk factors of economic, social and environmental sustainability (Jeucken, 2001). Sustainable banking can be defined as the implementation management of credit / financing to banks and other financial institutions to include risk factors of economic, social and environmental sustainability or implementation of business management banking and financial institutions by not lowering the risk of asset loss either each party lenders (owners of capital) and the Borrowers (businesses / customers who need capital), assets in question are tangible and intangible assets. Phasing concept of sustainable banking, includes four stages, namely: Defensive Banking, Banking Preventive, Offensive Banking, and Sustainable Banking.

## METHODS

### 1. Data Processing and Research Instruments

### 1.1. Data analysis using Analytical Hierarchy Process

Analytical techniques used to determine the strategy of sustainable banking policies in Indonesia is Hierarcy Analytical Process (AHP), which is the model used to determine alternative decision that are strategic with attention to all aspects and factors that influence it. The first step of the analysis stage AHP starting from the preparation of framework/model by identifying strategic issues and mapping problem. The second step is the quantification framework/models by selecting among alternative criteria, the choice of solutions and strategies through a questionnaire to get an answer from the expert respondents. The third step is the analysis of the results, its output is the establishment of alternative strategies/decisions.

Weight or priority calculated by matrix manipulation or through the completion of mathematical equations (Marimin, 2005). Three steps to determine the simple weights to general cases, such as the following:

1. Step 1:
   $w_i/w_j = a_{ij}$ (i,j = 1,2,3,...n)
   $w_i$ = input weights in line
   $w_j$ = input weights in column
2. Step 2:
   $w_i = a_{ij}\ w_j$ (i,j =1,2,3,...,n)
   for the general case has the form:
   $$wi = 1/n \sum_{j=i}^{n} a_{ij}\ w_j \quad (i = 1,2,3,...,n)$$
   wi = the average of $a_{i1}w_1$,..., $a_{in}w_n$
3. Step 3:
   When the estimated $a_{ij}$ good will tend to be close to the ratio $w_i/w_j$. If n is also changing the n transformed into λ max thus obtained:
   $$Wi = 1 / \lambda max \sum_{j=i}^{n} a_{ij}w_j \quad (i = 1,2,3, ..., n)$$

Of each pairwise comparison matrix then searched her eigen vector to get local priority. Because the pairwise comparison matrix contained in each level, then to get the global priority must be done between the local priority. Synthesis procedures do differ according to the form of hierarchy (Maarif and Cape, 2003). The results of strategic priorities of AHP analysis can be seen from the weight of each alternative policy strategies which processed through the software expert choice. The greater weight of the output, the higher the priority strategies of the variable.

### 1.2. Quantitative Data Analysis – SEM (*Structural Equation Model*)

Methods of analysis to answer the research objectives at the second point are described in pathway analysis with shaped Structural Equation Model (SEM). In the analysis of SEM, has developed an approach that allows the relationship between an independent variable on the dependent variable influenced by variables other construct. Influence construct a variable affecting the relationship between the independent variable construct and construct the dependent variable, called Moderated Structural Equation Modeling (Usman, 2011).

In this study, the position of Bank Indonesia policy is as moderator. Lenders (X) is a construct. Lenders in Indonesian there is no exact term. In monetary economics lenders are the owners of capital who want to save their money in banks. Capital owners are members of the community, ranging from as small as households, businesses, companies, and so forth. Indicator of lenders is interest rates, current account/deposit, security, risk, and service. In the monetary and banking knowledge bank is a mediator between the borrowers or lenders who need capital (Fry, 1988). Borrowers is a construct, so it should be measured through indicators. Table 4. shows the relationship construct the indicator.

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**Table 4. Construct and Indicators**

| *Construct* | *Indicator Construct* | *Refference* | *Code* |
|---|---|---|---|
| ***Lenders* (X)** | 1. Interest rate of bank / current account / deposit services<br>2. security<br>3. financial statements<br>4. Financial statements and the treatment of the Environment | 1. Policy of Bank Indonesia<br>2. Policy of Government (2009)<br>3. The Equator Principle (2006) | $x_1$<br>$x_2$<br>$x_3$<br>$x_4$ |
| ***Sustainable Banking* (M)** | 1. Adoption of international standards<br>2. Calculation of externalities (social return on investment - SROI)<br>3. Calculation of the value of environmental valuation<br>4. Tripple P<br>5. Economic priorities<br>6. Social priorities<br>7. Environmental priorities | 1. Policy of Government (2009)<br>2. The Equator Principle (2006) | $m_1$<br>$m_2$<br>$m_3$<br>$m_4$<br>$m_5$<br>$m_6$<br>$m_7$ |
| ***Borrowers* (Y)** | 1. Interest on loans<br>2. Requirements of environmental protection and management<br>3. Financial statements and the data completeness social and environmental | 1. The Equator Principle (2006)<br>2. Policy of Government (Law No. 32 Year 2009) | $y_1$<br>$y_2$<br>$y_3$ |
| **Policy of Bank Indonesia (Z)** | 1. Policies to prevent inflation /single target.<br>2. Inflation target policies also pay attention to other policies, related to monetary, banking and payment systems. | 1. Policy of Bank Indonesia (2009) | $z_1$<br>$z_2$ |

Source: Data processed

### 1.3. Research Instruments

The research instrument is a questionnaire that was sent to each respondent as many as 200 people, consisting of investors (lenders) 50; sustainable banking (bank who already understand the concepts in sustainable banking) 50; company/industry 50 people and director (and one below the rank) for respondents from Bank Indonesia some 50 people.

