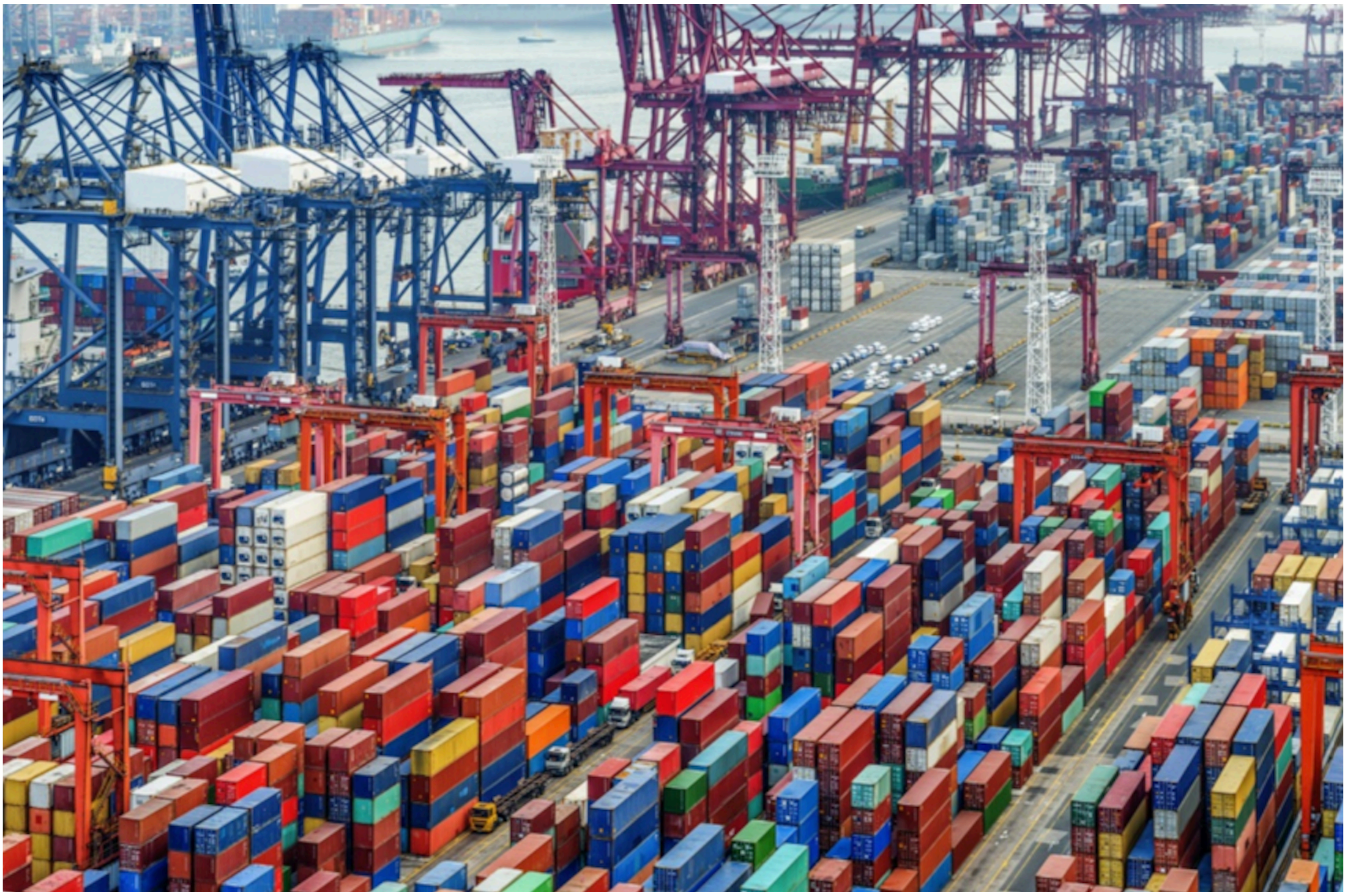
ISSN 2615-3726 (Online)
ISSN 2621-5667 (Print)

Asian Institute of Research

Journal of Economics and Business

Vol. 2, No.1 March 2019



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Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1 March 2019

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 1-9
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.61

Role of Notary Public in Increasing the Ease of Doing Business Index through the Apostille Convention

Andi Adini Thahira Irianti[1], Muhammad Ashri[2], Iin Karita Sakharina[3]

[1] Notary Magister Program, Faculty of Law, Universitas Hasanuddin
[2,3] Faculty of Law, Universitas Hasanuddin

Corresponding Author: Andi Adini Thahira Irianti, Notary Magister Program, Faculty of Law, Universitas Hasanuddin. Email: adinithahira@gmail.com

Abstract
This research aims to analyze the role of the notary in international business practices and analyze the position of the Apostille Convention in increasing the Ease of Doing Business Index in Indonesia. This is a normative research, utilizing interviews and document studies as the technique of gathering data. The data utilized are primary law sources that are used in this research, which are information attained by the author from direct interviews with authorized officials, as well as secondary law sources that provide explanations in correlation to the primary law sources. The data is analyzed using qualitative analysis, with a descriptive based conclusion made. In the discussions, the author concludes that the role of a notary in the international business practices can be divided into (1) registration of limited liability companies through an online system, and (2) establishment of a foreign investment limited liability company and export-import. The author continues by providing essential explanations on the position of the Apostille Convention in increasing EoDB, by elaborating (1) The Apostille Convention and the obligations and public document legalization procedures, (2) Ease of Doing Business Index, (3) Impact of the Apostille Convention in increasing EoDB, and (4) Application of the Online Single Submission (OSS) system. It is concluded that the Apostille Convention does not guarantee the increase of EoDB, even though the role of a notary is regarded as highly essential in the international business practices, which include the process of issuing authentic deeds, provide counseling on the law processes in establishing companies and legalization of related documents to investments. The role of the Apostille Convention is not significant as the convention only arranges matters related to public documents and not indicators of the EoDB.

Keywords: Notary, Ease of Doing Business, International Business, Apostille Convention, Public Document

1. Introduction

Interactions between subjects that occur in this world have developed and are increasingly unlimited. These activities impact on many aspects, one of which is the legal aspect. The impacts that correlate to the aspects of law causes the crossing of the legal system to widen. In civil law, for example, the relationship between citizens and other citizens in the practice of international trade has made the boundaries of the separation between legal systems visibly unclear, as business relationships are built up frequently based on specific legal systems and across jurisdictional boundaries (Czinkota, 2003).

Globalization in the field of trade and business as well as the birth of free markets has also led to patterns of cross-border relations that require an understanding by practitioners involved in it, including legal practitioners. This understanding is meant by expanding their intellectual horizons and skills regarding the prevailing international legal system and rules. For example, the legal profession of corporate lawyers will need to understand the legal system of a business partner's country over the legal system of the company's business partners in addition to the national legal system in which the company is located. Even the need for a legal system is stronger if there is a dispute with other business stakeholders whose legal systems are different (Elnizar, 2008).

Legal professionals who must also prepare themselves for international business transactions are the notary profession. The history of the work of the notary has been known since humans knew the act of writing. Therefore, the work of a notary is very closely related to writing as the work of a notary is to record particular documents that are considered important in legal relations between parties.

These critical documents which later became the products of the notary profession were used in the activities of international business transactions both in the form of authentic deeds and underhanded deeds. Unfortunately, this notary product only applies locally, which if it is to be used in international relations, a legal process is needed because of differences in the jurisdiction.

This legalization is carried out to guarantee the correct notary signature even if it does not cover the contents of the document. A document can be declared credible if it meets two qualities, namely reliability, and authenticity. A public document can be declared to have met the reliability requirements if the information in it is accurate information per what happened. Whereas, the document is declared to have met the authenticity requirements if the contents of the document are following what was intended by the author and are not in a damaged condition. Legalization of documents is the process of identifying a document to determine that the document is legal, issued, and signed by the authorities (Zablud, 2006).

This is indicated by the need to prove the document to various interested parties. The document must be considered correct insofar as it is not proven otherwise by other parties. By carrying out the process of legalizing this public document, prosecutions from other parties can be prevented regarding the validity of a document.

The process of legalization of public documents originating from abroad involves a complicated, lengthy procedure that requires not a small amount of money (Gautama, 2002). If it is associated with investment activities, of course, this natural process of legalization has a negative impact. The convoluted process and the amount of costs needed in the document legalization process affect the magnitude of the flow of foreign investment activities in a country.

The complexity of the process of legalizing public documents does not mean that the solution to be chosen is to abolish the legalization process. Because, if the legalization process is eliminated, it will affect the certainty of public documents originating from abroad (Chancellor Publication, 1996). On October 5, 1961, a convention was produced in the Hague, the Netherlands, aimed at removing the requirements for diplomatic or consular legalization rather than foreign documents that were public documents. The Convention in question is the Convention Abolishing the Requirement of Legalization for Foreign Public Documents (hereinafter referred to as the Apostille Convention).

The scope of this convention is to apply to what is called public documents and documents that have been made in the territory of one of the participating countries and will be carried out in the territory of one of the other participating countries.

The business climate will directly affect the quality of people's lives. The government is currently working hard to realize a better business climate in Indonesia to prosper the nation's life. Ease of Doing Business (hereinafter referred to as EoDB) is an index compiled by the World Bank as an indicator of how "friendly" a country can cooperate in receiving foreign investment in developing its economy. The World Bank report for the 2016 EoDB entitled "Measuring Regulatory and Efficiency" included Indonesia as the top country in the "Top Reformer" list because it successfully made significant improvements to 7 of the 10 indicators surveyed. While the EoDB index in 2017 entitled "Equal Opportunity for All" shows that Indonesia managed to rise 15 places from position 106 to 91 and entered the category of 10 countries with the highest ranking jump (Elnizar, 2018).

EoDB surveys and other similar surveys are one of the government tools to measure their performance. By contributing to providing objective and factual input and information, the community and practitioners mean that it has helped the government in carrying out its performance in carrying out the mandate of the welfare of the nation (EoDB, 2008). In the 7th plenary meeting of the Asian Affairs Commission of the International Union of Notaries (CAAs-UINL) and the International Seminar of the Notary Association of Indonesia in September 2017 in Bali, the notary profession has shown a form of full support to the Indonesian Government in improving the EoDB index by covering the theme "Meeting Business Needs (Ease of Doing Business): Opportunities, Challenges, and Roles of Notaries and Other Legal Professions in their Implementation" which also invited a number of stakeholders at the world level.

Improving the guarantee of legal certainty will bring benefits to Indonesia if it is associated with the EoDB index and foreign investment. Not only fresh funds but also technology transfers, educational advancements, soft skills, non-tax revenues and taxes which ultimately expanded Indonesia's economic capacity. When viewed in its entirety, the overall EoDB indicator is very much dealing with applicable legal provisions and enforcement. In other words, everything will be related to legal certainty.

2. Research Methodology

The research method used is a normative legal research method in which data processing is based on the results of research (interviews) and then combined with the data from the study of documents so that we can attain accurate data. The data used are primary data and secondary data. After all the data collection processes, both primary data and secondary data that has been considered valid will then be processed and analyzed using qualitative methods. To obtain a visual reality of the issue, the qualitative data will then be presented descriptively.

3. Role of Notary in Internasional Businesses

The notary in carrying out his duties is based on Law Number 2 of 2014 concerning Amendments to Law Number 30 of 2004 concerning Notary Position. In the statutory provisions, it states that the primary task of a notary is to give an absolute agreement to the parties who make it. Thus, the importance of the position of a notary is given by law to make an absolute proof of device or instrument, and therefore the authentic deed is in its essence considered correct. So that is an essential task, especially those who need it in personal or business matters.

Notary plays a vital role in creating legal certainty because of its authentic nature and can be used as a reliable and full evidentiary tool if there are problems related to the deed. Today the need for authentic deeds as proof is increasing along with the increase in business relations in various business fields both from the local to the international scale.

3.1. The Role of the Notary in the Registration of Limited Liability Companies through the Online System

In accordance with the mandate of Article 15 Paragraph (1) of Law Number 2 of 2014 concerning Amendments to Law Number 30 of 2004, Notary is authorized to make authentic deeds regarding all acts, agreements, and provisions required by laws and / or it is desired by those concerned to be stated in the authentic deed, guaranteeing the date of making the deed, storing the deed, copy and quotation of deed, all as long as the making of the deeds is not also assigned or exempted to other officials or persons determined by law invited. One manifestation of the provisions required by legislation is that a notary is authorized to make an authentic deed, namely a deed of the establishment made in the form of a notary deed.

Aside from making a certificate of incorporation, a notary also has a role in registering and ratifying Limited Liability Companies. New regulations issued regarding the registration and ratification of Limited Liability

Companies in the form of Minister of Law and Human Rights (PERMENKUMHAM) Regulation Number 4 of 2014 concerning Procedures for Submitting Requests for Ratification of Legal Entities and Approval of Articles of Association and Submission of Notices of Amendments to Articles of Association and Amendments to Data of Limited Liability Companies updated with PERMENKUMHAM Number 1 of 2016, concerning Amendments to Minister of Law and Human Rights Regulation Number 4 of 2014, concerning Procedures for Submitting Requests for Ratification of Legal Entities and Approval of Articles of Association and Submission of Notification of Amendments to Articles of Association and Amendments to Data of Limited Liability Companies conducted through electronic media (Online). Changes from manual systems to electronic systems or online are expected so that registration or approval can run more efficiently and more effectively (Permatasari, 2017).

Registration and ratification of Limited Liability Companies online are through the Legal Entity Administration System (SABH) which is an electronic information technology service of the Company organized by the Directorate General of General Legal Administration.

Thus, in addition to making a limited company deed of establishment, the notary also plays a role in registering online limited liability companies by entering limited company data, checking all data that has been entered to avoid data entry errors, then signing if the decision to approve the establishment of a limited liability company.

The act of checking data carefully and thoroughly is part of the role, from a series of notary roles in online registration of limited liability companies. Data errors when the process of entering data into the system is something that is not desired by anyone, but sometimes still happens. This situation is indeed not separated from the role of the notary. If a data entry error occurs, the role of the notary is to correct the data before it is inputted or uploaded, and the notary checks the wrong part and matches the data carried by the applicant because if a notary makes a mistake the notary must be responsible for making a new deed at a notary fee, but if the applicant blunders, the notary will convey what should have been made a new deed at the client's own expense.

The existence of an online system in establishing limited companies is a form of convenience for those who want to conduct business activities. However, if an error occurs in inputting data or uploading data from the notary, the notary must be responsible for making a new deed at the expense of the notary, but if the applicant is wrong, the notary will submit the deed at the client's own expense. The notary deed remains valid, but accompanied by a deed of the amendment made by a notary with the same number remains accompanied by new data sent back to Kemenkuham with an online system, which will be followed by the issuance of a new decree.

3.2. The role of a Notary in the Establishment of a Foreign Investment and Import-Export Limited Liability Company

The role of the notary in changing Limited Liability Companies (PT) to Foreign Investment Limited Liability Companies (PMA) is closely related to his authority as stipulated in Law Number 2 of 2014 concerning changes to Law Number 30 of 2004 concerning Notary Position. If the client comes to the notary to ask the notary to carry out his authority concerning the client's request regarding the change in his PT to PMA, then the notary's role is to be able to do several things and the steps below:

1. Providing legal counseling: Providing legal counseling is intended so that the client or the parties know and subsequently understand the procedure regarding the change in PT to PMA.
2. Making authentic deeds: Making authentic certificates is the central role of the notary in carrying out their duties, including in changing PT to PMA.

Thus, the change in PT to PMA is followed by changes in the articles of association and/or changes to the PT data. Therefore, after the BKPM issues approval for the Registration submitted to him, the agreement will then be forwarded to the notary in the framework of amending the articles of association and/or data of the PT as well as making a share sale deed (if the investment is made through share trading).

The procedure for submitting a request for amendment to the Articles of Association and/or PT data by a notary to the Minister of Law & Human Rights of the Republic of Indonesia is regulated in the Republic of Indonesia Minister of Law and Human Rights Regulation Number 1 of 2016, concerning Amendments to Regulation of the Minister of Law and Human Rights Number 4, 2014 of concerning Procedures for Submitting Requests for Ratification of Legal Entities and Approval of Articles of Association and Submission of Notification of Amendments to Articles of Association and Amendments to Data of Limited Liability Companies.

Thus, the role of the notary if there is a client or party who comes to the notary who wants to change the PT to PMA, the notary has the duty to accommodate all the wishes of the parties including making agreements desired by each party who wishes to cooperate and provide legal advice or counseling to the parties regarding the steps that must be taken by the parties in the amendment to PMA, which are followed by carrying out their authorities and obligations in accordance with the provisions in the Notary Position Law, Limited Liability Company Law, Foreign Investment Law and other related regulations.

4. The position of The Apostille Convention in Increasing the Ease of Business Index (EoDB) in Indonesia

a. *The Apostille Convention*

In short, as stated in its preamble, The Apostille Convention aims to remove diplomatic and consular legality requirements or obligations from public documents originating from abroad and replace them with more straightforward procedures. Thus, traffic relations are more smooth. The purpose of the ratification and enactment of The Apostille Convention is as a legal basis for the implementation of simplification of procedures for legalizing public documents. In addition, it is expected that the enactment of The Apostille Convention can facilitate cooperation between participating countries from The Apostille Convention.

For a state actor, ratifying The Apostille Convention will provide tangible benefits. A more effective and efficient document legalization process can facilitate the processing of legal documents used for international business transactions. Nonetheless, some countries have decided not to ratify The Apostille Convention because there are some disadvantages for state actors. Some of the disadvantages include for Indonesia, (1) The excessive activity of Indonesia in international organizations is feared to impose the state budget, and (2) political will to implement the provisions of The Apostille Convention is not classified as the current government priority.

The provisions contained in The Apostille Convention will apply to all public documents that have been made within the territory of one participating country from The Apostille Convention, and those documents will be carried out within the territory of one of the other participating countries of The Apostille Convention. In Article 2 of the Apostille Convention, it is explained that public documents originating from abroad as detailed in the paragraph above do not require legalization and formality to be used in the jurisdiction of one participating country. The only thing that needs to be done to make public documents originating from abroad can be used by giving apostille or allonge.

An apostille is a paper slip attached to the relevant document or can also be attached to the relevant public document. Allonge is a separate paper slip separate from the relevant public documents. Thus, allonge becomes like an attachment to the relevant public documents. Either Apostille or Allonge will include, among other things, the date and registration number of the relevant public document. In the Apostille or Allonge, officials from countries (participating countries in the Apostille Convention) that issue the relevant documents provide a certificate in the form of a certificate that replaces all the requirements for legalization.

Apostille or Allonge is registered with the state agency that issued the document. By having registered the document with the agency in the country that issued the document, the judge from another country (which is also the participating country of The Apostille Convention) can be accepted as a legal document. Apostille or Allonge only validates the authenticity of the signature, capacity or authority of the signatory. In the event that the public document is not accompanied by a signature from the competent authority, apostille or allonge authorizes the identity of the stamp or stamp on the relevant public document.

Apostille or allonge does not ratify the substance or contents of the public document. Based on Article 5 of this Apostille Convention, this apostille or allonge will provide the intensity of the validity of public documents originating from abroad. Furthermore, in Article 6 the Apostille Convention mandates participating countries to appoint a competent authority or institution to issue the apostille or allonge. Article 7 of the Apostille Convention stipulates that the appointing authority or institution must make a register (card index) to record every apostille or allonge that has been issued by the relevant authority or institution.

b. Obligations and Procedures for Legalization of Public Documents

Legalization of documents is the process of identifying a document to determine that the document is legally valid, issued and signed by the authorities. This is aimed at the need to prove the document to various interested parties. The document must be considered correct insofar as it is not proven otherwise by other parties. By carrying out the process of legalizing this public document, prosecutions from other parties can be prevented regarding the validity of a document.

The complexity of the process of legalizing public documents does not mean the solution to be chosen is to abolish the legalization process. Because, if the process of legalizing public documents is eliminated, there will be doubts about the public documents originating from abroad whether the public documents have indeed been issued or signed by the authorities. So, the legalization procedure for public documents originating from abroad is not abolished. The procedure for the legalization of complicated and costly public documents needs to be replaced by a more straightforward procedure, namely by using ratification in the form of issuing a certificate attached to public documents originating from abroad.