## 2. Data Quality Test and Identification of Variables and Operational Definitions

Data quality test as usual are done with reliability and validity test and use the Cronbach alpha coefficient at 5% significance level (Werts et al., 1979 in Ghozali, 2006). Relationship between variables and operational definitions can be seen in Figure 1. This figure illustrates the relationship X (lenders) and Y (Borrowers) is affected by the variable M (sustainable banking) as a mediator with the seven indicators, Y is the dependent variable with three indicators. While X and M is a latent variable that each have four and seven indicators. Relationship between sustainable banking with Borrowers moderated by Bank Indonesia (Z) with two indicators. Furthermore, structural models test is made to see the relationship between the variables, the significance and value of R-square. Assessment begins by looking at the model R-square for each dependent latent variables. Changes in the value of R-square can be used to assess the independent effect of the latent variables given the latent dependent variable does have a substantive effect.

**Structural Equation**

1) $Y = a_0 + a_1 X$
2) $M = b_0 + b_1 X$
3) $Y = c_0 + c_1 M$
4) $Y = d_0 + d_1 M + d_2 X$
5) $Y = e_0 + e_1 X + e_2 M + e_3 Z$
6) $Y = f_0 + f_1 X + f_2 M + f_3 Z + f_4 X Z + f_5 M Z$

Z = Variabel Moderasi

**Indicator Equation**

$X_1 = \lambda_1 X + \alpha_1$ ; $X_2 = \lambda_2 X + \alpha_2$
$X_3 = \lambda_3 X + \alpha_3$; $X_4 = \lambda_4 X + \alpha_4$
$Y_1 = \lambda_{12} M + \gamma_1$; $Y_2 = \lambda_{13} M + \gamma_2$
$Y_3 = \lambda_{14} M + \gamma_3$
$M_1 = \lambda_5 M + \beta_1$; $M_2 = \lambda_6 M + \beta_2$
$M_3 = \lambda_7 M + \beta_3$ ; $M_4 = \lambda_8 M + \beta_4$
$M_5 = \lambda_9 M + \beta_5$ ; $M_6 = \lambda_{10} M + \beta_6$
$M_7 = \lambda_{11} M + \beta_7$ ; $Z_1 = \lambda_{15} Z + \delta_1$
$Z_2 = \lambda_{16} Z + \delta_2$

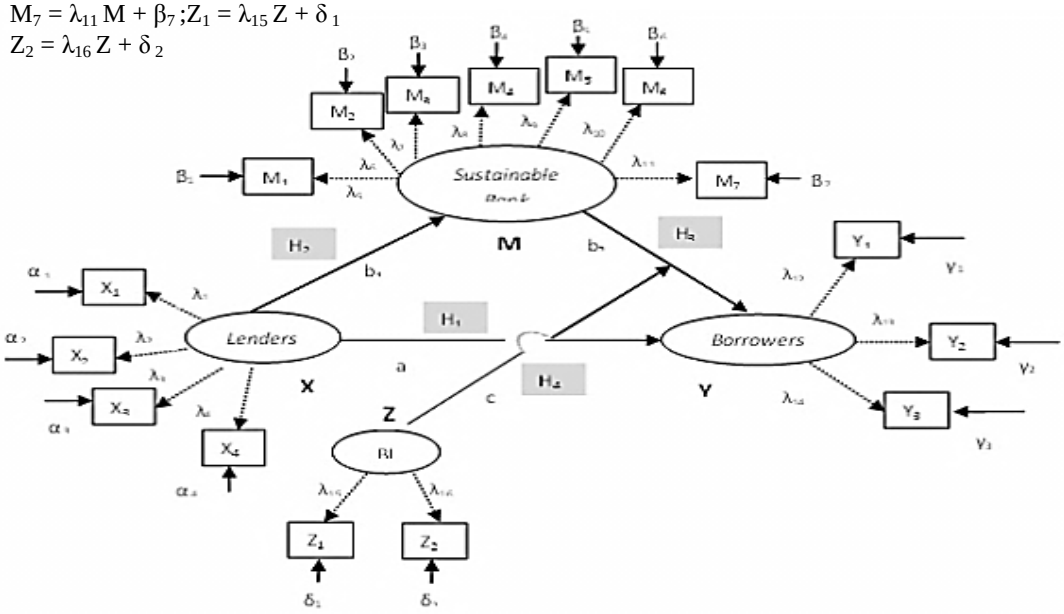


Figure 1. Path Analysis in Structural Equation Model (SEM)

## RESULTS AND DISCUSSION

### 1. Analysis of factors that affect the existence of a policy of sustainable banking in Indonesia

Sustainable banking policies in Indonesia can not be separated from the influence of economic factors, social, environmental and government policy. Based on the opinion of expert speakers after treatment by using AHP obtained results that the condition of the environment is a factor that should be given priority or emphasis in formulating / define sustainable policies in the Indonesian banking (36.0%), the second sequence is the social condition (22.7% ), economics (21.5%) and government policies (19.8%). Priorities for each factor is shown in Table 5.

Table 5. Priority factors that determine sustainable banking policies

| Factor | Weight | % |
|---|---|---|
| Economy | 0.215 | 21.5 |
| Social | 0.227 | 22.7 |
| Live Environtment | 0.360 | 36.0 |
| Government Policy | 0.198 | 19.8 |

Source: Analysis by AHP

The respondents' expert opinion to support sustainable banking policies in Indonesia economic factors are the third priority, it certainly provides a challenge for business people or business (especially banking), so as to formulate a profit-oriented business strategy as well as environment friendly and respect the rights social rights surrounding residents. In this case, banks or financial institutions are advised for an industry that can be categorized as environmentally friendly biogas, energy efficiency, solar power, micro hydro, and others to be financed.

**2. Analysis of policy objectives in sustainable banking in Indonesia**

**Priority goals if the economy as reference**

The analysis showed that the main priority is the long-term economic goals (80.7%) and the second priority is short-term (19.3%). This illustrates that if the purpose of the economy as a reference for sustainable banking policy, it must prioritize programs which oriented toward long-term goals

.

Table 6. Priority goals if the economy as reference

| Factor | Weight | % |
|---|---|---|
| Long Term | 0.807 | 80.7 |
| Short Term | 0.193 | 19.3 |

Source: Analysis by AHP

**Priority goals if the social as reference**

The analysis showed that the main priority of social purpose is the management of corporate social responsibility (CSR) with a percentage of 65.4% followed by a second priority that is incidental donations (34.6%). Incidental donations intended in this research is donations issued by a company/industry that is directly/incidental, for example donations given directly to the families of workers who are affected by, and not including the CSR fund.

Table 7. Priority goals if the social as reference

| Factor | Weight | % |
|---|---|---|
| CSR | 0.654 | 65.4 |
| Incedantal Contribution | 0.346 | 34.6 |

Source: Analysis by AHP

**Priority goals if the environment as reference**

Environmental objectives here include the management of land, water and air. In principle it is is a unity that can not be separated between the management of one another. So that the opinion of the respondents in this position the management of land, water, and air at the same priority. Soil management to minimize the pollution which is in the land has a percentage of 33.3%. Managed water to minimize pollution of rivers, seas, lakes, reservoirs, and so has the percentage of 33.3%. Likewise with care to minimize air pollution (smoke, odor, and so on) has a percentage of 33.3% as well. So it is natural that the opinions of respondents gave equal weight to the management objectives and environmental protection.

Table 8. Priority goals if the environment as reference

| Factor | Weight | % |
|---|---|---|
| Land | 0.333 | 33.3 |
| Water | 0.333 | 33.3 |
| Air | 0.333 | 33.3 |

Source: Analysis by AHP

**Priority goals if the government policy as reference**

The aim of government policy is divided into three, namely growth, equity and taxation. The first priority of government policy objectives are equity (43.9%), second priority growth (33.2%) and taxation policies (23.0%). According to respondents' first priority equality objectives is a very reasonable thing to support sustainable policies in the Indonesian banking due in accordance with the principles of sustainable development as well as policies that are second growth. Response to government taxation policy was third, according to the respondents attributed it to the current condition in which the government is not maximized in administering the tax.

Table 9. Priority goals if the government policy as reference

| Factor | Weight | % |
|---|---|---|
| Growth | 0.215 | 21.5 |
| Distribution | 0.227 | 22.7 |
| Taxation | 0.360 | 36.0 |

Source: Analysis by AHP

**3. Results of analysis synthesis against alternatives/strategies for sustainable policy towards the banking in Indonesia**

**Alternative Strategies Of Economic Factors With Long-Term Goals and Short-Term**

Based on the data processing based AHP analysis, alternative strategies of economic factors based on the sequence of the first is the steping stone and road map for sustainable banking in Indonesia (56.1%), second to implement the concept of profit, people, planet (26.2%) and internalize the external costs in the banking industry (17.7%). Based on these facts, the respondent argued that the policy of the Central Bank of Bank Indonesia in this regard will be highly anticipated, it is based on some opinions that do not overlap particularly in formulating policies which will be taken by the bank managing the continuity of business (business profit objectives concerning its).