Thus, public documents originating from abroad and which have been approved, can be immediately applied in the destination country. The middle ground for ratification of a public document with these simpler terms and procedures is accommodated by the provisions of The Apostille Convention.

c. Ease of Doing Business Index (EoDB)

There are ten indicators used by the World Bank to advance the ease of doing business, which includes (EODB, 2018):

1. First Indicator - *Starting Business*
2. Second Indicator - *dealing with construction permit*
3. Third Indicator – *Registering Property*
4. Fourth Indicator – *Paying Taxes*
5. Fifth Indicator - *Getting credit*
6. Sixth Indicator – *Enforcing Contracts*
7. Seventh Indicator - *Getting Electricity*
8. Eight Indicator – *Trading Across Borders*
9. Ninth Indicator – *Resolving Insolvency*
10. Tenth Indicator - *Protecting Minority Investors*

d. Impact of The Apostille Convention in increasing the Ease of Business Index (EoDB) in Indonesia

Documents to be used abroad at this time must be legalized by a notary or authorized agency, the Ministry of Law and Human Rights, the Ministry of Foreign Affairs, and Foreign Country Representatives (the country where the document will be used). However, there are many assumptions that the procedure for legalizing public documents is very complicated and costs a lot. Therefore, there is an assumption that the procedure for legalizing public documents needs to be replaced by a more straightforward procedure. One form of simplification is by using authorization in the form of issuing a certificate attached to public documents originating from abroad. Thus, public documents originating from abroad and which have been approved can be immediately applied in the destination country. Provisions in the Apostille Convention are considered as a middle ground for the ratification of a public document with more straightforward means and procedures.

In Indonesia, the Apostille Convention has not yet been ratified. Then, does ratifying the Apostille Convention have an impact on increasing the ease of business index (EoDB) in Indonesia? A simple answer to this question is that the Apostille Convention does not guarantee that the ease of business index (EoDB) increases. The Apostille Convention is not significant in increasing the Ease of Business Index (EoDB) in Indonesia. Because of the impact of the Apostille does not assess the truth of the contents of the document but only looks at the authenticity of the signatures in a document or the truth of the stamp from a public institution abroad. Although Indonesia decides in the near future to ratify the Apostille Convention, the ratification would not affect the role of the notary in international business practices. This is because the data from the research results (see figure) shows that the legal documents used for international business transactions are not significant. Thus, if the Apostille Convention is ratified, the role of the notary will not be affected.

e. Implementation of the Online Single Submission (OSS)

Electronic Integrated Business Licensing Services (PBTSE), which is more easily called the generic name OSS is present in the context of business licensing services that are valid in all Ministries, Institutions, and Local Governments throughout Indonesia, which have been carried out through One-Stop Integrated Licensing (PTSP) Besides through PTSP, the community can access the OSS System online at any place and at any time.

The OSS system was built in the context of accelerating and increasing investment and business, by applying licensing to try to be integrated electronically. In the latest regulation on OSS, namely Government Regulation Number 24 of 2018, the Government regulates among other things the types, applicants, and issuance of business licenses; implementation of business licensing; business licensing reform per sector, OSS system, OSS institution, OSS funding; incentives or disincentives for implementing licensing through OSS; solving business problems and obstacles; and sanctions.

OSS whose implementation is regulated in Government Regulation Number 24 of 2018 is a government effort to simplify business licensing and create a model of integrated licensing services that are fast and inexpensive and provide certainty. With the OSS system, business permits will be obtained by businesses in less than one hour. The OSS system began since October 2017 as the implementation of the Presidential Regulation (Perpres) No. 91 of 2017 concerning the Acceleration of Business Execution, and has conducted concept trials in three locations, namely: Purwakarta, Batam and Palu. The design of this Information Technology based system is basically by interconnecting and integrating existing licensing service systems at the BKPM / PTSP Center (SPIPISE), regional PTSPs that use the Ministry of Communication and Informatics's system. Also included are systems from various Ministries and licensing issuing Institutions, including the Indonesian National Single Window (INSW) system, the General Legal Administration System of the Ministry of Law and Human Rights, and the Ministry of Home Affairs Population Administration Information System.

OSS operations are held in the Coordinating Ministry for Economic Affairs supported by INSW and other relevant ministries. But this is only a transitional period while preparing for its permanent implementation at BKPM. PP No. 24 of 2018 is a positive and comprehensive milestone for synchronizing licensing regulations at the Central and Regional Governments. For investments or business activities that are already running, then they can adjust their business licensing through the OSS System, either to obtain a Business Registration Number (NIB) or to extend or change business licenses and or commercial permits. At present, the Coordinating Ministry for Economic Affairs has made the OSS Lounge which is expected to become a standard in all PTSPs. In the OSS Lounge, there are independent services, assisted services, priority services, general investment consultations, and business clinics. Task Force to oversee the process of resolving business licensing has also been established in all Provinces. While the formation of the Task Force at the District / City level has almost finished, only waiting for its ratification in some regencies/cities.

The guidelines for licensing services strive for electronic integrity (OSS), including (OSS, 2018):

1. Making and Activating an OSS Account
2. Obtaining a Business Registration Number (NIB)
3. Location Permit
4. Environmental Permit
5. Building Construction Permit
6. Business License
7. Operational / Commercial Permit
8. Payment
9. Development of Business License and Renewal of Company Data
10. Running Business Activities.

5. Conclusion

The role of the Notary in international business practice is to make authentic deeds related to the establishment of a business entity and to obtain its ratification, conduct legal counseling related to procedures in the establishment of a business entity, and legalize documents related to investment activities.

The position of the Apostille Convention in increasing the Ease of Doing Business in Indonesia is not significant. Because the Apostille Convention only regulates matters relating to the legalization of public documents that are used both inside and outside the country where these are not the leading indicators in the EoDB survey.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 10-17
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.62

Shopping Life Style and Fashion Involvement on Buying Interest of Fashion Product with Motivation as Intervening Variable in the High Income Community of Siulak Mukai

Kurniati Karim[1], Anggil Nopra Lova[2], Indra Budaya[3], Poni Yanita[4], Mauledy Ahmad[5]

[1] STIE Sakti Alam Kerinci, Sungai Penuh, Kerinci, Indonesia. Email: atiekkarim299@gmail.com
[2] STIE Sakti Alam Kerinci, Sungai Penuh, Kerinci, Indonesia. Email: anggil_novra@yahoo.com
[3] STIE Sakti Alam Kerinci, Sungai Penuh, Kerinci, Indonesia. Email: indra.budaya77@gmail.com
[4] STIE Sakti Alam Kerinci, Sungai Penuh, Kerinci, Indonesia. Email: poniriskan@gmail.com
[5] STIE Sakti Alam Kerinci, Sungai Penuh, Kerinci, Indonesia. Email: ahmadmauledy18@gmail.com

Abstract
This study was aimed to know and explain how the influence of shopping lifestyle and fashion involvement to buying interest through motivation as an intervening variable. This research is quantitative. The sampling method used was purposive sampling with research instruments of questionnaires distributed to respondents by chance who has a high income in Siulak Mukai society. The results showed that both shopping lifestyle and fashion involvement have positive effects on motivation and buying interest, and indirectly also have significant positive influence between shopping lifestyle and fashion involvement to buying interest through motivation as intervening variable based on the testing result of structural equation model (SEM) with AMOS 21.

Keywords: Shopping Life Style, Fashion Involvement, Motivation, and Buying Interest

1. Introduction

With the changing times in a growing modern era of globalization and rapid technological advances on the world, its impacts on business development also have grown, and the competition needs increasingly competitive efforts, so this can create the relationship between companies with consumers. Judging from the number of entrepreneurs who opened a retail business mainly in shopping centers, the competition that occurs in the retail market is going over his with the times as the more advanced modern technology at the present time. Silalahi (2008:14) also revealed that the retail market was owned directly by modern management methods and emphasis on service and convenience when shopping.

The development of aspects of lifestyle and fashion also increasingly touches everyone's daily life. Life and fashion style affect what we wear and eat, how we live and how we view ourselves. Fashion also sparked the world market to continue to grow, manufacturers to produce, to sell marketers and consumers to buy. How to dress that follows fashion also shows personality and one's idealism.

In addition, to meet the demand of consumers over the products they need in its distribution, they need more construction of malls or shopping centres, shopping online, factory outlet, boutique and department store in

Indonesia and in the world. The large number of malls or shopping centers makes business opportunities for business especially in the field of fashion because of many visitors who visited the shopping centre and alike, where the majority of visitors who visit want to buy the fashion they need.

According to Mc Carthey in Sutawa et al. (2015:41) interest in buying is an urge that arises in a person to purchase goods and services in order to meet their needs. In addition Kotler also stated his theory about the factors that affect the purchasing interest in Sutawa et al (2015) factors that affect the purchasing interest including cultural, social, personal and psychological, according to Kotler's theory the author concludes that consumer behavior holds a very strong influence for the buying behavior of interest such behaviour then formed the last buyer, namely cultural, social, personal (private) and psychology the characteristics of buyers, which can encourage consumers to do the decision-making process buy goods so that consumers benefit from the selection of products purchased.

According to Kotler & Armstrong (2001, p. 172) in Rico S (2013:2-3), there are several factors that influence consumer behaviour whom psychological factors are motivation. Kotler and Armstrong stated motivation was a boost in a person who generates an action. This impetus resulted from the desire of the person that appears due to the needs that have not been fulfilled. One social factor affecting the purchase is a lifestyle, according to Betty Jackson in Japarianto (2011:33), about the shopping lifestyle is the expression of lifestyle in shopping that reflects the differences of social status.

Fashion involvement one of the psychological factors that have an impact on purchases, according to Zaichkowsky in Japarianto (2011:33), was defined as the involvement of the relationship of a person towards an object based on the needs, values, and interest. In fashion, fashion marketing involvement refers to attraction attention by category fashion products (such as clothing). Fashion involvement is primarily used to predict the behaviour of variables associated with a product such as apparel product involvement, behavior purchase, and the characteristics of consumers (Browne and Kaldenberg, 1997; 1989 Fairhurst; Flynnand Golds-mith, 1993 in Japarianto 2011). For example, O'Cass (2004) in Japarianto (2011).

Such statements are based on the community of Siulak Mukai, Kerinci, Indonesia who often visited the mall, shopping center and the like to shop while on vacation or to visit out area or visiting abroad. For the people of high income in Siulak Mukai shopping thing that has become a lifestyle. Will they be willing to sacrifice something for the sake of getting the products they enjoy doing seem to motivate them to have it because of the cultural Siulak Mukai glad to compete primarily in lifestyle and fashion. The outside cultural influences and foreign as well as national and international celebrities or fanatical fans influence and motivation in the thinking patterns of fashion and lifestyle, including in the way of shopping against buying interest.

High-income communities will buy clothes that are searchable by price, quality, brands, as well as the desired mode. The statement is supported by the results of pra research conducted by the author with the finding that the community of high income who visit tend to plan my shopping for clothes, shoes, handbags, electronics, accessories. High-income community that was more worried about the quality of the brand, model, at the price listed is the fashion involvement happens when society from high income saw a difficult product sought is found then it will be motivated to buy the product because he had been planning the purchase that led to buying interest.

From the background and according to the previous expert that states the consumer behavior plays a major role in aspects influenced the motivation of consumers in purchasing (Kotler, 2009), the authors are interested in conducting this research.

2. Method

2.1 Population and Sample

The population of the region is a generalization that consists of the object/subject who has certain qualities and characteristics set by the researchers to learn and then drawn the conclusion, (Sugiyono, 2013:80). In other words, a population is a group of individuals or objects which have the quality of research quality and characteristics of the high class.

The sample is a portion of the population composed of a number of members selected from the population. Sugiyono (2013:81), the sample is part of the population who wish to probe, their characteristics and are considered able to represent the population. In this study, a sample of Siulak Mukai Kerinci community members has a high income. The sampling used in this research is purposive sampling technique, namely the determination of samples with specific considerations (selection of sample units) with the way researchers choose certain people who would consider that provide the data required (Lincoln and Guba,1985) in (Sugiyono, 2013:219) time used in this research is February 5, s/d 2018 February 25, 2018 so the sample is retrieved and used in this research as much as 100 respondents.

2.2 Operational Concepts

The variable is a characteristic of an object that the price for each object can be observed or measured (Sukestiyarno, 2009:4). In this study, there are three variables (X), one variable and one intervening variable (Y).

a) Buying Interest

Buying Interest was described as a power relationship between attitude relative to the individual. indicators used in Buying Interest Suwandari (2008):

- Attention is the attention of prospective consumers against products that are offered by the manufacturer.
- Interest is the interest of prospective consumers against products that are offered by the manufacturer.
- Desire, namely the desire of prospective consumers to have products that are offered by the manufacturer.
- Action is action or response of prospective consumers to have products that are offered by the manufacturer

b) Motivation

An intervening variable is a variable between or mediating. The functions of these variables, i.e. mediate the relationship between variables intervening with variables of this research is the Motivation (I). Indicators of Motivation according to ERG Alderfer (1969) in Jessica Scolastica (2013:10) is:

- Existence is the need or desire fulfillment of Materialistic and physiological factors including the need for a sense of security.
- Relatedness is the need or desire because of relationships with others, and the environment.
- Growth that is the need or desire to grow and reach maximum potential.

c) *Shopping Lifestyle*

Shopping lifestyle is patterns of a person's life that are expressed in the activities, interests, and expressed opinions arising from attitudes, personality and inner allocate time and money to a wide range of products, services, technology, fashion, entertainment and education they consider important in his life. The dimensions used to measure shopping lifestyle (Cobb and Hoyer: 1986) in Japarianto (2011):

- Bid advertisement is Respond to buy each bid advertisement about fashion products.
- The latest model that is buying clothes latest model when viewing it in the shopping center (mall, shopping centre, etc.)
- The brand is convinced that merk (product category) famous in best buy in terms of quality.

d) *Fashion Involvement*

The involvement of a person with a fashion product because it needs, use, benefits, interest, interest, and values against the products in the influence by the behavior about fashion. The dimensions used to measure fashion involvement (Kim, 2005) in Japarianto (2011):

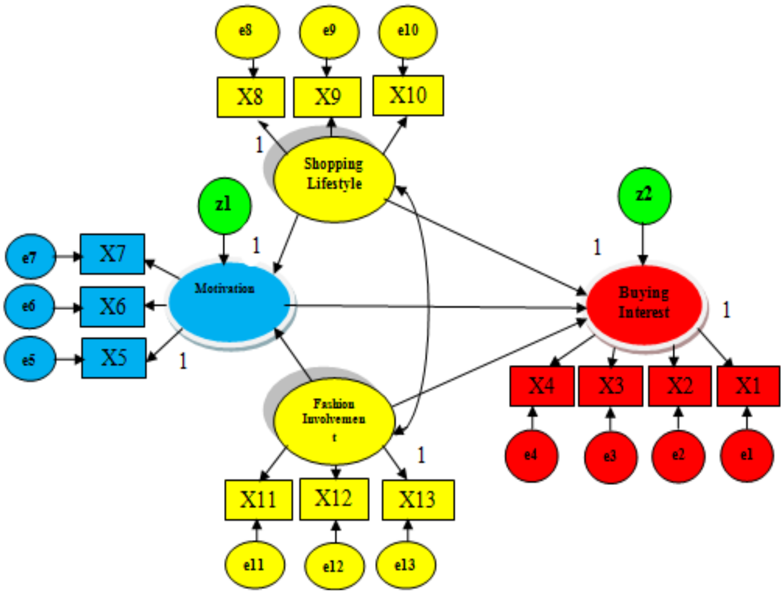
- The trend that is having one or more clothes with the latest model (trend).
- Supporting activities
- Characteristics and Image

2.3 Research Design

In the development of models of SEM are search or model development which has a strong theoretical justification. A researcher must perform a series of intense examination of the literature to obtain justifications over the theoretical models developed. In this research will be developed models aim to analyse the effect of lifestyle and fashion shopping involvement against motivation in growing buying interest on the high-income community in

Siulak Mukai. The research design of this study using Test Structural Equation Models (SEM) using AMOS 21 with the following model as follows:

Picture 1. *Structural Equation Model (SEM) of Research*



The suitability of the model is evaluated through an examination of the criteria of goodness-of-fit. The first action is to evaluate whether the data used can meet the assumption – the assumption of SEM that is the size of the sample, normality, outliers, linearity and multi-collinearity and singularity. After that, the researchers tested the suitability of and test statistics. Some indices of conformity and cut-off value that is used to test whether a model is accepted or rejected are:

Table 1. Goodness-of-Fit

Goodness-Of-Fit Indexes	Cut-Of-Value
Chi-Square	Df A 0,05
Significancy Probability	≥ 0.05
RMSEA	≥ 0.08
GFI	≥ 0.90
AGFI	≥ 0.90
CMIN/DF	≥ 2.00
TLI	≥ 0.95
CFI	≥ 0.95

Source: Ghozali (2008)

Test of Causality (Causality Test) is conducted to know the existence of a relationship between variables or not influence research. This test by way of analyzing the value of the Regression Weight, i.e., the value of the critical ratio (CR) required ≥ 1.96 and the Probability (P) ≤ 0.05 when sporting results data are qualified, then the hypothesis is accepted (Ghozali, 2008).

3. Results

The most dominant gender groups are male 53 people (53%). Women and 47 men (47%) is assumed to be male is the most respondents that meet high-income criteria, the dominant age group was at the age of 45-54 years as many as 44 people (44%), followed by age and 35-44 as many as 36 people (36%), 55-64 a total of 10 people (10%) and the age of 25-34 as many as 9 people (9%) and 1 person 65 (1%) of the 100 respondents means that many respondents are in the productive age 35-54 is (80%). it appears that the most dominant education group is on S1 as much as 73 people (73%) from 100 respondents. The most predominant income group was at Rp. 3.5 million Above as much as 91 people (91%) of 100 respondents.