Table 10. Alternative Strategies of Economic Factors

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.561 | 56.1 |
| **Triple P Concept ( Profit, people, Planet)** | 0.262 | 26.2 |
| **Internalize the external costs in the banking industry** | 0.177 | 17.7 |

Source: Analysis by AHP

Table 11 shows that for the long-term goal, the steping stone and road map for sustainable banking in Indonesia also keep the order of priority of the first alternative (55.4%), second order concepts triple p (29.95) and third internalize external costs in the industry banking (14.7%). Alternative sequences on short-term goals (Table 12) the first is the steping stone and road map of sustainable banking in Indonesia (58.7%), second alternative internalize external costs in the banking industry (30.4%) as it relates to short-term goals , so according to the respondents is very natural that

internalize the external costs in the banking industry. The concept of the triple p alternative ranks third (10.9%) due to the concept of the triple p can usually be implemented in the long term.

Table 11. Alternative strategies of economic factors (long-term goals)

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.554 | 55.4 |
| **Triple P Concept ( Profit, people, Planet)** | 0.299 | 29.9 |
| **Internalize the external costs in the banking industry** | 0.147 | 14.7 |

Source: Analysis by AHP

Table 12. Alternative strategies of economic factors (short-term goals)

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.587 | 58.7 |
| **Triple P Concept ( Profit, people, Planet)** | 0.304 | 30.4 |
| **Internalize the external costs in the banking industry** | 0.109 | 10.9 |

Source: Analysis by AHP

**Alternative Strategies From Social Factors The purpose of Corporate Social Responsibility and Contribution Incidental**

The results of data processing with AHP analysis on social factors, putting strategy to internalize the external costs in the banking industry (36.7%) in the first order of alternatives. It is acceptable to reason, because social factors highly correlated with the condition of the people around industrial sites, thus internalize the external costs of the slightest impact in an industry is a very reasonable thing. The second alternative is a steping stone danroad folder sustainable banking in Indonesia (36.1%) and the concept of the triple p (26.3%).

Table 13. Alternative strategies of social factors

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.367 | 36.7 |
| **Triple P Concept ( Profit, people, Planet)** | 0.361 | 36.1 |
| **Internalize the external costs in the banking industry** | 0.263 | 26.3 |

Source: Analysis by AHP

Alternative strategies of social factors with the aim of CSR the first is a steping stone and road map for sustainable banking in Indonesia (51.0%), the order of the two alternative concepts triple p (27.8%) and the third alternative internalize the external costs on third (21.2%). On the results of this analysis found different things to reality. Financing is usually related to CSR and incidental contribution is related to the budgetary costs of externalities, but the analysis of data obtained another thing, put steping stone and road map for sustainable banking in Indonesia for the purpose of CSR in the first alternative and triple P concept for purposes incidental donations (51.8%).

Table 14. Alternative strategies of social factors (CSR goals)

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.501 | 51.0 |
| **Triple P Concept ( Profit, people, Planet)** | 0.278 | 27.8 |
| **Internalize the external costs in the banking industry** | 0.212 | 21.2 |

Source: Analysis by AHP

Table 15. Alternative strategies of social factors (incidental donation goal)

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.518 | 51.8 |
| **Triple P Concept ( Profit, people, Planet)** | 0.359 | 35.9 |
| **Internalize the external costs in the banking industry** | 0.123 | 12.3 |

Source: Analysis by AHP

**Alternative Strategies of Environmental Factors With One Goal Soil, Water and Air**

It is very natural that the results obtained are the third alternative is equally important. Given the environmental protection and management should involve the three elements as a single unit. Table 16. shows the alternative strategy of environmental factors involving the three objectives of land, water and air.

Table 16. Alternative strategies of environmental factors

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.333 | 33.3 |
| **Triple P Concept ( Profit, people, Planet)** | 0.333 | 33.3 |
| **Internalize the external costs in the banking industry** | 0.333 | 33.3 |

Source: Analysis by AHP

**Alternative Strategies Of Government Policy Factors By Destination Growth, Equity and Taxation**

The data processing with AHP showed, in total for government policy factors placing the order alternative strategy concept triple p on the order of the first alternative (54.7%). This is reasonable, because the purpose of the government is to support and encourage the development of the concept of sustainable development in Indonesia can be done. Thus the concept of the triple P must start from the existence of a policy of the government. The second alternative is a steping stone danroad folder sustainable banking in Indonesia (27.8%), it is certainly related to the synchronization and data support from the government regarding the compliance of an industry in terms of adherence to regulations issued by the government regarding the protection and management of environment and related instruments (Environmental Management System; EIA, ISO 14001, PROPER). Without the support of the

data from the government, the policy of the Central Bank of sustainable banking can not be achieved to the maximum.

Table 17. Alternative strategies factor government policy

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.547 | 54.7 |
| **Triple P Concept ( Profit, people, Planet)** | 0.278 | 27.8 |
| **Internalize the external costs in the banking industry** | 0.176 | 17.6 |

Source: Analysis by AHP

To bring equality in government policies got the first alternative sequence is the steping stone danroad folder sustainable banking in Indonesia (42.0%), second alternative concept of the triple p (37.2%) and internalize the external costs in the banking industry (20.7% ) on the order of a third alternative.

Table 18. Alternative strategies of government policy objectives equalization factor

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.420 | 42.0 |
| **Triple P Concept ( Profit, people, Planet)** | 0.372 | 37.2 |
| **Internalize the external costs in the banking industry** | 0.207 | 20.7 |

Source: Analysis by AHP

The concept of the triple p alternative ranks first in government policy factors for the purpose of growth (67.8%). This is acceptable because the concept of the triple p is an ideal concept to support sustainable development, in terms of the policy can be implemented on a sustainable banking in Indonesia.

Table 19. Alternative strategies of government policy goals growth factor

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.678 | 67.8 |
| **Triple P Concept ( Profit, people, Planet)** | 0.170 | 17.0 |
| **Internalize the external costs in the banking industry** | 0.152 | 15.2 |

Source: Analysis by AHP

Taxation purposes (Table 20) also placed first in the order of alternative concept of triple p (69.1%). According to the respondents the concept has long-term goals which can be assisted with funding from the state income tax, infrastructure development and education to improve the quality of knowledge and some programs to succeed in sustainable development in Indonesia. The second and third alternatives are steping stone and road map for sustainable banking in Indonesia (16.0%) and internalize the external costs in the banking industry (14.9%).

Table 20. Alternative strategies factor government policy liabilities

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.691 | 69.1 |
| **Triple P Concept ( Profit, people, Planet)** | 0.160 | 26.0 |
| **Internalize the external costs in the banking industry** | 0.149 | 14.9 |

Source: Analysis by AHP

**4. Sustainable Banking Policy Goals in Indonesia**

The conclusion of all strategic alternatives analysis of factors and sustainable banking policy goals in Indonesia is a stepping stone and road map for sustainable banking in Indonesia (40.2%), the second alternative is the triple p concept (35.1%), and the third alternative is internalize the external costs in an industry particularly the banking industry (24.7%).

Table 21. Alternative of sustainable banking policy strategies in Indonesia

| Strategy | Weight | % |
|---|---|---|
| **Steping Stone and Road Map Sustainable Banking** | 0.402 | 40.2 |
| **Triple P Concept ( Profit, people, Planet)** | 0.351 | 35.1 |
| **Internalize the external costs in the banking industry** | 0.247 | 24.7 |

Source: Analysis by AHP

From the analysis, it can be understood that the final results of alternative for sustainable banking policy strategies in Indonesia is a stepping stone and road map for sustainable banking in Indonesia, because it relates to the role of policy to support the development of banking in Indonesia. From the results of AHP analysis on the opinion of the expert respondents in Indonesia's banking representative, needs to be described how sustainable banking policies could be applied in Indonesia to support the road map stepping stone and sustainable banking.

**5. Structural Equation Model (SEM)**

Relationship between the owners of capital (lenders) to entrepreneurs who need capital (borrowers) mediated by commercial banks which in this case is called sustainable bank. Central Bank in this case is Bank Indonesia acting as a supervisor, in this model called moderator. Moderating variable is a variable that can strengthen or weaken the influence between two variables that exist, that in this model is the effect of sustainable banking to borrowers.

**Next page**

### 5.1. Testing Structural Equation Models (SEM)

The main method of analysis in this research conducted by Structural Equation Model (SEM). Testing is done with the LISREL program. The test results are shown in Figure 2 and 3. Overall, the model of interrelated among latent variables are shown in Figure 2. Non-response bias test (t-test) conducted by independent sample t test by looking at the average response of respondents (see Figure 3).