Picture 2. Full Structural Equation Modeling Test

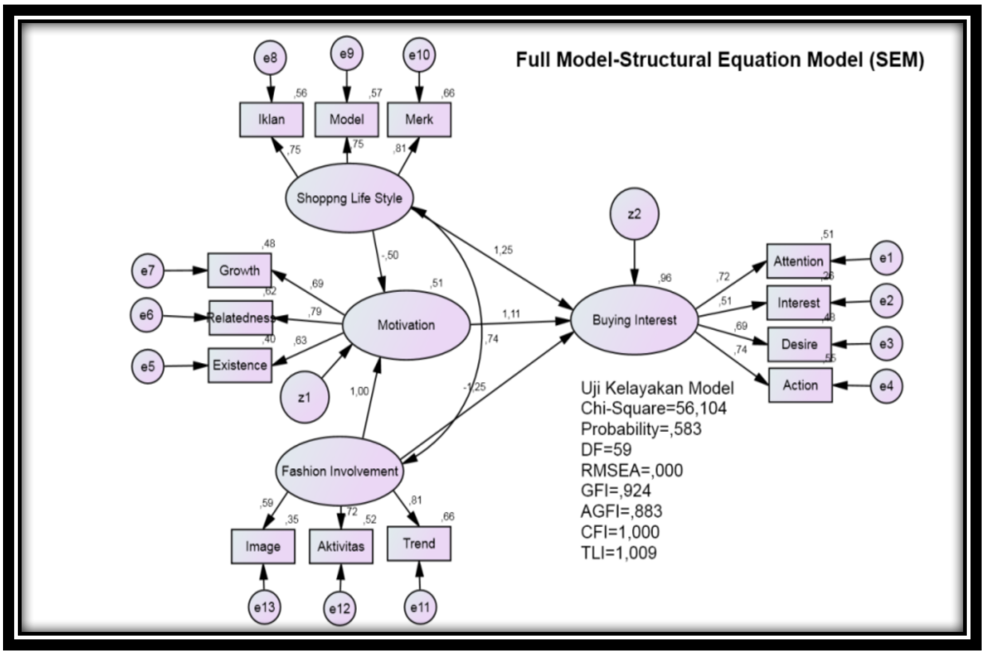


Table 2. Goodness of Fit Indexes of Full Structural Equation Modeling

Goodness of Fit Indexes	Cut-off Value	The Results Of The Analysis	The Evaluation Model
Chi Square (df =59)	≤ 77.930	56.104	Good
Probability	≥ 0.05	0.583	Good
RMSEA	≤ 0.08	0.000	Good
GFI	≥ 0.90	0.924	Good
AGFI	≥ 0.90	0.883	Marginal
TLI	≥ 0.95	1.009	Good
CFI	≥ 0.95	1.000	Good

Data processing analysis results look that all invalid constructs that are used to form a research model, full model analysis on the process of SEM has met criteria for goodness of fit. The value of the probability on this analysis shows values above the limit of significance, namely of 0583 ($p > 0.05$). This value indicates the absence of a distinction between the matrix kovarian matrix kovarian predictions are being estimated. A measure of goodness of fit also showed good conditions though AGFI hasn't reached the value of 0.90 (Taufiq Zain,2013). To get a good model. Test of Causality

Table 3.*Tests of Causality*

			Estimate	S.E.	C.R.	P
Motivation	<---	Fashion Involvement	,746	,211	3,534	***
Motivation	<---	Shopping Life Style	-,437	,214	-2,043	,040
Buying Interest	<---	Motivation	1,246	,446	2,791	,005
Buying Interest	<---	Shopping Life Style	1,215	,425	2,857	,004
Buying Interest	<---	Fashion Involvement	-1,041	,501	-2,079	,038

Hypothesis 1
Parameter estimation of the relationship between the shopping lifestyle on buying interest earned amounting to 1.215. The second relationship testing shows the value of the variable C.R = 2.857 with probability = 0.004 (p < 0.05). So it can be concluded that the shopping lifestyle significant effect on buying interest, so the higher the shopping lifestyle community owned high income then the buying interest will be higher as well. Thus the hypothesis 1 received a positive correlation between as there lifestyle shopping and buying interest.
Hypothesis 2
Parameter estimation of the relationship between the fashion involvement on buying interest earned amounting to -1,041. The second relationship testing shows the value of the variable C.R = - 2,079 with probability = 0,038 (p < 0,05). So it can be concluded that the fashion involvement significant effect on buying interest buying interest, so the lower the involvement of community-owned fashion high income then the buying interest will be the lower as well. Thus hypothesis 2 received positive correlation between as there fashion involvement and buying interest.
Hypothesis 3
Parameter estimation of the relationship between the motivation on buying interest earned amounting to 1,246. The second relationship testing shows the value of the variable C.R = 2,791 with probability = 0,005 (p < 0,05). So it can be concluded that the significant motivation effect on motivation, so the higher the motivation of community-owned high income then the buying interest will be hinger as well. Thus hypothesis 3 received a positive correlation between as there motivation and buying interest.
Hypothesis 4
Parameter estimation of the relationship between the shopping lifestyle on motivation earned amounting to -0,437. The second relationship testing shows the value of the variable C.R = - 2,043 with probability = 0,040 (p < 0,05 So it can be concluded that the shopping lifestyle significant effect on motivation, so the lower the shopping lifestyle community owned high income then motivation will be the lower as well. Thus hypothesis 4 received a positive correlation between as there shopping lifestyle and motivation.
Hypothesis 5
Parameter estimation of the relationship between the fashion involvement terhadap motivation earned amounting 0,746 earned amounting C.R = 3,534 with probability = 0,000 (p < 0,05 So it can be concluded that the fashion involvement significant effect on motivation, so the higher the involvement of community-owned fashion high income then motivation will be higher as well. Thus hypothesis 5 received a positive correlation between as there fashion involvement and motivation.
Hypothesis 6
Parameter estimation in standardized indirect effects indicates that there is an indirect influence shopping lifestyle on buying interest through motivation is -0.559. So it can be concluded that the shopping lifestyle significant effect on buying interest through motivation.
Hypothesis 7
Parameter estimation in standardized indirect effects indicates that there is an indirect influence fashion involvement in buying interest through motivation 1.113. So it can be concluded that the fashion involvement significant effect on buying interest through motivation.

4. Discussion

The research concluded that shopping lifestyle has a significant direct effect on buying interest, fashion involvement has a significant effect on buying interest, motivation has a significant effect on buying interest buying interest, shopping lifestyle has a significant effect on motivation and fashion involvement also has a significant effect on motivation. Then for indirect effects, shopping lifestyle has an indirect effect on buying interest through motivation and fashion involvement also has an indirect effect on buying interest through motivation.

This research is the same findings as the previous study by Nandini and Jeevananda (2012) that below 30 years customers tend to perform higher fashion clothing involvement. Correlation analysis showed that there was a significant positive correlation between purchase knowledge, confidence, social consciousness, materialism and the factors of fashion clothing involvement.

Then, Kotler and Armstrong (2001, p. 172) also stated that there are several factors that influence consumer behaviour whom psychological factors are motivation. Kotler and Armstrong stated motivation was a boost in a person who generates an action. This impetus resulted from the desire of the person that appears due to the needs that have not been fulfilled. One social factor affecting the purchase is a lifestyle, according to Betty Jackson in Japarianto (2011:33), about the shopping lifestyle is the expression of lifestyle in shopping that reflects the differences of social status.

The community of Siulak Mukai, Kerinci, Indonesia who often visited the mall, shopping center like to shop during their vacations or visiting out area or visiting other countries, and as a high-income community, they will buy clothes that are searchable by price, quality, brands, as well as the desired mode. On the study by Vikas Gautama and Vikram Sharma. 2018 that the full mediation of fashion involvement in the relationship between materialism and use innovativeness. Furthermore, our study results found full mediation of fashion innovativeness in the relationship between materialism and use innovativeness. On the other hand, materialism had a direct significant negative impact on use innovativeness in case of fashion products. Therefore it is strongly recommended to the fashion product marketers to highlight the concept of use innovativeness in the entire marketing mix for better business prospects, in order to motivate the growth of the fashion businesses in an advanced technology era.

5. Conclusion

Further research can be done by looking at limitations on research that can be used as a source of ideas for the development of the research in the future. The recommended expansion of the research from the research is adding an independent variable that affects the motivation to improve the buying interest. In addition research indicators used in the study can be supplemented by indicators other than the research that is relevant to the research that will be done. Other things that can be done is to increase the number of respondents to increase the value of AFGI so as not to show good results (not marginal).

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 18-31
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.63

The View of the Citizens in Thessaly Region Regarding the Creation of Non-Performing Loans (NPL's) in Greece

George Rigas[1], George Theodossiou[2], John Rigas[3], Apostolos Goulas[4]

[1] Department of Animal Production. University of Thessaly Larissa (TK 41100), Greece. E-mail: g.rigas@teilar.gr
[2] Department of Business Administration. University of Thessaly Larissa (TK 41100), Greece. E-mail: e-mail: geortheo@teilar.gr
[3] BAIN CAPITAL CREDIT, European Portfolio Operations, London, United Kingdom. E-mail: ioannis.rigas@windowslive.com
[4] Department of Planning and Regional Development, University of Thessaly, Greece, e-mail: goulasap@yahoo.com

Corresponding Author: George Theodossiou, Department of Business Administration. University of Thessaly Larissa (TK 41100), Greece. Tel: +302410684465. E-mail: geortheo@teilar.gr

Abstract
This paper presents the investigation of the factorial composition and the internal coherence of a questionnaire on the statements of the citizens on non-performing loans (NPLs) and the reasons of their appearance in Greece, based on data gathered from a sample of 216 citizens region of Thessaly. The questionnaire consists of two categories of questions that refer to: (a) statements of citizens about NPLs (scale A) and (b) statements of citizens on the reasons for the occurrence of NPLs. NPL is any loan that the borrower has delayed more than 90 days to pay the agreed interest or agreed installments. A performing loan provides the bank with interest income that it needs in order to make a profit and grant new loans. When customers fail to comply with the agreed repayment arrangements for 90 or more days, the bank must ensure that more funds are available, based on the assumption that the loan will not be repaid. This limits its ability to grant new loans. Factor analysis identified 8 factors for scale A and 8 for scale B, which interpret 75.86% and 75.23% of the total variation in the respective data sets. The same results have emerged both in the hierarchical cluster analysis method for the clustering of the topics (variables) of the two scales (A and B) and in the residuals method for each subject. The analysis of variance (ANOVA) showed that the most important factors of scale A can be considered the "the state should legally protect only the first home of economically weak citizens and reward consistent borrowers" and of scale B the: a) informing citizens about the risk of over-borrowing and restricting bank lending facilities; b) to manage more efficiently the loans granted; c) the Greek Economy have to become more competitive and more efficient; (d) to have a more cautious interest rate policy in times of economic prosperity; e) avoiding populist policies and tackle citizen movements like "I do not pay" and f) leverage to be significantly reduced (a large number of post-dated checks).

Keywords: Bank, Factor, and Cluster Analysis, Non-Performing Loan (NPL), Questionnaire, Scales

1. Introduction

A loan is considered to be non-performing (NPL) when the borrower has delayed more than 90 days to pay the agreed interest or agreed installments. Non-performing loans (NPLs) are also called bad loans ("red loans"). A performing loan provides the bank with interest income that it needs in order to make a profit and grant new loans. When customers fail to comply with the agreed repayment arrangements for 90 or more days, the bank must ensure that more funds are available, based on the assumption that the loan will not be repaid. This limits its ability to grant new loans.

In order to ensure their successful operation in the long run, banks have to keep the level of NPLs at a minimum so that they continue to make profits from new loans to customers. By keeping too many NPLs in a bank's balance sheet, its profitability is affected as its lending activities will no longer earn enough profits. In addition, it should ensure that sufficient funds are available if it is necessary to write down the entire amount of the loan at some point in time. Over the past decade, the quality of bank loan portfolios in most countries around the world has remained relatively stable until the financial crisis in 2007-2008. Since then, the average quality of banking assets has deteriorated strongly due to the global economic downturn.

The economy of the euro-area is heavily dependent on lending banks. Monetary policy tools use this fact. The ECB can raise or lower interest rates with which banks can borrow money from it. This enables it to influence private sector borrowing costs and thus ensure that inflation remains below but close to the 2% level in the medium term. But if banks are oversupplied by NPLs, they will not be able to provide significant credit, making this mechanism for affecting interest rates in the private sector unproductive.

Non-Performing Loans-NPLs is an indicator of the quality of banks' assets, which in turn is an important indicator of the performance of a country's banking system, among other performance indicators. An NPL is an obstacle for both lending banks and borrowers. For a debtor, an NPL pledges valuable collateral, and unpaid debt makes it harder for new financing and investment (Bernanke et al., 1999). High NPLs indices on banks balance sheets hinder banks profitability, aggravate market confidence and slow down economic growth. NPLs reflect the quality of bank lending, and overall, reflect the credit quality of lending of the banking system of a country or region. For most countries, total NPLs were relatively low prior to the 2008 financial crisis, but they have been increased significantly during and after the 2008 financial crisis, forcing banks' supervisory/regulatory authorities to intervene for addressing growing NPLs in the banking sector.

The fast increase in NPLs has made banks more sensitive to crises and has significantly limited funding with consequences for economic activity. The increase in the ratio of NPLs may be due to macroeconomic as well as banking factors. The subsequent banking crisis can affect the economy in numerous ways, such as a decline in GDP growth and undermining the country's credibility. Therefore, it is important to identify the factors affecting NPLs and to develop policies by both banks and governments to ensure that appropriate preventive measures are addressed. NPLs together with liquidity risk is the most significant problems for commercial banks, especially after the financial crisis.

The rise of NPLs in many Central and Eastern European countries (CESEE) exerts strong pressure on banks' balance sheets, with a negative impact on bank lending, thus affecting economic activity and creating problems for a sustained recovery. Recognizing the seriousness of this situation, policymakers have prioritized the problem of NPLs. The recent rise in NPLs is evident both in retail and in business. The upward trend in NPLs began immediately after the 2008 crisis, but the sharp rise occurred after one year when in most CESEE economies GDP shrank. Since then, NPLs have continued to grow, showing a strong and negative correlation with the rate of economic recovery. Its upward trend has led to rising unemployment in the region, which, combined with a depreciated currency and rigorous financial conditions, has reduced borrowers' repay-ability.

The rest of the work is as follows. Section 2 is dedicated to literature review relevant on NPLs. In Section 3 empirical data are provided that relates NPLs and the real Greek economy. Section 4 presents the research hypotheses. Section 5 gives a description of the data set and the methodology followed for extracting the key representative factors (questions) of the two scales (categories) of topics - questions. Section 6 discusses the results. Section 7 concludes and offers some policy actions to eliminate NPLs.

2. Literature Review

The recent financial crisis that began in 2008 has highlighted the weaknesses in the banking sector worldwide, which have helped to increase the ratio of NPLs. The rise in NPLs reduces bank profits, resulting in bank recapitalization and a high rate of NPLs, generates systemic risk, worsens deposits, limits credit provision to the economy and reduces future GDP growth.

One of the first studies that investigated the reasons for the creation of NPLs are those of Berger and De Young (1997). With the help of Granger causality, they tested four assumptions about the relationship between cost-effectiveness, loan quality and bank capital using for the period 1985-1994 a sample of US commercial banks. The four cases were reported as "bad management," "bad luck," "moral hazard" and "skimping." They found that the bad management case was superior to the others. They also concluded that the increase in the rate of NPLs was due to the low capital ratios of the banks, which led them to high portfolio risk. Berger & De Young (1997) hypothesized that there is a positive causal relationship between NPLs and high-cost efficiency and found two-way causality. This means that low profitability is a bad management signal, which means that NPLs may grow. Williams (2004), who studied the relationship between cost-efficiency and quality of loans for European savings banks and Louzis et al. (2010), who investigated the determinants of NPLs in the Greek banking system, supported this assumption.

Many researchers studied the impact of the country's macroeconomic factors on NPLs and found that they have a significant impact. Espinoza and Prasad (2010) studied the determinants of NPLs for the Gulf Cooperative Council (GCC) banking sector and noted that when economic growth slows, interest rates rise and risk aversion declines the ratio of NPLs increases. Some of the researchers examined the macroeconomic variables and the role of microeconomic factors that found to improve the interpretative potential of the estimated models. Ghosh (2006**)** used both financial and macroeconomic variables and studied the impact of corporate leverage on NPLs and found that the lagged value of corporate leverage is a major contributor to NPLs.

Louzis et al. (2012) studied the determinants that affect the NPLs of the Greek banking sector. They found that the effects of macroeconomic variables were almost the same in the various alternative models, which also used specialized lending factors as explanatory variables. They conclude that impaired loans are significantly related to various macroeconomic factors, such as real interest rates, GDP growth rates, and unemployment rates. Banks' management, expressed by returns on equity and assets, has a significant impact on NPLs. Klein (2013) studied the financial and macroeconomic factors in Central, Eastern and South-eastern Europe (CESEE) for the period 1998-2011 that affecting NPLs. He found that although the level of NPLs can be attributed both to the macroeconomic factors and to the specific banking variables, banking variables have lower explanatory power. In addition, they examined the feedback results of NPLs on the above variables. Examining feedback results generally outlines strong macro-financial linkages to CESEE. His analysis showed that there is a significant impact from the banking sector to the real economy.

Figlewski et al. (2012) claims that the creditworthiness of banks is affected by the following macroeconomic factors: factors related to the direction of the economy (change in real GDP, change in consumer climate, etc.), factors related to macroeconomic conditions (unemployment rate, inflation, etc.) and financial factors (interest rates, bond yields, stock exchange returns, etc**.)**. Messai (2013) in her work for NPLs studied the existence of a relationship between three specific bank variables concerning the change of the loans granted, the reserves for the loan losses and the profitability of assets and three macroeconomic factors using a sample of 85 banks from the Italian, Greek and Spanish banking sector for the period 2004-2008. These three countries had higher NPLs between the countries of the European Monetary Union (Euro countries) in the post-crisis period. She found that unemployment negatively affected households' holdings and further increased debt. She also showed that there is a significant positive relationship between the unemployment rate and the ratio of NPLs and concluded that rising unemployment reduces household purchasing power and leads in a reduction of output production. In addition, NPLs increase banks' provisions. A restriction in employment means a reduction in the real demand, which results in lower production for corporations, which leads to a reduction in revenue and a rise in debt.

It was found that other macroeconomic factors such as interest rate, inflation, and exchange rate affect banking assets. Several studies have found that stock prices also affect NPLs. The impact of inflation has not been accurately established. Higher inflation may facilitate debt repayment by reducing the real value of the loan, but may also reduce the real income when wages are stable. In the case of variable interest rates, higher inflation may result in higher interest rates due to monetary policy measures taken to fight inflation (Nkusu, 2011). He created an econometric model that explains NPLs with macro-performance variables using annual data from a sample of 26 advanced economies for the period 1998 to 2009. He concluded that the deterioration of the macroeconomic environment due to higher unemployment, low growth or decline in asset prices is linked to debt servicing problems. On the other hand, an improved macroeconomic environment leads to a decrease in NPLs.

Bofondi and Ropele (2011) used annual data from Italian banks for the period 1995-2008 and studied the macroeconomic variables impacting impaired loans households and businesses. For household loans before the crisis, there was a positive relationship between NPLs and interest rates and unemployment and a negative relationship to real estate prices and GDP growth. The results for business loans showed a positive correlation with the ratio of interest expense to EBITDA and the unemployment rate, while the impact of the consumption of durable goods was negative. After the financial crisis resulted that the increase in problematic households' loans is related to lower consumption and higher unemployment, while for companies' loans the increase in NPLs is due to lower GDP growth. Cifter (2015) received a sample of ten Central and Eastern European (CEE) countries and investigated how banking concentration affects NPLs. This relationship was examined both in the short and long term, and it was found that the concentration was not significant. Thus, he concluded that "the concentration of banks cannot affect systemic stability in the CEE countries."

There are indications that NPLs have anti-cyclical behavior. This is explained by the fact that real GDP growth means an increase in income that leads to improved debt servicing of the borrowers, and when there is a slowdown in the economy, the rate of NPLs usually increases as unemployment rises, income is reduced, and borrowers cannot repay their debt. (Fofack, 2005; Jimenez & Saurina, 2006; Charalambakis et al., 2017; Baudino & Yun, 2017) investigated the relationship between macroeconomic and bank variables and NPLs, based on the aggregate Greek loan portfolio. They showed that deteriorating macroeconomic conditions (very high unemployment rates) and political uncertainty were the main reasons for the increase in Greek NPLs from 2012 onwards. In addition, they found that liquidity risk and the bank's specific capital are the determinants of NPLs only under normal economic conditions, with the exception of banks' profitability. The deterioration in the ratio of NPLs may be due to both banking factors and macroeconomic conditions (Berger and De Young, 1997; Louzis et al.,2012).

Empirical data in Greece and internationally indicate that NPLs have anticyclical behavior. The deterioration in macroeconomic conditions, rising unemployment, and declining GDP, reduce the debt service capacity and therefore have a negative impact on NPLs. The bank factors mentioned in the literature that have a negative impact on NPLs are credit conditions, cost-effectiveness, management performance, size, the risk profile of banks and market power (Louzis et al., 2012). Radivojevic and Jovovic (2017) used data from 25 emerging countries and concluded that NPLs can be interpreted by macroeconomic variables such as inflation and GDP as well as by bank variables such as CAP, ROA and lagged NPLs rate. The level of NPLs has increased significantly since the last financial year of 2008, and the relationship between declining banks' credibility and NPLs appears as the main reason in the failure of credit policy (Saba, 2012).

The stability of the banking system and the likelihood of distress depend to a large extent on the ratio of NPLs, which means that NPLs are an indicator of non-fulfillment of obligations (defaults) in the financial sector. (Makri et al., 2014) identified for the period 2000-2008 the factors that influenced the rate of NPLs in the euro area banking system and found a strong relationship between NPLs and a number of macroeconomic factors (unemployment, government debt, GDP growth) and bank factors (ROE, the rate of NPLs of the previous year and the capital adequacy ratio). In addition, a statistically significant positive relationship is resulted between: 1) NPLs and public debt, 2) NPLs and the unemployment rate, and 3) the dependent variable NPLs and its lagged value. Balgova et al. (2016) found that the reduction in NPLs has a medium-term positive impact on the economy. Countries with new credit inflows are growing faster, and economies that actively try to resolve NPLs problem are doing comparably well. On the other side, when the problem of NPLs is ignored, economic performance reduces: the foregone growth due to the overrun of NPLs may exceed 2 percentage points per year as long as the problem exists.

Ozili (2018) studied the impact of financial development on NPLs using a global sample. The findings indicate that two financial development proxies, foreign bank presence, and financial intermediation, are positively related to NPLs. In the regional analysis, there is a negative relationship between NPLs and bank liquidity and regulatory capital, implying that the banking system with greater liquidity and regulatory capital has fewer NPLs. Anastasiou et al. (2016) investigated the causes of NPLs in the euro area banking sector for the period 2003-2013 and separate periphery from core country determinants. The increase in NPLs after the crisis has threatened the power of many European banks and the stability of the banking sector. They found that the same macroeconomic and bank factors affect the NPLs, but their impact is stronger in the periphery. NPLs showed an upward trend (greater in the periphery) since 2008 in the euro area, and this is related to the deterioration of macroeconomic conditions, particularly regarding growth, unemployment, and taxes. Interest rate margins and fiscal consolidation are significant for the periphery while credit to GDP is significant for the core.

3. NPLs and Banks in Greece

In Greece, the financial crisis began as a sovereign debt crisis and evolved into a strong banking crisis. The key policies for dealing with the crisis were extreme austerity, internal devaluation and structural reforms for fiscal consolidation (Raftopoulou, 2015). These policies have created a deep recession with high unemployment, enough poverty, reduction in disposable income and a large number of padlocks. This has resulted in reduced deposits, limited liquidity, deflation, and reduced property prices. Greek citizens did not meet their obligations and at the same time faced a large public debt, which was added to them. Increased bad banking requirements threaten bank balance sheets, reduce liquidity provision, resulting in a contraction of economic recovery. The total private debt consisting of debts to the State, public enterprises, pension funds, etc. far exceeds nominal GDP.

The deterioration of macroeconomic conditions, with rising unemployment and falling GDP, has a negative impact on NPLs as debt servicing of borrowers is reduced. Among the bank-specific factors mentioned in the literature that affect NPLs are the size, cost-effectiveness, management performance, credit conditions, market power, and bank risk profiles. The Greek economy is an interesting case study of the factors that have defined the recession conditions of the Greek economy since 2008. According, Charalambakis et al. (2017) «in 2009, the economy went into recession, resulting in a fall in GDP of 3% in 2009 and an increase in the NPLs ratio by 3.5 percentage points. In 2010, financial markets began to lose faith in Greece ability to service their public debt, and after several months of negotiations between the country and EU leaders, Greece received its first rescue plan from the European Union and the IMF to ensure debt service and prevent a default. Greece has pledged to adopt a sharp fiscal consolidation that has led to further recessionary pressures and has rapidly increased NPLs. The increase in NPLs created unemployment, which further worsening the macroeconomic environment».

NPLs and reduced liquidity are the most important risks for commercial banks, especially in times of economic crisis. The Asian crisis of 1997 is a typical example of a banking crisis. The real economy in Asia suffered considerable losses. NPLs are the most important challenge faced by euro area banks, and especially in the countries that found in IMF-EU support programs, such as Greece, Ireland, and Portugal, seem to be facing the biggest threat. The management of this problem will enable banks to re-contribute to the growth of their economies (Anastasiou et al., 2016).

Reducing the high stock of NPLs, restoring the mediating role of banks, and shaping a viable business model are the key challenges facing Greek banks. Effective management of NPLs is of paramount importance for the stability of the banking system, economic growth, and social cohesion, according to the Governor of the Bank of Greece**.** Until 12/2018**,** the decrease in non-performing exposures stems primarily from write-offs and, to a lesser extent, from loan sales. This partly explains why the ratio of nonperforming exposures remains persistently one of the greatest in the euro area (47.6%). Despite the progress achieved so far, much remains to be done. Greek banks have already submitted revised business targets for NPLs, covering the period until 2021. "In the coming period, loan sales, loan receipts, liquidation of collateral and successful loan adjustments, so that the percentage of non-performing exposures in all exposures drops to about 20% or less (Stournaras, 2018).

It has been well documented that credit-less recovery is weaker, mainly because the lack of bank credit affects investment. The observed improvement in banks' liquidity, due to the gradual increase in deposits, increased access to the secured interbank market and a series of covered bond and securitization issues, is encouraging. It is very important that the release of Greek banks from the central bank for financing through the ELA will allow them to design and implement reliable medium-term credit expansion plans. Making use of the possibilities offered by digital technology, coupled with other efforts to reduce operating costs, can further improve the efficiency of banks, which is already comparable to that of Europeans. The development of jobs that generate commission income (e.g., asset management, bancassurance, etc.) can also help diversify their revenue sources. Restoring the mediation role of banks is essential for their long-term sustainability Stournaras, 2018).

According to the Managing Director of National Bank of Greece Mylona P. (2018), in order to allow Greek banks to reduce their portfolios of red loans to levels agreed with the ECB's SSM, growth to move within the estimates, the improvement of the real estate market should continue and the government should intervene in a legislative way in order to provide partial assistance and through institutional changes. When real estate prices move upwards, mortgage repayment incentives also increase, which means that the growth and recovery of the property market (real estate market) are linked to NPLs. Greek banks have taken great predictions, and future efforts to reduce bad loans will be sales of red loans, according to bankers' statements. The hard issue for banks is the corporate and housing loans. Finally, in terms of auctions, the banks said that they had not worked very well and that there is room for improvement.

4. Research hypotheses

The phenomenon of the emergence and growth of NPLs after the financial crisis of 2008 has been the subject of research for several researchers worldwide. The problem of NPLs has been and still is of major concern to the Greek economy and the Greek society in general over the last decade. On the occasion of this event, we decided to address the citizens of the Thessaly region with some intellectual level, in order to capture the reasons that they believe to be the root causes of the emergence and rapid growth of the NPLs that influenced the macroeconomic variables of the country (GDP, employment, interest rates, public debt, etc.). The socio-economical characteristics of Region of Thessaly are representative of the medium of the country.

Factor and cluster analysis will be used to bring together the causes (variables) into key representative factors (causes) that interpret to a significant extent the phenomenon of the emergence and growth of NPLs. In addition, with the help of the analysis of variance, it will be investigated whether the views of the different categories of respondents, achieved by the use of categorical variables, differ from each other.

5. Data and Methodology

This work examines the factor composition and the internal coherence of the questionnaire, based on data gathered from a sample of 216 citizens region of Thessaly in order to record and study their opinion **on NPLs and the reasons of appearance in Greece.**

a. Determination of the measuring instrument. As a measuring instrument, a structured questionnaire was used with 43 questions (topics, variables) in total, consisting of: (1) questions on citizens' demographics (questions 1 to 7); (2) questions related to **citizens' statements about NPLs** (questions 8 - 26 (scale A)) and (3) questions related to **Citizens' statements of the reasons for the occurrence of NPLs** (questions 27-43 (scale B)).

The measurement of the topics of both scales was calculated with a five-point gradient. The rating includes the following replies (statements): 1 = Absolutely disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Absolutely agree. The grouping in sub-scales (factors) of the two scales A and B will be done by the Principal Component Analysis method, to be used for further analysis.

b. Data collection. Initially, a questionnaire test was conducted in March 2018 to the members of the Economic Chamber and to the faculty members of the University and TEI of Thessaly in the 4 geographical districts of the Thessaly regions. Its suitability was found to be easy to use and understandable, while the arrangements made did not influence the content of its structure. 216 questionnaires were collected after sending e-mails to members of various scientific associations (clubs) between April 2018 and June 2018. For the e-mail addresses and telephone numbers of the respondents, the lists of clubs were used. An attempt was made to contact a lot more scientists, but only 216 responded to the questionnaire completion. Lawley and Maxwell (1971) report that the use of the maximum likelihood method in factor analysis requires a sample size of 51 greater than the number of the topics of the measuring instrument **(**Anagnostopoulos &Papadatou,1992). In our case, for the A scale questionnaire with 19 topics (themes) and the B scale questionnaire with 17 topics (themes), the size of the sample satisfies the Lawley and Maxwell condition for both scales.

c. Reliability analysis. Statistical analysis of the data was done with the IBM SPSS Statistics Social Security Analysis Package 23. The reliability analysis was initially applied to the two scales of the measuring instrument: **scale A** (variables 8-26) and **scale B** (variables 27-43). The internal consistency of the two-scale questionnaires was assessed on the basis of the Alpha index of Cronbach (a-Cronbach) calculated from the application of the reliability analysis in the respective data sets.

d. Factor analysis - cluster analysis. It was followed factor analysis on the two scales by the Principal Component Analysis method in order to group the variables into sub-scales to be used for further analysis. Four steps were followed during the factor analysis: (a) the correlation matrix was created among all the topics (themes), and it was investigated the proper implementation of a factorial model; (b) it was determined the number of factors sufficient to describe the data and the good application of the chosen model was assessed; (c) for the final factorial solution, rotation of the axes was used so that the factors are clearly interpretable and (d) the factor scores for each factor were calculated.

In order to determine whether the correlation matrix of the questionnaire topics for each scale is suitable for factorial analysis, two criteria were used: the Bartlett sphericity criterion and the Kaiser-Meyer-olkin KMO index. Bartlett's test of sphericity was applied to test the null hypothesis that the correlation matrix coincides with the identity matrix, where all diagonal elements are equal to 1, and all non-diagonal elements are zeros. If the sphericity criterion is low, this assumption will be rejected, and then the decision to apply a factor analysis should be reviewed. The 'KMO' index (Kaiser-Meyer-olkih's), the measure of sampling adequacy, is an index of comparing the magnitudes of observed correlation coefficients to the magnitude of partial correlation coefficients. Small index values indicate that factorial analysis of variables is not appropriate since correlations between pairs of variables can't be explained by the other variables **(**Anagnostopoulos &Papadatou,1992).

The determination of the number of factors for each scale (A and B) was based on the graphs of the eigenvalues of the characteristic equation of the correlation matrix and the eigenvalues criterion. The hierarchical cluster analysis method (Ward Linkage and Square Distance) was then applied to group the topics-variables of the scales A and B. The hierarchical cluster analysis tree was used to group the topics into groups. Finally, the groups formed by each of the two methods were compared for each scale separately.

e. Analysis of variance. The Analysis of variance (**ANOVA**) was used to test the significance of the difference between the mean values of the different groups created by different independent variables (age, gender, educational level, and family income) for the factors (sub-scale) of each scale of topics. The F statistic was used to test the difference of the mean values of m groups when $m \geq 3$ and the statistic t when $m = 2$. This method analyzed the factors of the two scales in relation to demographic, educational and economic characteristics, namely: gender, age, education, and family income.

f. Correlation coefficients and reordered descriptive statistics. The correlation coefficients and the descriptive statistics of the factors (sub-scales) of the two scales A and B were calculated. For the study of the correlation (relationship) between the variables, the Pearson correlation index **r** was used.

6. Results and Discussion

a. Reliability analysis - Factor analysis - Cluster analysis

The internal consistency of the two-scale questionnaires was assessed on the basis of the Cronbach Alpha Index (a-Cronbach). The A-Cronbach Index for **scale A** "Citizens' statements related to NPLs" was found to be equal to the high level of credibility a-CrA = 0.825 and for **scale B** "Citizens' statements related to the reasons for the occurrence of NPLs" was found to be equal to the high degree of credibility of a-CrA = 0.852. The reliability of a questionnaire increases with the Alpha Index. Many professional researchers require a reliably completed questionnaire to display Index a-Cr> 0.60 marker. In any case, a-Cr> 0.50 should be used to make the questionnaire reliable.

The KMO Index for the A and B scale were 0.828 and 0.828, and those for the Bartlett sphericality were 1570.21 and 1137.25 (p <0.001) respectively, which means that the Factor Analysis of the variables is an appropriate statistical technique for extracting factors for both scales.

We then proceeded to extract factors using the maximum likelihood method. For each scale and topic, the "common part" (Communalities) was calculated, that is the percentage of variance of the topic, which is interpreted by the common factors.

When the common part of a topic has a value close to zero, it means that common factors do not interpret a significant percentage of the variance, so this topic counts (states) something unique. This has not been observed in any of the two scales.

Factor analysis identified 8 factors for Scale A and 8 for Scale B, which interpret 75.86% and 75.23% of the total variance in the respective data sets.

The factors of **scale A** (or sub-scales of scale A) "Citizens' statements related to NPLs" that support the theoretical dimension of the subject are:

1. AA1: Restructuring of loans and deletion of part of the debt (5 topics (A13, A14, A15, A16, A17))
2. AA2: NPLs are a serious threat to the national economy and make any attempt to recover impossible (5 topics (A4, A5, A6, A7, A19))
3. AA3: The movement "I don't pay" protects citizens with large property and ability to repay their obligations (2 topics (A9, A10))
4. AA4: The reduction of NPLs is a prerequisite for the consolidation of the banking system (2 topics (A1, A2))
5. AA5: The law should only protect the first home of economically weak citizens and reward consistent borrowers (2 topics (A12, A18))
6. AA6: With NPLs a large capital stock remains locked into non-productive assets (1 topic (A3))
7. AA7: NPLs create transactions between bad payers and specific movements (1 topic (A11))
8. AA8: The out-of-court settlement should be institutionalized for any NPL (1 topic (A8))

The factors of **scale B** (or sub-scales of scale B) "Citizens' statements related to the reasons for the occurrence of NPLs" that support the theoretical dimension of the subject are:

1. BB1: The lack of information on the risk of over-borrowing and the lending facilities of banks (5 topics (B5, B7, B8, B9, B10))
2. BB2: The ineffective management of granted loans (2 topics (B11, B12))

3. BB3: The economic crisis and the reduced disposable income contributed to the emergence of NPLs (2 topics (B1, B15))
4. BB4: The lack of competitiveness of the Greek economy and the use of failed policies (2 topics (B13, B14))
5. BB5: Over-borrowing and strategic bad-payers (2 topics (B2, B3,))
6. BB6: The low lending rates and the prevailing climate of prosperity (2 topics (B16, B17,))
7. BB7: The "I don't pay" movements contributed to the increase in NPLs (1 topic (B1))
8. BB8: The enormous number of post-dated checks (1 topic (B6))

In order to support the results of the factor analysis, we proceeded to apply the hierarchical cluster analysis method (Ward Linkage method and squared Euclidean Distance) to group the variables of the two scales.

From the dendrograms of the hierarchical cluster analysis, we observed that the 19 topics of scale A are grouped into 8 groups with the same topics which are contained in the 8 subscales (factors) determined by Factor Analysis (Table 1). The 17 topics of scale B are grouped into 8 groups with the same topics which are contained in the 8 subscales (factors) determined by Factor Analysis (Table 2), except that Factor Analysis considers B6 as a separate factor (BB8, load 0, 71) while Cluster Analysis puts it in the first factor (BB1, load 0.43) (Figure 2).

To test whether the model of the 8 factors for the scale A and the model of the 8 factors for the scale B reproduce the observed correlations between the topics satisfactorily, the residual for each topic was calculated. The residual equals the difference between the observed correlation coefficient and the estimate from the corresponding model. The tables of Reproduced correlation contained a relatively small percentage (13.45.98% for A and 15.44% for B) of the residuals with an absolute value greater than 0.10. This result indicates that the models of the 8 factors for scale A and the 8 factors scale B reproduce relatively well the observed correlations between the topics.

Figure 1. Grouping the topics of scale A with hierarchical cluster analysis

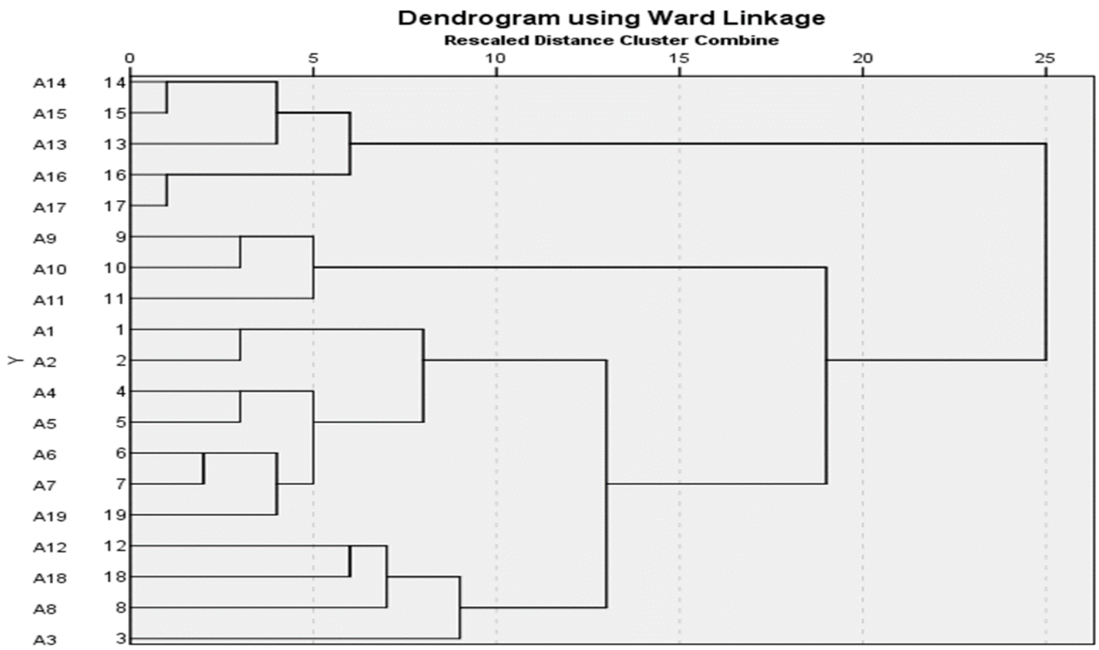

Figure 1. Grouping the topics of scale A with hierarchical cluster analysis

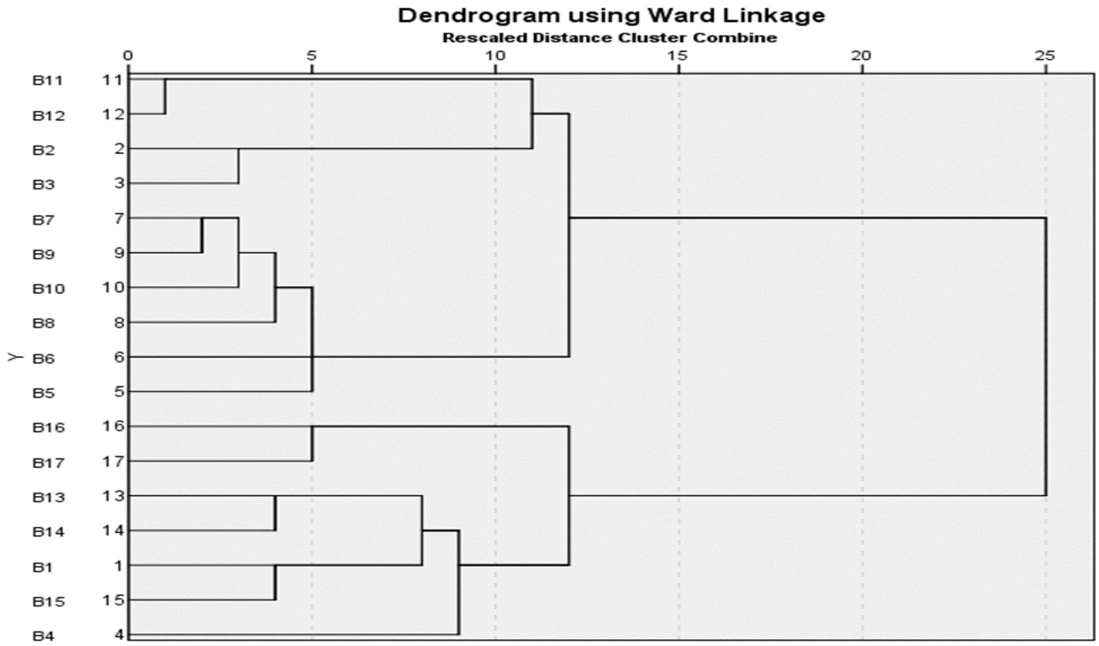

Figure 2. Grouping the topics of scale B with hierarchical cluster analysis

b. Descriptive statistics and distribution of the sub-scales

The results of the factor analysis can be considered as indicative of a grouping of the topics. On the basis of the topics involved in each factor, we formed eight sub-scales (factors) for scale A and eight sub-scales for scale B. Each topic of scale A is ranked in one of the eight sub-scales, each of which appears as the arithmetic mean of the topics that correspond to it and each topic of scale B is ranked in one of the eight sub-scales, each of which appears as the arithmetic means of the topics that correspond to it. Descriptive statistics (mean, standard error, standard deviation, and median) for the distributions of these indices (factors) are shown in Table 1 and 2. The frequency curve for all the eight indices of scale A and the eight indices of scale B is almost the normal distribution.