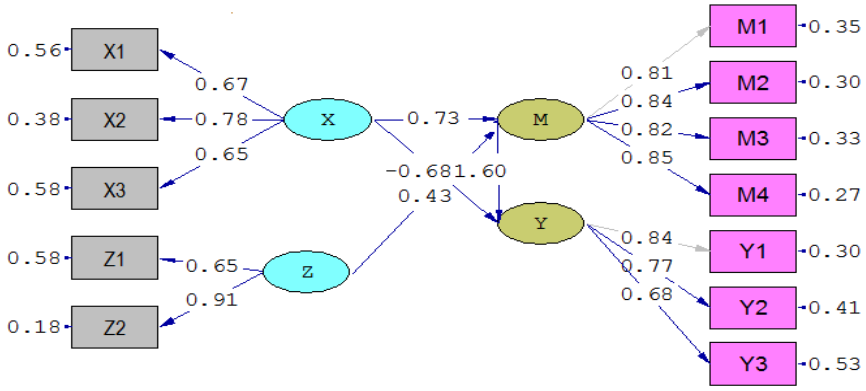


Figure 2. Results coefficient estimates
Sources: Primary data, processed in 2012

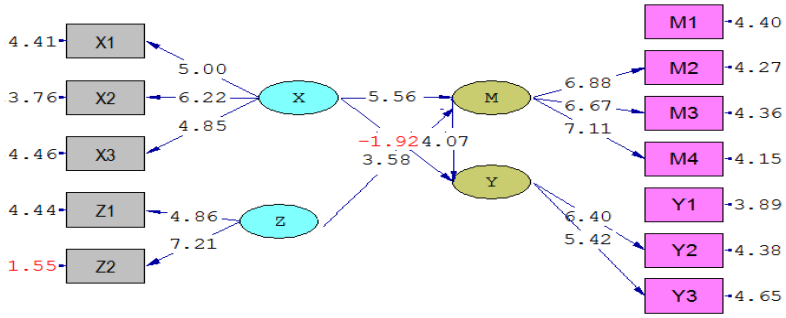


Figure 3. Test results of non-response bias (t-test)
Sources: Primary data, processed in 2012

From the analysis of SEM models, showed that the direct effect of the relationship between lenders (X) to the Borrowers (Y) is insignificant results and negative. This is indicated by the value β = 0.681 and value t = -1.92 sig > 0.05. Whereas the indirect effect between lenders (X) to the Borrowers (Y), through variable Sustainable Banking (M) effect significantly. This is shown by the effect of lenders (X) of the Sustainable Banking (M) with values β = 0.73 and t = 5.56 sig = 0.01. Neither the effect sustainable banking (M) to the Borrowers (Y), indicated by the value β = 1.60 and t = 4.07 sig = 0.01 < 0.05.

For the role of Bank Indonesia (Z) to the Borrowers (Y) through sustainable banking (M) showed a significant effect, this is evidenced by the value of β = 0.43 and t = 3.58 sig = 0.01 < 0.05. With the acquisition of the results of the analysis of SEM models showed that the Borrowers are strongly

influenced by the lenders through (mediated) sustainable banking moderated / controlled by Bank Indonesia. Borrowers and lenders are very influenced by an indirect manner.

### 5.2. Hypothesis Test Result

From the research and hypotheses are described that directly effect investors (lenders) to the need of capital (Borrowers) is not significant, indicating that most of the owners of capital unusual invest through securities or in any other form other than banks. This is also shown by the influence of the owners of capital to sustainable banking is very significant. While the influence of sustainable banking to investors in need of capital (Borrowers) significantly. This means that if the employer requires additional capital, the role of sustainable banking is still very important. Bank Indonesia alleged role as moderator also proved significant, it demonstrates the role of Bank Indonesia can strengthen or weaken the influence of sustainable banking on Borrowers.

### 5.3. Banking Sustainable Policy Implications In Agriculture Sector

Dalam kaitannya dengan implementasi kebijakan sustainable banking in Indonesia, the agricultural sector is one sector that should be considered, given Indonesia's agricultural base is still strong. The policy implications can be illustrated as following. General conditions of farmers in Indonesia are used to using chemical fertilizers and considered cheaper than manure. But for the sub-systems of farming (or farming their own use) generally use manure. The use of manure on a large scale can not serve, because in Indonesia there is no system of large-scale ranch or farm (Sugiarti, 2012). Although there will be a ranch, banks should provide credit facilities for the provision of such facilities (farm equipment and so on).

With the current conditions, when the organic fertilizer intensively used, in addition to employment also provide employment to the stalls fertilizer in rural areas. To implement this policy of sustainable banking should be considered comprehensively to view current conditions and various aspects related to the policy. In fact, for the present condition market price of vegetables with the concept of organic more expensive than usual (using chemical fertilizers) (Sugiarti, 2012). Viewed from the side of sustainability (sustainable), the use of organic fertilizer will be more "familiar" than chemical fertilizers over time will eliminate nutrient levels (nutrients) in the soil..

### 5.4. Sustainable Banking Policy Implications In Energy Sector

Indonesia is one of the three largest centers of biodiversity after Brazil and Congo, as well as the wealth of Indonesia memilliki reserves of petroleum, coal and natural gas is very abundant. For decades, Indonesia became highly depend on fossil fuels, especially for industrial and electric power (International Finance Corporation's - IFC. 2011). Decreased production of petroleum and natural gas in the country in recent years has made Indonesia a net importer of petroleum; thus encouraging the government to look for alternative energy sources generated environmentally friendly ways.

Some cases alternative energy transfer environmentally friendly is energy generated from biogas, wind energy utilization, solar and water. In Indonesia, the existence of that energy management is still very limited. For example, for most of the biogas technology procurement tube / liquid separation tank and the solids are still using foreign technology. Location and the cost factor is one obstacle despite the presence of raw materials in this sector relatively abundant, but small in scope transfer of fossil fuel energy to alternative energy (biogas) in Indonesia has been implemented but still within the scope of small and middle.