Table 4. Mean value, standard deviation, standard error and median for the eight subscales of the scale A

A/A sub-scales	Mean value	Standard error	Standard deviation	Median
AA1: Restructuring of loans and deletion of part of the debt	3.680	0.058	0.851	3.800
AA2: NPLs are a serious threat to the national economy and make any attempt to recover impossible	3.410	0.052	0.768	3.400
AA3: The movement "I don't pay" protects citizens with large property and ability to repay their obligations	2.830	0.065	0.957	3.000
AA4: The reduction of NPLs is a prerequisite for the consolidation of the banking system	3.720	0.055	0.805	4.000
AA5: The law should only protect the first home of economically weak citizens and reward consistent borrowers	3.920	0.058	0.851	3.800
AA6: With NPLs a large capital stock remains locked into non-productive assets	3.730	0.060	0.875	4.000
AA7: NPLs create transactions between bad payers and specific movements	3.520	0.064	0.941	3.000
AA8: The out-of-court settlement should be institutionalized for any NPL	3.590	0.065	0.960	4.000

Table 5. Mean value, standard deviation, standard error and median for the eight subscales of the scale B

A/A sub-scales	Mean value	Standard error	Standard deviation	Median
BB1: The lack of information on the risk of over-borrowing and the lending facilities of banks	4.060	0.045	0.657	4.100
BB2: The ineffective management of granted loans	3.780	0.058	0.853	4.000
BB3: The economic crisis and the reduced disposable income contributed to the emergence of NPLs	3.750	0.055	0.808	4.000
BB4: The lack of competitiveness of the Greek economy and the use of failed policies	3.590	0.056	0.827	3.500
BB5: Over-borrowing and strategic bad-payers	4.080	0.045	0.660	4.000
BB6: The low lending rates and the prevailing climate of prosperity	3.620	0.057	0.842	4.000
BB7: The "I don't pay" movements contributed to the increase in NPLs	3.310	0.076	1.114	3.000
BB8: The enormous number of post-dated checks	3.820	0.056	0.822	4.000

c. Analysis of Variance (ANOVA)

In order to test the existence of differences in the categories (groups) of the sub-scales (dependent variables) of the scales A and B, which are formed with independent variables, the social, educational and income characteristics of the citizens, the method of simple variance analysis (one-way ANOVA) was used. In particular, there were studied the existence of significant differences between the mean values of the levels (groups) of sub-scales of the two scales defined by the independent variables, gender, age, education, and family income. If the independent variable contained two levels (categories), the **t** statistic was used to test the existence of significant differences.

c.1 Analysis of variance of the sub-scales of scale A "Citizens' statements related to Social and Cooperative Enterprises."

1. Significant differences in the level of 5% (p = 0.05) present the mean of the levels: 1) of the Subscales: AA2, AA3, AA7 and AA8 with independent variable the **''gender** ''; 2) of the Subscales: AA1, AA6 and AA8 with independent variable the ''**age**'; 3) of the sub-scale AA4 with independent variable the "**Educational level**" and 4) of the sub-scale **AA8** with independent variable the "**family income**".

c.2. Analysis of variance of the sub-scales of scale B "Citizens' statements related to the reasons for the occurrence of NPLs."

Significant differences in the level of 5% (p = 0.05) present the mean of the levels: 1) of the Subscale BB3 with an independent variable the "**Gende**r" and 2) of the sub-scale **BB5** with an independent variable the "**Educational Level**."

d. Correlation coefficients

d.1. Correlation coefficients for the sub-scales of scale A "Citizens' statements related to NPLs."

For the examination of the correlation between the variables (sub-scales) of scale A, the Pearson correlation index **r** was used. Significant correlation at p = 0.01 presents:

1. The sub-scale "AA1: Restructuring of loans and deletion of part of the debt" with the sub-scales: AA2 (r=0,270), AA4 (r = 0.194), AA5 (r = 0.382) and AA8 (r = 0.379).

2. The sub-scale "AA2: NPLs are a serious threat to the national economy and make any attempt to recover impossible" with the sub-scales: AA3 (r=0,268), AA4 (r=0,564), AA5 (r=0,376), AA6 (r=0,491), AA7 (r=0,233) and AA8 (r=0,238).

3. The sub-scale "AA3: The movement "I don't pay" protects citizens with large property and ability to repay their obligations" with the sub-scales: AA6 (r=0,179) and AA7 (r=0,465).

4. The sub-scale "AA4: The reduction of NPLs is a prerequisite for the consolidation of the banking system" with the sub-scales: AA5 (r=0,374), AA6 (r=0,563) and AA8 (r=0,234).

5. The sub-scale **"**AA5: The law should only protect the first home of economically weak citizens and reward consistent borrowers" with the sub-scales: AA6 (r=0,250) and AA8 (r=0,290).

6. The sub-scale "AA6: With NPLs a large capital stock remains locked into non-productive assets" with the sub-scales: AA7 (r=0,218) and AA8 (r=0,179).

d.2. Correlation coefficients for the sub-scales of scale B "Citizens' statements related to the reasons for the occurrence of NPLs."

For the variables (sub-scales) of scale B, significant correlation at p = 0.01 presents:

1. The sub-scale "BB1: The lack of information on the risk of over-borrowing and the lending facilities of banks" with the sub-scales: BB2 (r=0,511), BB3 (r=0,285), BB4 (r=0,258), BB5 (r=0,459), BB6 (r=0,338), BB7 (r=0,192) and BB8 (r=0,523).

2. The sub-scale "BB2: The ineffective management of granted loans" with the sub-scales: BB3 (r=0,268), BB4 (r=0,426), BB5 (r=0,380), BB6 (r=0,290), BB7 (r=0,198) and BB8 (r=0,399).

3. The sub-scale "BB3: The economic crisis and the reduced disposable income contributed to the emergence of NPLs" with the sub-scales: BB4 (r=0,448), BB5 (r=0,316), BB6 (r=0,419), BB7 (r=0,319) and BB8 (r=0,223).

4. The sub-scale "BB4: The lack of competitiveness of the Greek economy and the use of failed policies" with the sub-scales: BB5 (r=0,255), BB6 (r=0,560), BB7 (r=0,270) and BB8 (r=0,314).

5. The sub-scale "BB5: Over-borrowing and strategic bad-payers" with the sub-scales: BB7 (r=0,264) and BB8 (r=0,287).

6. The sub-scale "BB6: The low lending rates and the prevailing climate of euphoria" with the sub-scales: BB7 (r=0,188) and BB8 (r=0,293).

7. Conclusions

The present work dealt with two main components: (a) Citizens' statements on NPLs; and (b) Citizens' statements about the reasons for the occurrence of NPLs.

For the scales of topics (questionnaire) of each component the reliability analysis showed very strong (a-Cr> 0.825) and (a-Cr> 0.852) internal consistency of the questionnaires and then applied the factor analysis, which is a basic tool for checking the validity of a conceptual construction of a questionnaire when it adapts to another language. Factor analysis identified 8 factors for scale A and 8 for scale B, which interpret 75.86% and 75.23% of the total variance in the respective data sets. The same results resulted both in the hierarchical cluster analysis method for the grouping of the variables of the two scales and in the residuals method for each topic.

The variance analysis (ANOVA) showed that, in the grouped statements of citizens (factors) about NPLs (factors of scale A) most important can be considered the **AA5:** The law should only protect the first home of economically weak citizens and reward consistent borrowers, because in any of the independent (categorical) variables gender, age, education, and family income, the means of the levels do not differ between them.

In the grouped statements of citizens on the reasons for the occurrence of NPLs (factors of scale B) , the most important can be considered: 1) BB1: The lack of information on the risk of over-borrowing and the lending facilities of banks; 2) BB2: The ineffective management of granted loans; 3) BB4: The lack of competitiveness of the Greek economy and the use of failed policies; 4) BB6: The low lending rates and the prevailing climate of euphoria; 5) BB7: The "I don't pay" movements contributed to the increase in NPLs and 6) BB8: The enormous number of post-dated checks, because, in any of the independent (categorical) variable gender, age, education, and family income, the means of the levels do not differ between them.

It follows from the above that the state should by law protect only the first home of economically weak citizens and reward consistent borrowers. As regards the elimination of NPLs, it should: 1) informing citizens about the risk of over-borrowing and limiting bank lending facilities; 2) to manage more efficiently the loans granted; 3) the Greek Economy have to become more competitive and more efficient; 4) have a more cautious interest rate policy in times of economic prosperity; 5) avoid populist policies and tackle citizen movements like "I do not pay" and 6) Leverage to be significantly reduced (a large number of post-dated checks).

Acknowledgements

1. The findings of the survey and the related tables can be found in the Annex, which is available to all interested parties.
2. The present research work was co-financed from the authors Theodossiou George, Rigas John, Goulas Apostolos, and Rigas George.

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ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide

The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 32-37
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.64

Entrepreneurial Investor: Decision Making and Profitability

Kinza Yousfani[1], Nida Shah[2], Hameedullah Kazi[3]

[1] Management Science, Isra University, Pakistan. Email: kinza.yousfani@isra.edu.pk
[2] Management Science, Isra University, Pakistan. Email: nida.shah@isra.edu.pk
[3] Computer Science, Isra University, Pakistan. Email: hkazi@isra.edu.pk

Abstract

An entrepreneur influences the parameters of the strategic decision process by the approach he is going to adopt (rational, emotional or intuitive). The decision process, on the other hand, affects the entrepreneurial profitability, knowledge, and experience. Successful decision making requires an accurate understanding of the environment in which the decision will be played out. The logic behind entrepreneurial decision making is a complex issue, not clearly explained by the traditional economic theory, Therefore, finding this relationship is important for determining the factors which influence entrepreneurial investors' decisions and consequently affects their profitability. For this purpose, data were collected from a sample of 150 entrepreneurial investors of Hyderabad and Karachi through a structured questionnaire. The study concludes that no significant relationship exists between age, qualification and decision making. However, a significant relationship is found between income and decision making. In addition, combination entrepreneurial investors earn more income than the irrational and rational entrepreneurial investor. This study will be of profound interest for individual and institution entrepreneurial investor market regulatory and academician.

Keywords: Entrepreneurial Investor, Rational, Irrational, Combination Investor, Decision Making and Profitability

Introduction

All risk that is acted upon must be perceived risk because perception is based upon sensory data, we can only sense the 'real world' because we have no other way of being informed (Robert Olsen 2010). Different researchers characterize entrepreneurs differently, it is well known that Knight (1921) emphasizes risk bearing as the main function of entrepreneurs while Schumpeter (1947) views entrepreneurs as persons who do new things. However, these are not the only functions of entrepreneurs as Casson (2005) reviews the literature and argues that judgmental decision making is a common feature of entrepreneurship. In general, there are three types of problems that require decision making on the part of the entrepreneurs and investors:

1. Entry/Seed Funding Decisions
2. Financing/Investment Decisions, and
3. Growth/Exit Decisions

The logic behind entrepreneurial decision making is a complex issue, not clearly explained by the traditional economic theory according to which the market dictates the firms' performance. One of the first thinkers to discuss the entrepreneurial role in the economic theory was Schumpeter, 1912, in the theory of economic development. The Schumpeterian entrepreneur is not a common businessman, but an innovator motivated by the opportunity of profit, here entrepreneur plays a key role in creating new businesses through a process of creative destruction. Fundamentally, an entrepreneur undertakes tasks that are not performed in the ordinary course of the business routine. The entrepreneur is, therefore, the first mover that can be present both in a small activity and in large corporations, either as a single physical person or a group. When entrepreneurs start their ventures, their concepts are unproven, the outcomes uncertain. Subsequently, as their ventures unfold, feedback is received from the marketplace. The new information can then be used as they make decisions about whether to increase financial investment, to continue the business as it is, to scale back investment, or to discontinue the business. These decisions would be based upon the feedback being received, with the entrepreneur being more likely to increase investment when ventures are showing success and being more likely to scale back when results are disappointing. However, ongoing research in the field of decision making suggests that psychological processes possibly play a role in these important decisions. Thus, under certain conditions, entrepreneurs may be more likely to increase investment, regardless of feedback. This phenomenon is termed as "escalation of commitment" by the researchers in decision making, may lead to irrational decisions. They may be irrational in the sense that psychological processes (which may not even be recognized by the entrepreneurs) play an important role in shaping investment decisions.

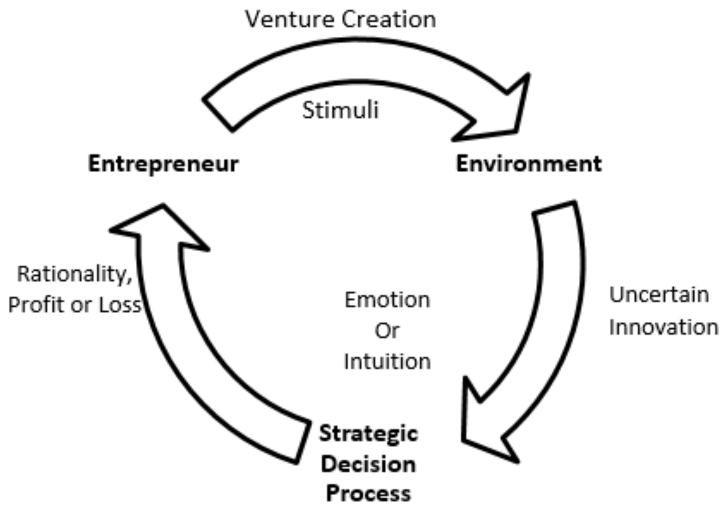

Figure 1: Levels of Analysis in the Decision-Making Process

Decision making is the choice of the best alternative to reach for the set goals, based on the correct understanding, estimation, analysis, and prognosis of the internal and external environment of the enterprise (Moore, 2009).

Entrepreneur influence the parameters of the strategic decision process by the approach he is going to adopt (rational, emotional or intuitive). The decision process, on the other hand, being strategic and affect the entrepreneur bringing profit or loss to the business and will thus possibly reshape the entrepreneurial knowledge and experience. Successful decision making requires an accurate understanding of the environment in which the decision will be played out. Without that understanding, it is impossible to assess the probable consequences and choose thoughtfully among them (Elissaveta Ivanova, 2003). Decision making lies at the very heart of the entrepreneurial process. Entrepreneurs have to make an excess of different decisions on a daily basis, like concerning refinements of the business idea, creating or identifying a market niche, solving technical problems, acquiring resources, recruiting key personnel, etc. (Davidsson and Klofsten, 2003). Studying entrepreneurial decision making, therefore, is important for a better understanding of the process whereby individuals create and exploit new venture opportunities.

Rational decision making demands technical knowledge and practical experience. Rational investors form a rational expectation about asset return, motivated by the maximizing principal. They collect available and relevant information for making decisions (Bhat et al., 2012). Behaviorists argue that investors often behave irrationally when making investment decisions thereby incorrectly pricing securities. They relate investors' decision-making behavior to gamblers' fallacy, anchoring, mental accounting, overconfidence, overreaction (i.e., emotion/intuition) and herding behavior (Banerjee, 1992). While decision making can be seen as a function of entrepreneurs' prior to the experience, we may also have to consider that their intentions, in terms of what they aim for and where they want to go in the future can influence their decision making as well (Krueger, 2003).

According to (Curseu et al., 2010) and (Curseu, 2006), entrepreneurs are responsible for making strategic decisions in entrepreneurial enterprises and are typically the only decision makers in the organizations, their personal attributes such as attitudinal factors; including risk propensity and tolerance for ambiguity, and motivational factors; including self-efficacy and need for cognition, have been introduced as important characteristics that affect the way entrepreneurs make decision. Moreover, demographic factors; including entrepreneurial experiences, age and education are among elements which have been examined by (Curseu and Louwers, 2010) in term of their effects on the quality of strategic decisions made by entrepreneurs.

This paper examines the financial investment decisions of entrepreneurs, specifically considering the following questions: Do entrepreneurs behave according to a rational model of decision making? How can we classify them on a three-scale continuum of rationality: rational combination and irrational. Are the decisions for investment influenced by qualification and age? The study investigates entrepreneurs' investment decisions and its impact on the profitability of individual entrepreneur investors. More recently, (Casson, 2005) reviews the literature and argues that judgmental decision making is a common feature of entrepreneurship.

Literature Review

Maria Sylvia (Macchione Saes et al., 2013) conducted research on Entrepreneurial Decision Making using the Knightian Uncertainty Approach. This article discusses the entrepreneurial decision-making behavior aimed at investigating the entrepreneurial decision rationale. The behavioral model of decision making under uncertainty was used to test the hypothesis of overconfidence, model based on Bayesian inference. The finding suggests that, under the hypothesis of overconfidence, entrepreneurs decide to invest, despite the fact that the expected utility model indicates the contrary. This theoretical finding could explain why there are many business failures in the first years of commotion. Pēteris Dimants (2014) examine on entrepreneurs' decision-making skills development role of the small and the medium-sized enterprises promote development. The study aims to analyze the successful and less successful entrepreneurs' decision-making process, revealing young people's decision-making skills in business development need to increase the long-term small and medium efficiency. The research methodology is based upon the literature on business decision making analysis, the author established the model of decision making, interviewing successful entrepreneurs and young people in decision making promotional business experience gained in promoting "green" business farm "Dangas" and conducting activities "in the green business incubator" analysis. The results obtained reveal the need for business decision making and entrepreneurial skills to organize targets at school and university is designed for decision making in business development activities in formal and non-formal education. Rosa Mehrabi and Amir Mohammad Kolabi (2012) conducted research to investigate the effects of entrepreneurs Personal Attributes and Cognitive Heuristics on the Quality of Entrepreneurial Strategic Decision Making. The aim of the study is to examine the effects of an entrepreneur's motivational and attitudinal characteristics, cognitive biases, heuristic and demographic factors on the quality of entrepreneurial strategic decision making. The samples were 110 prominent Iranian entrepreneurs during the period 2010 – Ministry of Labor and Social Affairs database. The main data collection instrument was a questionnaire. Structural equation modeling and confirmatory factor analysis methods were used to analyze the model, and it is estimated that entrepreneurs' attitudinal characteristics have negative effects on quality of entrepreneurial strategic decision making, while the effects of entrepreneurs' motivational characteristics on quality of entrepreneurial strategic decision making are positive. Furthermore, it is estimated that the effects of demographic factors and overconfidence bias on quality of entrepreneurial strategic decision making are positive however representation bias has a negative effect on it.

Diamanto Politis and Jonas Gabrielsson (2006) conducted research on Entrepreneurial Decision Making: Examining Preferences for Causal and Effectual Reasoning in the New Venture Creation Process. Aim of the study is to examine entrepreneurs' preferences for causal and effectual reasoning in the new venture creation process and the dominating view is that entrepreneurial decision making to a large degree varies in response to the unique situational context whereas the researcher also worked on the individual career experiences and career motives entrepreneurs make in favor of one decision making logic over another. Statistical analysis on a sample of 291 Swedish entrepreneurs was conducted for the argument that entrepreneurs' career experience and career motives have a significant influence on entrepreneurial decision making. The findings suggest that the entrepreneurs also seem to have some stable preferences that make them in favor of one decision making logic over another. Therefore, even if it may be more effective to rely on causal or effectual reasoning depending on the specific circumstance entrepreneurs are facing they may be based on their routines and intended directions and have a preference for causal or effectual reasoning. Ehsan-ul-Hassan et al. (2013) focused on individual investors all over Pakistan who are currently trading on the Pakistani Stock Market. The data was collected through a questionnaire from 270 investors from the Islamabad Stock Market. This study is based on exploring the real impact of behavioral heuristics, fears, and anger on individual investor's judgments and decision making in the context of Pakistan. Confirmatory Factor Analysis is used to measure the validity of three determinants of individual investor's decision making. They concluded that the involvement of behavioral biases and psychological impacts on investor's judgments and decision making leads them towards irrational decision making.

Josiah A. et al. (2012) conducted research on behavioral and financial performance of individual investors in trading shares of companies listed in Nairobi Stock Exchange in Kenya, purpose of this research was to categorize the behavior of individual investor while making the investment decisions, The study adopts the probability sampling technique and systematic sampling technique to collect the data; from each 10 brokerage firms 5 respondents were selected. The questionnaire was designed to investigate behavioral issues that influence the investment decision making of the individual investor. Therefore it is concluded that the diverse behavior of individual investors was found, few investors go for the companies with dominant and good financial performance in the stock market which exhibit rational behavior, some investors showed negative results due to irrationality and herding behavior, most investors had enough experience in trading in stock and the majority of the investor did not have knowledge in making best investment decisions.

Hypotheses

H1: Decision-making process influences the profitability of entrepreneurial investor.
H2: Qualification influences Decision making of the entrepreneurial investor.
H3: Age influences the Decision making of the entrepreneurial investor.