Still lack the financial institution would dare finance alternative energy projects makes a development constraint. The banking sector is still considered risky, but the potential is huge. For example : in Indonesia precisely in Solok, West Sumatra there are company which is managed by PT. Bio Tea SHGW, an organic tea company (export orientation) that processing and management is using the rules of zero waste by utilizing energy from biogas. Credit/financing early of the company obtained from foreign banks (Triodos Bank) although previously several times applying for a loan to a bank in Indonesia and all were rejected. Another example of a small scale is the utilization of wind energy transferred for electrical energy (lighting) in Yogyakarta precisely in Parangtritis community, managed by a Foundation in collaboration with the Environment, has not become interesting things to financial institutions to finance.

Viewed from the side of sustainability management and financing of alternative energy sector is one of the efforts that must be undertaken to make savings on fossil fuels, whose existence is dwindling. It is necessary for a comprehensive study involving

financial institutions to participate in the financing program.

## CONCLUSIONS AND SUGGESTIONS

### Conclusions

Strengthening monetary stability is not enough to encourage sustainable economic growth (pro growth, pro job, pro poor, and pro environment) without the involvement of the banking sector optimally. Effect of monetary policy will be felt first by the banking sector, then transferred on the real sector. The position of the Central Bank is very important in the development process, with the implementation of policies that are sustainable, certainly with synchronization on government programs related. So the strategy for promoting sustainable development and low-carbon development becomes a matter of urgency. For conditions in Indonesia, is not yet known how the strategies that must be implemented if the published policy on sustainable banking recall involves stakeholders in the implementation of the government, as well as lenders and borrowers response. From the results and analysis of this study stated that if the Central Bank will issue a policy of sustainable banking the first thing done is to formulate a strategy to achieve sustainable banking is a stepping stone (stages), and a road map for sustainable banking in Indonesia.

Stepping stone are the things that must be carried out by the banks in order to develop sustainable banking as an example is: enter criteria for capital or intangible assets, the perception among relevant agencies especially the Ministry of Environment in terms of analytical calculation of the value of social and environmental impacts live in a variety of industries. While the road map for sustainable banking is an elaboration of the steps that have been taken to achieve sustainable banking as an example mapping of the industry that have significant impacts on environmental degradation as a compliance or beyond compliance in the management of credit or bank financing.

Regarding the perception of lenders and borrowers who became executor in sustainable banking policy if the policy is enforced to be moderated by Bank Indonesia can be concluded that(i). Effect of lenders towards sustainable banking is significant; it may imply that the capital owners approved a policy on sustainable banking; (ii). Effect of sustainable banking on borrowers moderated by Bank Indonesia is significant. This means that sustainable banking policies are needed, especially by the borrowers in order to support its business; (iii). Effect of lenders on borrowers (not through the bank) was not

significant. The results are very reasonable, for Indonesia. Lenders are more comfortable and secure when the transactions involving banking services as a middleman for their capital; and (iv). Effect of lenders on borrowers mediated by sustainable banking and moderated by Bank Indonesia at the behavior of lenders to the borrowers as indicated by conventional monetary theory. The lenders also affect borrowers mediated by the bank. This means that if the policy applies sustainable banking in Indonesia, the behavior of the borrowers and lenders of commercial banks is out of the concept of sustainable banking.

### Suggestions

For the case in Indonesia, the results of this study have implications for the implementation of sustainable banking policies. As a positive response to sustainable development and low-carbon development, Bank Indonesia as the central bank has an important position in the banking credit management and policies relevant authorities. The implications for the sustainable management of banking should pay attention to: (1) Stepping stone and road map for sustainable banking need to be made to be easily operated. (2) Sustainable banking need to maintain trust the Borrowers and lenders to sustainable banking, particularly on security and a reasonable interest rate determination. (3) The supreme leader, middle and bottom on sustainable banking should be given training on the concept of sustainable banking and ways to operationalize these concepts. (4) Bank Indonesia needs to conduct a comparative study on developing countries which already runs the concept of sustainable banking as a whole. (5) Policy strategies that need to be made to lead to the creation of sustainable banking are steping stone and road map so that the implementation can be in accordance with the stages in sustainable development. This course will provide clarity regarding the steps that must be adjusted by the Borrowers and lenders in support of the policy, because of the results showed they agreed with the policy of sustainable banking, but they do not know how to implement it. So that the policy can be implemented well. (6) Calculation of the benefit cost analysis is extended by considering the environmental damage that extended benefit cost analysis need to be investigated to be applied. If environmental damage is difficult to measure the cost effectiveness to achieve the environmental standards

are recommended to be done. This result is important for banks and businesses to invest in the real sector.