Techniques & Tools

For this research standard instrument is used for measuring the variable as this is a descriptive research, questionnaire is used to measure the variables. The aspects measured are rational and irrational investment behaviors of entrepreneurial investors' profitability. To measure the entrepreneurs' rational investment behavior, 5 items are adopted from Cazilia Loibl (2006), and Entrepreneurs irrational investment behavior is measured by 6 items adopted from a book "The Behavioral Finance and Wealth Management" written by Michael M. Pompian. The scores of entrepreneurial investors on rational and irrational decision making will be used to classify them on a tracheotomy of decision making: Rational decision makers and irrational decision makers and a combination of the two. The relationship between age and decision making is measured using the Kruskal-Wallis test, and the age is ordinal variable and decision making is categorical. The relationship between profitability and decision making is measured using the Mann-Whitney test, and here profitability is an ordinal variable and decision making is categorical variable. The relationship of qualification (Undergraduate, graduate, masters, M.Phil. and PhD.) with decision making is measured using Chi-square phi and Cramer's V, and dummy was created for each level of qualification to measure the decision making in each level of education.

Data Analysis

First, we tested the normality of all the variables using the Shapiro-Wilk test of normality using SPSS 17.0, and all the variable were not found normally distributed. This is the reason for applying a non-parametric test.

Table I: explains the results of the relationship between age, income and decision making. The mean rank rational investor (67.88) is lower than combination (74.56), and irrational investor (84.75) however difference is not significant (Chi-square = 3.747, P value 0.154).

In income, the mean rank of the combination decision maker (83.76) is higher than irrational (74.73) and rational investors (63.77). The results were found statistically significant Chi-square = 6.113, P value 0.047).

Table I: Cross Table of Age, Income and Decision Making

Variables	*Decision Making (Mean Rank)*			*Chi Sq.*	*P-value*
	Rational	*Irrational*	*Combination*		
Age	67.88	84.75	74.56	3.747	0.154
Income	63.77	74.73	83.76	6.113	0.047

Table II: illustrates the results of the relationship between Qualification and decision making. Most of the undergraduate entrepreneurial investors are rational decision makers (mean rank = 4) However most of the graduate (25), Masters (31) and M.Phil. (6) are combination decision makers, But the result are statistically insignificant.

Table II: Cross Table of Qualification and Decision Making

Variables	*Decision Making (Mean Rank)*			*Chi Sq.*	*Phi and Cramer's*	*P-value*
	Rational	*Irrational*	*Combination*			
Undergraduate	4	2	3	1.167	0.088	0.558
Graduate	13	11	25	1.909	0.113	0.385
Masters	25	25	31	1.854	0.111	0.396
M.Phil.	1	3	6	2.004	0.116	0.367
PhD	0	1	0	2.589	0.131	0.274

Conclusions & Comments

Decision making is the choice of the best alternative to reach for the set goals, based on the correct understanding, estimation, analysis, and prognosis of the internal and external environment of the enterprise. Entrepreneurs are responsible for making strategic decisions in new ventures and are typically the only decision makers in the organizations, their personal attributes such as attitudinal factors; including risk propensity and tolerance for ambiguity, and motivational factors; including self-efficacy and need for cognition have been introduced as important characteristics that affect the way entrepreneurs make decisions. The data were collected from a sample of 150 entrepreneurial investors of Hyderabad and Karachi through a structured questionnaire. Finding this relationship is important as it determines the factors considered by the entrepreneurial investors in making decisions and consequently affects their profitability. The study concludes that no significant relationship exists between age, qualification and decision making. As far as income, a combination entrepreneurial investors earn more income than an irrational and rational entrepreneurial investor. This study will be of profound interest for individual and institution entrepreneurial investor market regulatory and academician.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 38-54
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.65

Accounting Application over the Edgeworth Box to Assess Banking Activity in Southeast Asia Countries

Miguel Ángel Pérez Benedito[1]

[1] Universidad de Valencia. Facultad de Economía. Avda. de los naranjos s/n. 46015 Valencia. España. Email: miguel.a.perez@uv.es

Abstract
The manuscript considers that accounting information of financial statements is synthetic information of the process of decision-making, and the Edgeworth box is a laboratory to assess banking activity. The effects of decision-making process are explained by economic-financial models according to the principle of double entry. This model enables getting an accounting equilibrium equation with four variables which have economic and financial significance and can be represented in an Edgeworth bo by several transformations. The banking positions in the Edgeworth box visually explain levels of financial risk and their respective economic covertures according to the evolution of macroeconomic variables in Southeast Asian countries.

Keywords: Accounting Methodology, Box of Edgeworth, Monetary Policy

JEL Classification: E520, M410, O320, P500

1. Introduction

This manuscript analyzes the banking activity of Asian Southeast countries. The diversity of their cultures (Jacobs, Neubauer, & Ye, 2018) as well as their experience on financial crisis of the 90s are issues that draw attention regarding their answers to overcome the current financial crisis (Rüland, 2018. Rethel, 2019. Rethel, & Thurbon. 2019). The manuscript presents the Edgeworth box as an accounting laboratory where each position has an economic-financial significance (Perez, 2015). The applying of the accounting principle of double entry on transactions of companies enables building an accounting theoretical model according to the European Accounting System (EAS 2013). The aggregation of accounts of financial statement according to their economic and financial nature has as result a dynamic equilibrium equation, which is represented in the Edgeworth box after several transformations. A position of equilibrium in the Edgeworth box is measured by two indicators with their respective economic and financial meaning, and they allow contrasting the banking activity with macroeconomic variables where banks are located. (OCDE, 2018. ADE, 2017).

The negative rate of interest, the level of public debt regarding GDP and derivate products over the counter (OTC) are some components that have been characterizing the latent financial crisis of the early 21st century (Beeson, &

Diez, 2018). The framework of the Basel Committee on Banking Supervision has been the answer to this situation by monitoring levels of risk-based capital ratio, the leverage ratio and the liquidity metrics on banking activity, they are the three pillars of banking supervision of BASIL III (BIS, 2018. Kranke, & Yarrow, 2018)

The aim of this regulation was to give stability to financial markets, but the Basel Committee carried on with the supervising activity on global systematically important financial institutions (SIFls), global systematically important banks (G-SIBs) and domestic systematically important banks (D-SIBs) (BIS 2017). The supervising on shadow banking system of the Financial Stability Board (FSB 2018) and the local activity of Asian Development Bank (ADB) are coming together with this activity for further strengthening of the region's resilience to external shocks, and all of that according to Chairman's Statement of the 13th East Asia Summit delivery at Singapore 2018. The ADB carry out its activity based on principles of Regional Public Goods and considering risks of the increasing regional and global integration but remembering the effects of last 1997/98 Asian financial crisis (ADB 2018). Nevertheless, despite these cautions, the International Monetary Fund reports on Asian Pacific considers the resilience period of financial markets is still latent (IMF 2018a).

The manuscript has four sections. This section is the presentation of the scenario where the accounting methodology over the Edgeworth box is applied. The second section presents the accounting equation of equilibrium and its representation in the Edgeworth box. The comparison of banking positions regarding macroeconomic variables from 2012 to 2017 is made in the third section, considering the results of supervising activity of the Basel Committee on banking activity in the Asian continent. Conclusions is the last section of this manuscript where the prudential decisions of banking activity are explained within the researched period.

2. The accounting methodology over the Edgeworth box (AMEB).

2.1. The economic and financial information of financial statements

The financial statements are results of the process of decision-making during a period. These decisions are recorded in an accounting information system (EAS 2010, SNA 2008) according to a framework based on the principle of double entry as well as accrual principle (Eurostat, 2013. ONU, 2009). Adding the accounting information of units of economic activity by applying EAS 2010 and SNA 2008, the macroeconomic variables of countries can be built for their governments and supranational entities, so these can make decisions under a same accounting criterion.

This manuscript considers that the banking activity is the counterpart of economic transactions in the economy of a country. So, figure 1 is the economic-financial accounting model that explains the activity of financial and non-financial entities, which can be the State, local governments or companies.

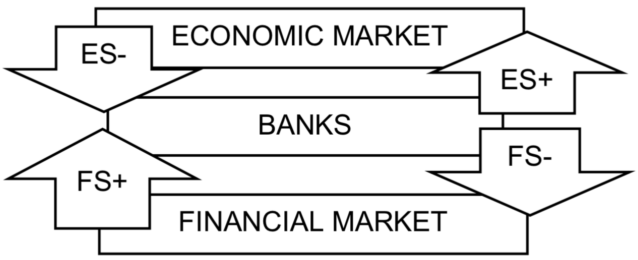


Figure 1. Accounting economic-financial model

Banks make economic and financial transactions to develop their activity. The goals of banking activity are the management of monetary savings of sectors and subsectors which do not include Financial corporations S.12 of EAS 2010 (EAS 2013). The performance of banking activity can be explained by expression 1.

$$ES(+) – ES(-) = FS(+) – FS(-) \quad (1)$$

Where:
ES (-) = Negative economic sources are economic transactions for acquisitions of goods and services from the economic market.
ES (+) = Positive economic sources are economic transactions for the alienation and sales of goods and services to the economic market.
FS (-) = Negative financial sources are the counter part of economic (ES(-)) and financial positive transactions (FS(+)).
FS (+) = Positive financial sources are the counter part of economic (ES(-)) and financial negative transactions (FS(-)).
By making differences on both economic and financial transactions of equation (1), the equilibrium of banking activity presents the following equation:

$$R - VA = VF - MS \tag{2}$$

Where:
OR is the Operative result or economic cash-flow
VA is variation on assets or real economic assets maintained in company VF is variation of the financial position among liabilities and credits
MS is the monetary saving or monetary cash flow.

Making transpositions of accounting variables of expression (2) to obtain positive values of them the result is as follows:

$$VF + VA = OR + MS \tag{3}$$

The expression (3) pursuits the adjustment the financial position of banks avoiding the application of accounting policies used by banks and regulatory institutions of the financial markets. So, adjustments for depreciations and provisions have effect on net result as well as on the respective assets and liabilities to obtain economic cash flow (OR), and according to criterium of EAS 2010, VF is the compensated values of financial instruments (assets and liabilities) of banking balance sheet for getting their net financial position.

2.2. Application of the Edgeworth box to Southeast Asian banks

2.2.1. Financial Statements and the equilibrium dynamic equation.
The financial statements are synthetic information of annual banking activity, and according to the economic and financial nature of accounts, the table 1 presents relations between them and accounting variables of expression 3.

Table 1. Accounts of equilibrium equation.

Assets	1 Step	2 Step	3 Step
Loans (Agregate velue)	FA	VFA	VFA
Gross loans			
Less: reserves for impaired loans/NPLs (a) (b)			OR3(+)
Other earning assets {Aggregate value)	FA	VFA	VFA
Default credit (memories) (b)			OR2(+)
Fixes Assets (Aggregate value)	EA	VEA	VEA
Non-earning assets (Aggregate value)	EA	VEA	VEA
Cash & Central Bank balance	MA	VMA	VMA
Goodwill	EA	VEA	VEA
Other Intangible Assets	EA	VEA	VEA
TOTAL ASSETS	FA+EA+MA	Σ(V)	Σ(V)+OR2+OR3

Liabilities and Equity			
Deposits & short-term funding (Aggregate value)	ML	VML	VML
Other interest-bearing liabilities (Aggregate value)	FL	VFL	VFL
Other (non-interest bearing) (Aggregate value)	FL	VFL	VFL
Reserves {Aggregate value)	SF	VSF	VSF
Net Result (Profit and loss)			OR1(-)
Equity	SF	VSF	VSF
TOTAL LIABITIES AND EQUITY	ML+FL+SF	Σ(V)	
Net Result (Profit and loss)			OR1(+)
Default credit (memories) (b)			OR2(+)
Provisions (Memo) (a) (b)			OR3(+)
			Σ(V)+OR2+OR3

(a) Same value and accounts, (b) Gross annual variation of assets

The expression 3 is the balance of banking activity of a company in a period and prior to include its equilibrium position in Edgeworth box, three steps of table 1 must be followed. The economic, financial and monetary nature of variables of table 1 have assigned letters E, F and M, respectively. Columns 1 Step and 2 Step are variations of accounting variables between two consecutive periods, and column 3 Step is a variable of expression 3. The Equity is the financial duty of bank according to Shareholder Funds (SF) and these duties are considered as the VF variable of expression 3. So, the expression 4 is the aggregated value to obtain the expression 3 when the adjustment of accounting policies is applied on the balance sheet.

$$VFA+OR2+0R3+VEA+VMA = VML+VFL+VSF-OR1 + (OR1+0R2+0R3) \quad (4)$$

The variables of equation (4) can be aggregated to obtain the equilibrium dynamic equation (3) as follows:

$$VF = VFA + OR2 + OR3 -VFL- VSF + OR1 \quad (5)$$
$$VA=VEA \quad (6)$$
$$MS = VMA-VML \quad (7)$$
$$OR = OR1+0R2+0R3 \quad (8)$$

The steps of table 1 are applied on a banking entity from the sample for a better explanation of the result obtained and table 2 shows the values of variables of expression 4.

Table 2. Accounts' balance sheet and results of BMI bank

Assets	1 Step	31/12/2017 mil EUR	31/12/2016 mil EUR	2 Step	3 Step
Loans (Agg. value)	VFA	277741	294767	-7026	-7026
Gross loans		278334	295375	-7041	-7041
Less: reserves for impaired loans/NPLs (a) (b)	OR3(+)	593	608		-15
Other earning assets (Agg. value)	VFA	30939	35244	-4305	-4305
Doubtful credit (memories) (b)	OR2(+)				2407
Fixes Assets (Aggregate value)	VEA	27332	19203	8129	8129
Non-earning assets (Agg. value)		36638	37820	-1183	-1183
Cash & Central Bank balance	VMA	27238	32792	-5554	-5554
Goodwill	VEA	n.d.	n.d.		0
Other Intangible Assets	VEA	9399	5028		0
TOTAL ASSETS	Σ(V)+OR2+OR3	**372649**	**387034**	**-4385**	**-1993**

Liabilities & Equity					
Deposits & short-term funding (Agg. value)	VML	294795	303442	-8648	-8648
Other interest-bearing liabilities (Agg. value)	VFL	n.d.	n.d.		0
Other (non-interest bearing) (Agg. value)	VFL	2376	2711	-335	-335
Reserves (Agg. value)	VSF	3953	2393	1560	1560
Net Result (Profit and loss)	OR1(-)				4277
Equity	VSF	71526	78488	-6962	-6962
TOTAL LIABILITIES AND EQUITY		**372649**	**387034**	**-4385**	**---/---**
Net Result (Profit and loss)	OR1(+)	4277	4812	---/---	4277
Doubtful credit (memories) (b)	OR2(+)	4116	1709	2407	2407
Provisions (Memo) (a) (b)	OR3(+)	593	608	-15	-15
	Σ(V)+OR2+OR3				**-1993**

(a) Same value and accounts, (b) Gross annual variation of assets

The values of table 2 on column 3 Step allows to obtain the expression 3 as follows:

$$VF\ (-8925) + VA\ (12500) = MS\ (-3094) + OR\ (6669) \tag{9}$$

The values of expression 9 are shown on table 3, which are aggregated values of table 2, according to expressions 5, 6, 7 and 8. The negative value of expression 5 must be amended because they represent an economic-financial position of a bank on a year, which must be put in contrast to other annual positions in the research period. So, variables maintain their position on equation 3 regardless of their values, which must be positive to be represented in an Edgeworth box. This criterium is in accordance to the theorical accounting model of figure 1 and expression 3 for each year in the research period.

Table 5. Real value of position BMI in Edgeworth box

Variables	Step 1 2017	Step 1 2016	2 Step (∆/∂)	3 Step
VF	230825	246419	-15594	-8925
VA	36731	24231	12500	12500
SUM ASSETS	267556	270650	3094	3575
MS	267556	270650	-3094	-3094
OR				6669
SUM LIABILITIES	267556	270650	3094	3575

2.2.2. The accounting positions of the banking activity in Edgeworth box.

The representation of annual equilibrium dynamic equations (expression 9) in Edgeworth box must be transformed according to an equivalent criterion in order to contrast them. In order carry this out, two transformations must be made. The first one is converting possible negative values of the equilibrium dynamic equation into positive values, and the second one is obtaining the relative value from the transformed value on the first one. These relative values are the real position in Edgeworth box. So, the limits of each axes of the Edgeworth box are zero and 100%. Considering the annual equation of equilibriums in the research period, the maximum- minimum value of temporary data series must be selected. The second step is to obtain the absolute value of maximum-minimum value (|Mm|) multiplied by two (|Mn|*2), and this last value is a change of origin (Xo) on the same canonical base for all values of the data series. Expression 10 is the first transformation of the annual series value.

$$VF1 + VA1 = MS1 + RO1 \tag{10}$$

VF1=VF+Xo; VA1=VA+Xo; MS1=MS+Xo; RO1=RO+Xo
|Mm| = The absolute value of maximum-minimum value
Xo = |Mm|*2, Xo is the change of origin on temporary series

The second transformation could be made when values of expression 10 are positive. The second transformation is dividing each variable of expression 10 by the respective sum of assets and liabilities. The expression 11 is the transformation of annual series value to be represented in an Edgeworth box, and it is the real position in the Edgeworth box.

$$VF2 + VA2 = MS2 + RO2 \tag{11}$$

$$VF1 + VA1=SUM;\ MS1+RO1= SUM$$
$$VF2=VF1/SUM;\ VA2=VA1/SUM;\ MS2=MS1/SUM;\ RO2=RO1/SUM$$

The application of both transformations on the example of the BMI bank are on table 6 and their annual representation are in the Edgeworth box of figure 2. The expressions 10 and 11 are results of transformation on values of accounting equation of equilibrium on a year and their applications are the columns of table 6. The first column of table 6 is the last column of table 5 <<3 Step>>, and the change of origin has been applied on its values (Xo=87.277) to obtain values of variables in expression 10. The last column of table 6 is the second transformation to obtain the real position in the Edgeworth box.

The table 6 presents both transformations made on value of table 5 according to information of financial statements of the BMI bank, which has been obtained from the Orbis data base over license of University of Valencia. The change of origin (Xo) is the maximum-minimum of the annual values that the BMI bank has taken on each year in the research period. So that, all changed values maintain their relative positions but with positive values. This strategy maintains the accounting theoretical economic- financial model without any change on the positions of variables in the equilibrium dynamic equation. The last transformation is the obtaining of the relative values of variables of column <<transformation 1>> for being included in the Edgeworth box of figure 2.

Table 6. Transformations

	3 Step table 5	transformation 1	transformation 2
VF1	-8925	78353	44%
VE1	12500	99778	56%
	3575	178131	100%
MS1	-3094	84184	47%
OR1	6669	93947	53%
	3575	178131	100%
Minimum	-43639		
Xo =	Minimum*2=	87.277,72422	

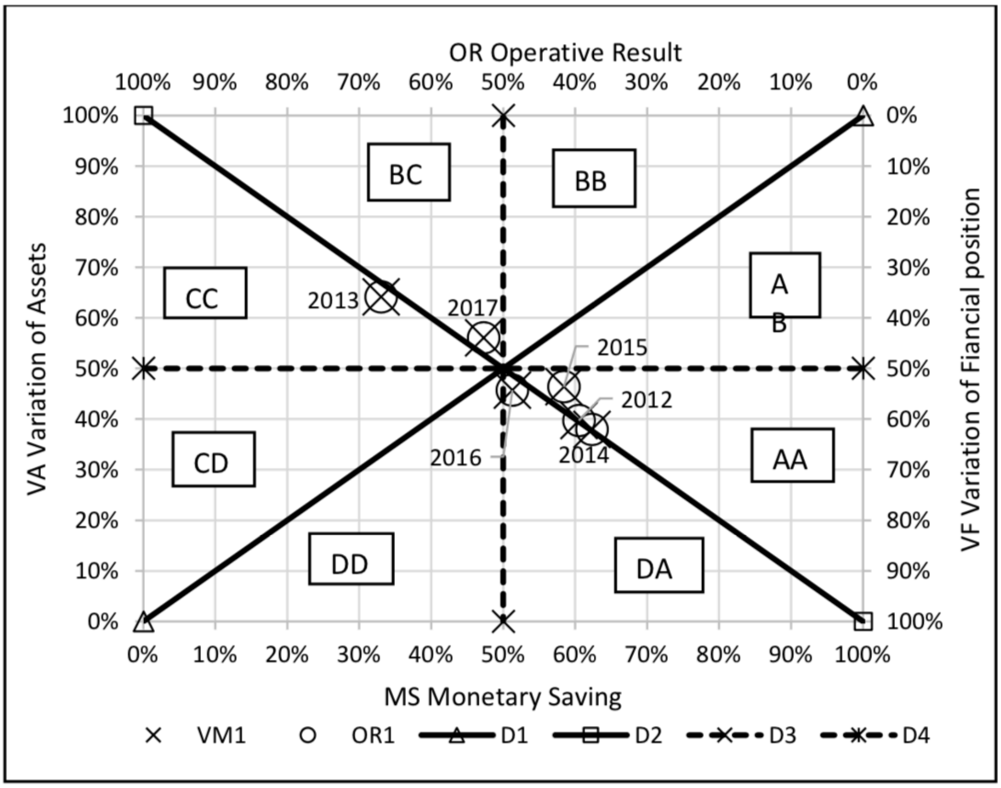


Figure 2. Observations of BMI bank in period from 2012 to 2017.

The equilibrium position of the year 2017 of table 6 is represented in zone CB in the *Edgeworth box of figure 2. The several annual observations have been transformed by the same steps of observation of 2017 and it allows to contrast them. The limits of axes of accounting in the Edgeworth box are fix and they do not change because the theoretical accounting model is applied on all accounting financial statements whether they belong to financial or non-financial companies.

The interpretation of financial and economic observations in the accounting Edgeworth box is built by two indicators: Lambda (L) and Gamma (G). The first of them has financial significance and the second one has economic significance, according to following expressions.

$$L = VF/OR - VA/MS \quad (12)$$

$$G = VA/OR - VF/MS \quad (13)$$

The Lambda (L) indicator explains how many times banks give credit to market (VF) in relation to the operative result (OR) obtained in a year minus the times the monetary saving (MS) is covered by economic assets (VA). This L indicator has financial significance. The Gamma (G) indicator explains the economic position of banks in the Edgeworth box because it measures how many times the economic assets obtained or investment in economic goods (VA) contains the operative result (OR) minus the risk to concession credit (VF) to markets in relation to monetary saving (MS) obtained from markets in a year.

The financial and economic measure of positions in areas of the Edgeworth box by L and G indicators allows to consider the level of risk adopted by banks. Considering their representation on figure 2, the diagonal D1 represents the evolution of the L indicator when the G indicator takes a null value, and diagonal D2 represents the evolution of the G indicator when the L indicator takes a null value. So, the table 7 displays the level of risk of banking activity in the Edgeworth box, and its areas are limited between dashed and continued lines. The location of banking activity on the AA area does not have risk of management and there is a high level of risk when the observation in the Edgeworth box is located on the CC area. So, areas with A letter have low level of risk and areas with C letter have high level of risk and areas with B and D letters have intermediate positions of risk.

Table 7. Risk areas in Edgeworth box

	AA	AB	BB	BC	CC	CD	DD	DA
L	+	+	-	-	-	-	+	+
G	+	+	+	+	-	-	-	-
L<>G	|L|>|G|	|L|<|G|	|L|<|G|	|L|>|G|	|L|>|G|	|L|<|G|	|L|<|G|	|L|>|G|

The value of L and G indicators for annual positions of BMI in Edgeworth box of figure 2 are on table 8, as well as its leverage ratios obtained from the Orbis data base.

Table 8. Indicators of BMI bank

Indicador/year	2017	2016	2015	2014	2013	2012	2011
L	-0,3512	0,2225	0,4972	1,0395	-1,4060	0,8705	np
G	0,1313	-0,1207	0,1967	0,0110	-0,1299	0,0080	np
Area	BC	DA	AA	AA	CC	AA	
Total capital ratio	21,59	24,32	19,33	19,45	21	13,46	15,84
Tier 1 Ratio	20,79	23,47	18,46	n.d.	n.d.	n.d.	n.d.
Total Capital	70644	78227	56300	42044	36973	28354	30076
Tier 1 Capital	68014	75486	53752	40133	35297	26322	28536
Total capital ratio^-1	0,0463	0,0411	0,0517	0,0514	0,0476	0,0743	0,0631
variation G	1	2	1	1	2	1	0
Variation Total capital ratio^-1	1	2	1	1	2	1	0

The result of table 8 obtained from the accounting methodology over the Edgeworth box (AMEB) and Orbis data base belonging to BMI are put in contrast by rows <<variation G>> and <<variation Total capital ratio^-1>>. The accounting indicators L and G of AMEB show that 2013 has a bad position in the Edgeworth box because the OR is higher than the MS, as well as the level of VA is higher than MS, and both indicators are negative. So, banks struggle to make its banking activity and adopt a position of financial hedge by investing on real assets. The best positions of banks are 2012, 2014 and 2015 because in these years, the BMI is located on area AA where monetary saving (MS) is higher than the operative result (OR) and banks can develop its banking activity because its financial positions (VF) is higher than the investment on assets (VA). The years 2016 and 2017 are years of resilience but with differentiated strategies and adopting prudential positions in the center of the Edgeworth box.

The Tier 1 capital ratio is defined as the Capital Measure (Core Equity Capital - the numerator) divided by the Exposure Measure (Total risk-weighted assets (RWA) - the denominator), and expressed as a percentage (BIS,2014, 2017). The gross interannual difference between the inversed values of Total capital ratio and G indicator have the same evolution, which is scored by 1 and 2 for marking their respective increase and decrease.

The G indicator measures the level of economic hedge in relation to the financial position of the L indicator. Both Basel indicator and Edgeworth box indicators (L and G) measure the level of risk that banking activity has reached over a year. Although Tier 1 increases when one of the indicators L and G adopt a negative value, these last ones take reference from four accounting variables at the same time and indicate which alternative decisions a bank should adopt to avoid a risk area.

3. The assessment of Asian banking activity.

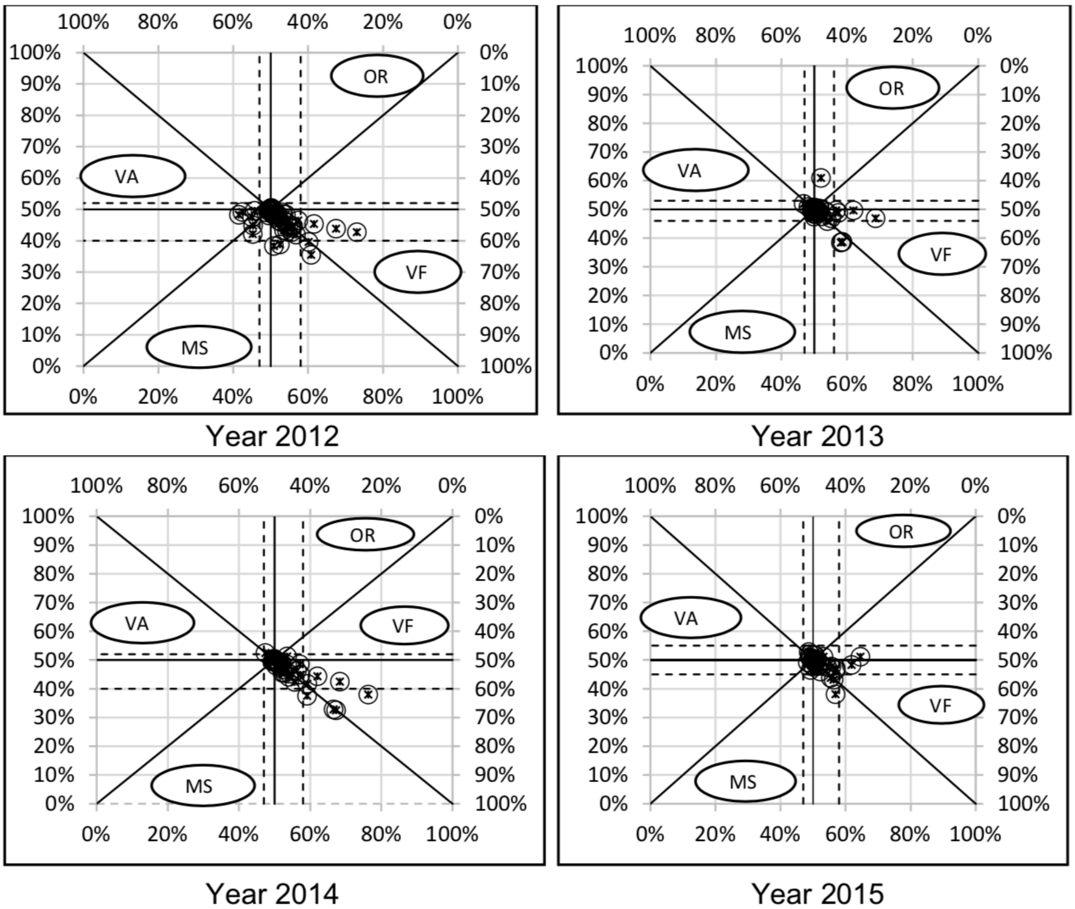
3.1. Annual assessment of Asian banking activity.

This section assesses the annual behavior of banking activity in Southeast Asia. The information of financial statements of Asian banks has been obtained from the Orbis data base with license over University of Valencia applying these criteria: data update 09/27/2018, export data 03/10/2018, Region Asian, type of companies: banks and Hedge funds, listed companies 185. The first goal is analyzing both kinds of companies to contrast them, but according to information obtained by applying the methodology AMEB, the activity of banks has been analyzed and table 9 has the numbers of banks analyzed by year.

Table 9. Areas of Edgeworth`s box of Southeast Asian banks

Years	CC	CD	DD	DA	AA	AB	BB	BC	Total Banks
2012	15	22	21	74	26	0	3	5	166
2013	36	13	12	53	34	1	7	10	166
2014	8	7	7	88	42	4	5	6	167
2015	16	6	10	59	43	13	8	12	167
2016	12	14	8	67	36	9	7	12	165
2017	41	14	15	44	16	13	7	16	166
Sum	128	76	73	385	197	40	37	61	997

The result of table 9 has numeric positions adopted by banking activity within the period of research. The banking activity improves in year 2014 because banks adopt a higher number of positions on area DA with a low level of risk of management. The banking activity adopts bad positions on years 2013 and 2017 because the CC area has a high level of risk, and years 2012, 2015 and 2016 can be considered as resilience periods. Moreover, the visual location of banking activity on figure 3 are the results of table 9, and their relative positions are measured on table 10, represented by dashed lines in each annual Edgeworth box.



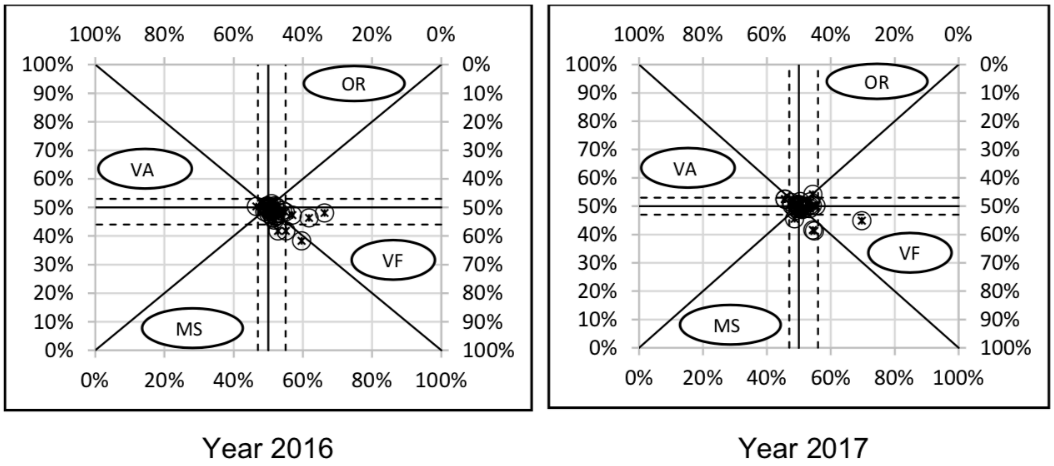


Figure 6. Annual Edgeworth Box

Table 10. Measures of accounting variable of equilibrium equation in figure 6

	2012	2013	2014	2015	2016	2017
VF Max	60%	54%	60%	55%	56%	53%
VF min	48%	47%	48%	45%	47%	47%
MS Max	58%	56%	58%	58%	55%	56%
MS min	47%	47%	47%	47%	47%	47%

The concentrated positions of banking activities in the center of the Edgeworth box in 2013 and 2017 justifies the high numbers of positions on CC area on table 9. These years are characterized by minimum levels on VF Max and MS Max. So, banks have difficulty to give credit to markets and they obtain less monetary savings from non-financial sectors. The best position of banking activity is on 2012 and 2014 because banks can give credit to market up to 60% (VF Max) and obtain monetary savings on 58% (MS Max), both percentages are the maximum values of these variables in the period of research. The result of evolution of banking activity says that banking activity in Southeast Asia has good behavior when VF Max (VF min) is higher than MS Max (MS min). Moreover, during all periods, banks have assured a 47% as minimum of monetary savings (MS min). So, the concentration of banking activity on the center of the Edgeworth box are resilience years, and when there is diversity of positions of banking companies in reference to the center of the Edgeworth box, there are less perturbations on markets.

3.2. The geographical banking activity.

The banking activity in Southeast Asia has the best positions in 2012 and 2014 and this section analyzes the relation between banking activity and macroeconomic variables. The macroeconomic variables are obtained from the World Bank and they are compared with the accounting indicator of the Edgeworth box Lambda (L) and Gamma (G) to explain the evolution of banking activity in Southeast Asian countries.

Table 11. Macroeconomic variables of World Bank

Description of variables	Code of variables
Broad money growth (annual %)	FM.LBL.BMNY.ZG
GDP growth (annual %)	NY.GDP.MKTP.KD.ZG
GDP per capita growth (annual %)	NY.GDP.PCAP.KD.ZG
Wage and salaried workers, total (% of total employment) (modeled ILO estimate)	SL.EMP.WORK.ZS

Data Source: World Development Indicators. Last Updated Date 18/10/2018

The selected variables of table 11 take into account their relationship with the accounting principle of double entry in the theoretical accounting model of this manuscript. In order to compare them with the banking activity of Southeast Asian countries, the table 12 has their positions in the Edgeworth box.

Table 12. Positions of Southeast Asian banks in Edgeworth box

Countries/area	CC	CD	DD	DA	AA	AB	BB	BC	sum
IDFEB	54	11	15	104	77	19	15	25	320
TH	32	44	28	89	14	4	6	12	229
VN	11	5	11	99	28	0	6	13	173
PH	18	12	10	51	30	4	2	1	128
MY	3	2	4	7	39	11	3	5	74
SG	9	2	5	34	3	0	5	5	63
VNFEB	0	0	1	10	0	0	2	2	15
LAFEB	0	0	0	1	2	2	0	0	5
MM	1	0	0	0	4	0	0	0	5
	128	76	73	385	197	40	37	61	997

Acronym: ID: Indonesia. LA: Laos. MM: Myanmar.MY: Malaysia. PH: Philippines.SG: Singapore. TH: Thailand. VN Vietnam.

The acronyms of table 12 are codes of the Orbis data base and they are also the domain codes on the internet. Indonesia (ID) and Thailand (TH) have a high level of banking activity which is concentrated in the DA area of the Edgeworth box. This level of concentration on the DA area shows a continued period of resilience to get AA positions. The figure 7 presents levels of concentration by percentages in relation to total positions adopted by row of table 12.

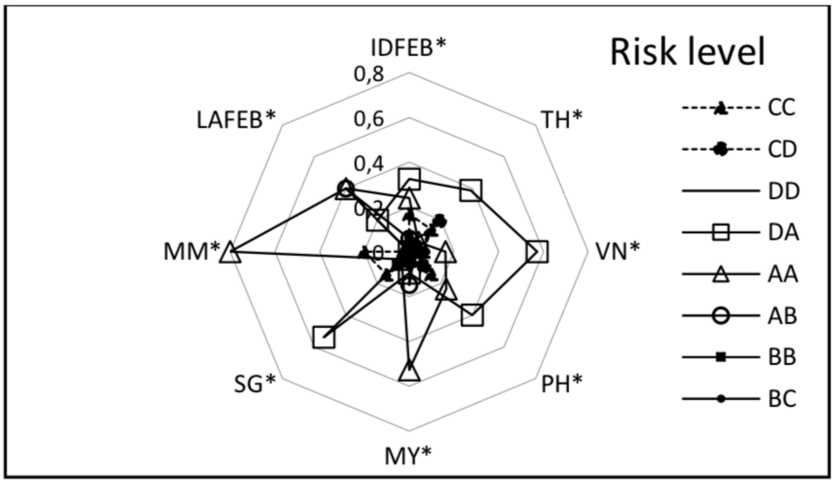


Figure 7. Relative position of banking activity by countries.

The order of positions in the Edgeworth box of banking activity in Southeast Asian countries on table 12 is descendent respect to sum-column, and by contrasting these results with percentages of figure 7, countries with high level of positions on table 12 are located on the DA area and countries with low level of positions adopt the AA area. The exception of Singapore does not allow us reaching some conclusions about the level of concentration or diversity on the number of banks in a country. So, by contrasting the behavior of banks with the evolution of L and G indicators, the assessment of banking activity in different countries is developed by an associated behavior of criterion of banks.

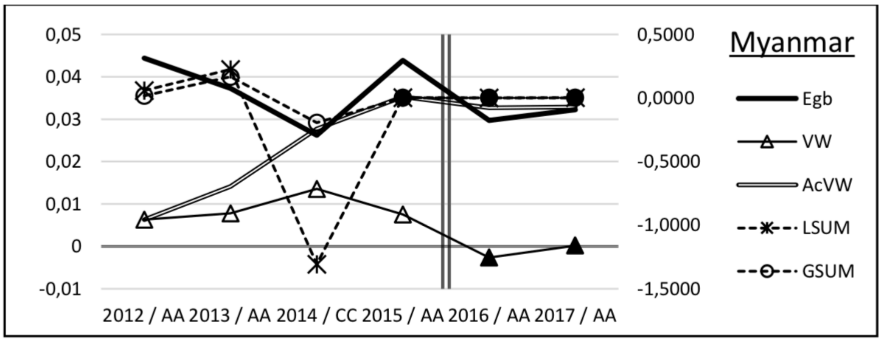
3.3. The associated behavior of banking activity

This section analyzes banking activities in every Southeast Asian country but considering the results of analysis on previous sections: (a) there is a relation among accounting indicators of AMEB and Basel Commission, (b) the banking activity is concentrated on the center of the Edgeworth box, (c) the 2014 year shows the best behavior of companies and (d) there is a diversity on banking activity in Southeast Asian countries in the period of research.

The contrasted evolutions of L and G indicators allows to build three groups of countries in several figures: figure 8 for Myanmar and Vietnam, figure 9 for Thailand and Malaysia and figure 10 for Philippines, Indonesia and Singapore. The aggregation of accounting variables of the equilibrium equation on each country has allowed the obtaining of L and G indicators, which are represented in the secondary y-axis in each figure with dashed lines. These indicators are contrasted with elasticity (Egb) of BM (Broad money) respect to GDP (Gross domestic product) and the annual variation of workers with level of employment (VW).

The elasticity of BM respect to GDP has been obtained contrasting macroeconomic variables of Broad money growth (annual %) (numerator) with GDP growth (annual %) (denominator), and its variation justifies the role of the first one on the evolution of the economy in a country. The decrease of Egb points out that the variation of GDP has not been supported by the variation of BM and the economic growth is not related to monetary polices. The contrasting of Egb with the variation of workers (VM) as well as its accumulated value (AcVW) justifies the effects of the macroeconomic behavior of a country. The consideration of the evolution of Ebg and VW, mainly this last one, enables the analyzing of the behavior of banking activity in each Southeast Asian country, as well as the justification of banking decisions. The Ebg and VW macroeconomic variables are not affected by criterion of value, and it allows to contrast them with all variables represented in each figure. The elasticity Ebg is divided by 100 (Egb/100) in order to be represented in the primary y-axes, and series of VW has the score (∆) in black color (▲) when variations of workers (VW) have the same tendency as L and G indicator, with these taking them same color.