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**About the authors:**

**First Author**

| | |
|---|---|
| Name | : Istiana Maftuchah |
| Place/date of birth | : Klaten, Central Java, July 10th, 1979 |
| Office | : Indonesia Financial Services Authority (FSA)<br>Sumitro Djojohadikusumo Building 3th Floor<br>Jl. Lapangan Banteng Timur No. 2-4 Jakarta 10710 |
| Telp/ Fax | : +6221-29854700 /+6221-3453848 |
| Email | : istiana.maftuchah@ojk.go.id<br>istiana.maftuchah@gmail.com |
| Website | : www.ojk.go.id |
| Mobile Phone | : +6282122050123; +62817888166 |
| Expertise | : Sustainable Development Management, Environmental Economy |
| Formal Education | :Ph.D (Doctoral Programe), in Trisakti University at EconomyFaculty,<br>Consentration: Sustainable Development Manajemen |
| Profesional Career | : 2013 – now, Indonesia Financial Services Authority<br>2007 – 2012, *Research Fellow* at Bank Indonesia<br>2006 – now, Chair in Institute of Environmental Studies (SILIH) – Reseach Institute, Jakarta, Indonesia |
| Organisational Experience | : 2005 – now, Member of Indonesia Forester |
| Research and Publication | : Policy of Environmental risk in Credit of Industry (Bank Indonesia)<br>Environmental Aestetic; (editing process for publishing) |

**Second Author**

| | |
|---|---|
| Name | : Dr. Muliaman D. Hadad |
| Place/date of birth | : Bekasi, April 1960 |
| Office | : Indonesia Financial Services Authority (FSA)<br>Sumitro Djojohadikusumo Building 3th Floor<br>Jl. Lapangan Banteng Timur No. 2-4 Jakarta 10710 |
| Telp/ Fax | : +6221-29854700 /+6221-3453848 |
| Current Position | : Chairman of Indonesia Financial Services Authority (FSA)<br>Chair of Indonesia Sharia Economic Community (MES) |
| Experience | : Deputy Governor of Bank of Indonesia (Central Bank of Indonesia) since December 2006-2012. |
| Formal Education | : - Bachelor Degree in Economics from University of Indonesia;<br>- Master of Public Administration from John F. Kennedy School of Government, Harvard University, USA.<br>- Doctorate Degree on Business and Economics from Monash University, Melbourne, Australia, in 1996. |
| Lecturer | : Trisakti University and Guest Lecturer for Some Public and Private in Indonesian and Foreign. |
| Publication | : Writer in many scientific journals domestically and internationally, and was speakers on numerous international forums on financial system regulatory and stability. Including;<br>- Financial Literacy dan Financial Inclusion<br>- Anti Money Laundry<br>- Interbank Stress Testing: Examining the Contangion Risk in the Indonesian Banking System, December 2006<br>- Bankruptcy Prediction Models of Commercial Bank in Indonesia<br>- Macroeconomic Model to Measure The Financial Stability Index: Indonesia case study<br>- Macroeconomic stress testing for Indonesian banking system<br>- The efficiency og Indonesia Foreign Exhange Market |

**Third Author**

Name : Prof.Muhammad Zilal Hamzah,PhD
Place/Date of Birth : Padang, July 11, 1964
Office : Indonesian Business School (Sekolah Tinggi Ilmu Ekonomi Bisnis Indonesia)
Jl. Raya Kebayoran Lama No.46-West Jakarta-Indonesia. www.stiebi.ac.id
Phone:62-21-5307009/ Fax: 62-21-5307008/ Hp : +62-8129363459
e-mail: mhd_zilal_hamzah@hotmail.com
Expertise : Public and Local Finance, Fiscal Decentralization and Islamic Economics
Formal Education : PhD in Economics of Malaysia National University, 2005.
Lecturer : Trisakti University, Indonesian Business School, Islamic University Riau, Riau University
Organization : Indonesian Economist Association (ISEI), Indonesian Regional Association (IRSA), Islamic Economics and Finance Research Group Faculty of Economics National University of Malaysia. Publication (Journal): OIDA: International Journal of Sustainable Development, IMAR, JEBI, JEM, LP3ES, etc
Publication (Book) :

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2. The Impact of World Oil Price Fluctuation on The Indonesian Economy". Irsa Book Series No7: Regional Development, Energy and The Environment in Indonesia. Penerbit Universitas Sriwijaya

**Fourth Author**

Name : Eleonora Sofilda
Place/Date of Birth : Jakarta, August 14th, 1972
Office : Faculty of Economics, Trisakti University
Jl. Kyai Tapa No.1 Grogol, West Jakarta, Indonesia, 11440
S Building 3fl
Telp : +6221.5674166/+6221.5668640
Mobile Phone : +6281319015088
Expertise : Public Finance and Fiscal Decentralization
Formal Education : PhD in Economics ofTrisakti University, 2012.
Lecturer : Sustainable Development Management Program Economic Faculty, Trisakti University
Email Address : eleonora_140872@yahoo.com
Organization : Indonesian Economist Association (ISEI)
Books : 1. Mathematics for Economic, Literata Lintas Media, Jakarta, 2002
2. Mathematics for Economic and Bussiness, Andrea Publisher, Jakarta 2008
Paper Published :

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