The evolutions of banking activity in Myanmar and Vietnam (figure 8) do not have any relation and they have independent behaviors compared to other Southeast Asian countries. The VW increases according to the variation of Egb before 2014, and in recent years (2017), VW decreases without relation to evolution of Egb. This scenario justifies that the banking activity of both countries is in the center of the Edgeworth box in the period of the analysis (2012 to 2017). The banking activity of Myanmar has difficulty in 2014 and maintains its position in the AA area in the center of the Edgeworth box because its activity is nondependent of the economic behavior of this country. The G indicator of the banking activity of Vietnam is adjusted by the evolution of the VW after 2014, and acquires the DA area in the center of the Edgeworth box in 2017, according to a bad evolution of VW. Nevertheless, Vietnam consolidates its level of employment (AcVW) better than Myanmar.



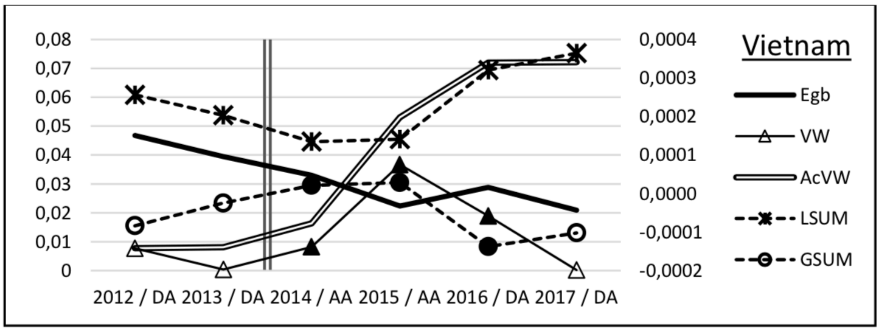


Figure 8. Banking activity in Myanmar (MM) and Vietnam (VN)

The banking activity in Malaysia and Thailand has similar behavior on figure 9. Nevertheless, their respective economies have different behaviors. Malaysia experiments an evolution of the VW without relation to the Egb variation after 2014, and the L indicator adjusts its evolution to the VW. The evolution of the VW in Thailand depends on the variation of Egb as well as the variation of the L indicator before 2015. After this year, the G indicator has same evolution of VW. The contrasting these different behaviors at end period of research Thailand get better level of employment than Malaysia, but Thailand has a higher risk position than Malaysia, which adopt a prudential position on center of Edgeworth box.

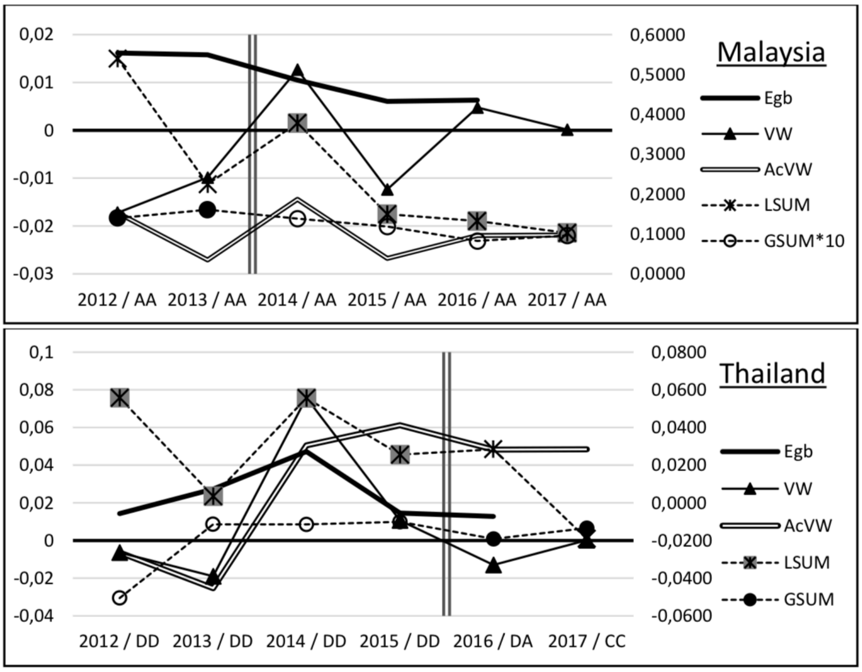


Figure 9. Banking activity in Malaysia (MY) and Thailand (TH)

The banking activity in Philippines, Indonesia and Singapore are represented in figure 10 and these countries have high numbers of position in Edgeworth box according results of table 9. Their elasticity (Egb) ranges around 2% in Indonesia and Singapore and adopts a lower level than 1% in Philippines. Nevertheless, Philippines gets a level of 4% on elasticity in 2103 and Singapore exceeds 3% of elasticity in 2016 justifying that their economies are supported by the broad money growth. So, this variable (Ebg) has more relation with L indicator than G indicator and it decreases (increases) when VW increases (decreases). These variations justify that banking activity be counterpart of activity of real economy, and the assessment of banking activity has relation with the evolution of workers (VW).

The evolution of L and G indicators is associated to increasing (decreasing) of workers (VW) when accounting indicators are approached (separated). According this criterion, Philippines do not abandon the optimal management positions of AA area, Indonesia gets improve its position in Edgeworth box at last years and Singapore maintain a prudential position (DA) along of period. The location of banking company in the Edgeworth box Is on its center because the measuring of L and G indicator has reference on secondary y-axis and their values are around null value. So, the banks of countries adopt prudential positions and adjusting financial position (L indicator) to coverture their financial risk by economical positions (G indicator). This behavior supposes that banking companies adopt economic positions according to evolution of economic, which is measured by evolution of VW. The effect of covers the G indicator and the adjustment of the L indicator means that banks do not abandon resilience and safe positions.

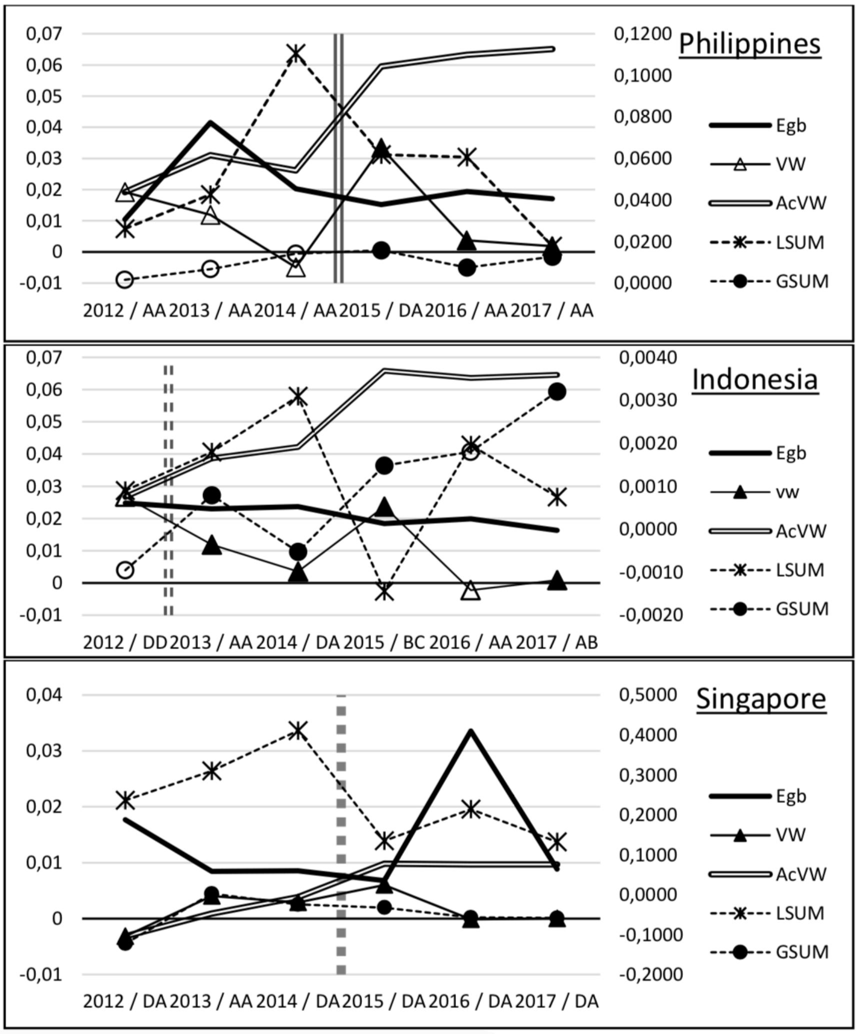


Figure 10. Banking activity in Philippines (PH), Indonesia (ID) and Singapore (SG)

The contrast of the results of banking activity by the accounting methodology over the Edgeworth box with annual reports of BIS, which results are on table 13, are similar but different. Considering the level of employment as a variable to measure the economic growth of a country, the banking activity has different adaptations in Southeast Asian countries. Malaysia has low levels of employment (AcVW) along of period, and the banking activity acquires a safe position in the center of the Edgeworth box by decreasing the credit given to markets, which is measured by L indicator. Vietnam, Philippines and Indonesia have the best position at the end of the period because they get a level of employment near 6,5% (AcVW). Vietnam and Philippines are on same longitude and latitude, but the banking activity has been developed with different strategies. Nevertheless, they have the same kind of behavior of both L and G

indicators. When these indicators adjust their positions and their differences become shorter (longer), the level of employment (VW) increases (decreases). So that, when there is difficulty in an economy, banks give credit to markets (increasing L) but this financial position is not covered by their economic positions (decreasing G) and the risk of banking activity rises. The banking activity in Indonesia has adopted the same strategy, but its economic position (G indicator) covers the risk of financial positions (L indicator) and it is never located in an area of risk in the Edgeworth box. The behavior of the G indicator as a coverture of financial positions (G>L) explains the overcoming of the resilience period in this country.

Table 13. Early warning indicators far stress in domestic banking systems

County	Credit-to-GDP gap	Debt service ratio (DSR)	DSR if interest rates rise by 250 bp3
Asia 2014	19,9 (1)	2,4	4,4 (2)
Asia 2015	17,8 (1)	4, 1(amber)	6,3 (1)
Asia 2016	14 (1)	1,8	4,1(2)
Country 2017	Credit-to-GDP gap	Debt service ratio (DSR)	DSR if interest rates rise by 250 bp3
Thailand	11.3*(1)	-0.3	1.6
Malaysia	9,7 (2)	0,9	3,3
Indonesia	9.3*(2)	0.8	1.5
Legend	Credit/GDP gap>10 (1) 2≤credit/GDP gap≤10 (2)	DSR>6 (1) 4≤DSR≤6 (2)	DSR>6 (1) 4≤DSR≤6 (2)
Country 2018	Credit-to-GDP gap	Debt service ratio (DSR)	Cross-border claims to GDP
Thailand	6.7*(2)	-0.6	-16.6
Malaysia	4.0*(2)	0.4*(2)	-1.6
Indonesia	6,9*(2)	0,5*(2)	-10.9
Legend	Credit/GDP gap≥9 (1) 4≤credit/GDP gap<9 (2)	DSR≥1.8 (1) 0.1≤DSR<1.8 (2)	XB claims≥34 (1) 18≤XB claims<34 (2)

The cells also include asterisks (*). These refer to instances in which the combined behavior of the corresponding debt and property price indicators signal vulnerabilities. Asian includes Philip pines, Hong Kong RAE, Indonesia, Malaysia, Singapore y Thailand; and excluded Philippines and Singapore far DS R and your prevision. DS R: the debt service ratio is the ratio of debt service payments made by or due from a country to that country's export earnings. https://stats.oecd.arg/glossary/ detail.asp?ID=562

By contrasting the results of table 13 with the assessment of the AMEB methodology, the banking activity improves from 2014 to 2018, but BIS does not consider what effect this credit behavior has on real economy. The Thailand's credit policy has a good position in 2018, while in 2017, it takes a bad position in the CC area, being in accordance to the BIS criteria (11,3). Malaysia's credit policy improves its level of risk on table 13, as it never abandons AA area, and Indonesia maintain its level of risk. According to the result obtained, the banking activity is a counter part of the economic market and it adjusts this behavior to the evolution of the real economy with different strategies.

4. Conclusion

The banking activity in Southeast Asian countries has different levels of associated behaviors, which has been measured by economic and financial indicators of the accounting methodology over the Edgeworth box. The annual variation of workers is a macroeconomic variable with an associated relation to accounting indicators of the Edgeworth box and it explains their evolutions. The banking activity improves its level of financial risk when its financial positions have the same evolution of the variation of workers, but the employment decreases. These scenarios are present in Myanmar and Malaysia. The level of employment increases when the banking activity adjusts its economic position to the evolution of the variation of workers. Nevertheless, banks of Vietnam, Thailand and Singapore cover their financial position negatively when the variation of workers are negative in the last year 2017. So, Thailand and Singapore adopt translational positions to overcome the resilience period, and Vietnam is in the area of financial risk of management in the Edgeworth box. So, banking activity is the counter part of economic behaviors in an accounting economic-financial model, and the elasticity of Broad money regarding the variation of GDP, as well as annual variation of workers, are macroeconomic valid variables used to explain the behavior of banking activity.

The concentration of annual observations of banking activity in the center of the Edgeworth box means that there is difficulty to develop this activity in a country, and these years, where this event occurs, are resilience periods as well as safe positions in order to answer to perturbations of markets. This effect has been justified by comparing the accounting indicators of the Edgeworth box to indicators of the Bank of International Settlement throughout this manuscript. So, the accounting methodology over the Edgeworth box shows which alternative way a bank can adopt to overcome risks of management and not entering in contradiction to other measures of monetary governmental institutions.

Acknowledgements
The author acknowledges the contribution of Miguel Pérez Raga (Mechanical Engineer and CPE (C2) by Cambridge Assessment English) in the English version of this paper.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 55-60
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.66

Digital Marketing in Banking Activities – Suggestions for Vietnam Banks from International Experiences

Do hoai Linh[1], Le Phong Chau[2], Khuc The Anh[3], Do Thi Thu Thuy[4]

[1,2,3,4] School of Banking and Finance, National Economics University, 207 Giai Phong Road, Hai Ba Trung District, Hanoi Capital, Vietnam

Abstract
Based on the innovation of science and technology in a fierce competitive environment, digital marketing has emerged as an inevitable trend for businesses with no exception from banking areas. With the target of reaching out and providing services to progressively demanding customers, current marketing tools need to be further improved to create the best interaction. Hence, the authors aim at clarifying the concept of digital marketing, which is a new trend in banking development globally, followed by experiences as well as proposing suggestions for banks in transitional countries such as Vietnam.

Keywords: Digital Marketing, Internet, Direct Interaction

1. Introduction

Among several tools of marketing, Vietnamese enterprises focus most on digital activities, 84% spend their cost for advertisement on a social tool. Hence, ith the surge of information technology development, which created the social networking boom in everyday life, led to new shifts in marketing to adapt to the lifestyle of a part of the population, especially the younger generation. Pham Hong Hoa (2013) recognized online channels such as mobile phone, email, and social networks to become more popular to reach customers. In the past ten years ago, electronic transactions in the banking sector have been increasingly promoted to save time and transaction costs for banks and customers. Moreover, the roadmap for opening the economy has intensified competition among institutions in banking more than ever. Under the pressures to promote images to customers and target market segments, domestic banks have been overshadowed by their international competitors such as HSBC, Citibank, ANZ, etc. The fundamental cause behind lag is the inadequate attention of banks on developing digital marketing, which is one of the direct marketing methods to access consumers through advanced information technology. Based on the desk research method, this study focuses on the concept of digital marketing in general and digital marketing in banking in particular, its development trends, thereby producing some implications for commercial banks in Vietnam.

2. Overviews of digital marketing in banking

Digital marketing

Technology is integrated into human life more than deeper and wider than ever before. Traditional marketing can no longer reach people, so that, digital marketing is an immediate way to help service providers to grasp market which is becoming more complex and complicated. Accordingly, of development on the international market, digital marketing has caught the attention of many researchers. Kotler (2003) suggested this as part of Internet marketing, which focused on the planning of products and prices, as well as the distribution through electronic tools. The concept of digital marketing, from this viewpoint, remained vague and shared certain overlapping with Internet marketing. Dave Chaffey (2012) defined digital marketing as the management and execution of marketing by using electronic media such as the web, e-mail, interactive TV, wireless media in conjunction with digital data about customer characteristics and behavior. This perspective extended the storage of customer records via digital data, which would be a valuable source for every business while developing new products for certain market segments. According to Damian and Calvin (2009), digital marketing involved the use of digital tools, not only the phone, email and website, but also all social networking websites like Facebook, Twitter, among others, to promote images to customers and sell goods and services through online sites as Amazon. This definition emphasized the advancement of corporate images and approach to consumers through sale. Kent and Ian (2009) discussed "Digital marketing is the future evolution of marketing. It takes place when the majority or all of the marketing channels in the company are digitalized. Digital channels are the approaches allowing marketers to have continuous, bilateral and personalized communication with each client. This communication generates data from each interaction with clients to forecast for the next contact, similar to a hub network. In addition, marketers constantly use real-time information on customer behaviors and direct feedbacks to improve and optimize the interactions". Thus, Kent and Ian considered this as the future trend of marketing and emphasized the direct interaction with customers. Among researches in the country, the notable study of Pham Hong Hoa (2013) should be taken into consideration. This is the compilation of previous studies, from which digital marketing is concluded as Internet marketing. The most common features are marketing tools based on digital technology and internet-based interaction, including computers, interactive television, and other electronic media.

Studies of digital marketing in banking

Costas (2010) believes that digital marketing is an inevitable development trend in the banking industry. By 2010, the Young generation used the Internet extensively, with 61% of teens ages 12-17 having an account on social networks, and 42% experiencing daily use. Reaching out this potential segment, 50 Greek banks opened accounts on Facebook to better address complaints and queries as well as communication crisis. The study of Susan Marshall (2015) on digital marketing at US banks also shared this opinion. The research carried out by Cognizant (2016) showed the trends of customers, and the use of electronic wallet was more popular when the data storage of banks expanded. Therefore, to access and serve customers, banks need to innovate a more appropriate way, which emphasizes direct interaction, rather than focusing on traditional marketing. Currently, Y Generation (born from 1977 to 1995) and Z Generation (born after 1995) use the internet progressively, especially for specific utilities in the banking sector such as (1) instant search, and (2) travel expense saving. However, this also brings disadvantages when customers easily move to other banks. Given this context, banks are required to develop an appropriate digital marketing strategy in line with the growth of science, technology, and markets, by digitizing data and strengthening the digital marketing on social networking websites, besides the hotlines, to respond the needs of customers.

Wipro and Efma (2013) showed the expectation from all customers to use electronic services for time, and money saving, specifically over 70% of customers in commercial banks use at least one online tool to mainly looking for information on banking services through (1) social networks such as Facebook, Twitter, and even Amazon; and (2) advertisements on online newspapers; besides the benefit enjoyed by customers, digital marketing is advantageous by removing communication costs for banks. In particular, advertisement expenses declined from 55% to 49%, plus lower costs in other related activities such as promotion by using online websites like YouTube instead of advertisement on TV. It is also discovered by Wipro and Efma that banks have more contact with customers through websites than the brick and mortar offices in retail banking. Similarly, Olanrewaju (2014) revealed that currently, European banks were shifting from traditional to modern banking services through digital technology, which allowed them to gain 30% of total revenue and drop20 to 25% of their labor and processing costs.

As pointed out in Pham Hong Hoa (2013), currently, commercial banks in Vietnam have been well founded for digital marketing, i.e., the number of Internet users in Vietnam was high (above 70% of people born after 1975), and businesses were already connected to the Internet with facilitated information exchange. This new marketing tool helps banks to better outreach customers by exploiting the tremendous data storage. Some active bank managers have innovated multiple ways to access potential customers. Based on its findings, the research proposed a two-step digital marketing model. First, a marketing environmental analysis is adopted, consisting of macroeconomic analysis, customer analysis, and competitor analysis. Digital marketing was emphasized as an integral part of the whole marketing process of banks. All data sourced from banks must be consistent with the general information given from the beginning but updated regularly. The second step involves a digital marketing mix with three levels of a product, and the core product should be offered via the Internet. The pricing policy needs also be flexible because both banks and customers are able to cut time and money costs.

Stock taking of digital marketing application

As more clients use digital networking platform, it is necessary for banks to serve digital banking products as well as digital marketing tools to win customers. As in 2017, 34% of financial institutions allocated 50% or more of their media budgets to traditional media. As was the case last year, there was a lack of commitment to digital channels, with only 15% of organizations committing more than 50% of their budgets to online media, compared to 14% in 2017 (Marous, 2017). Banks around the world, being supported by information technology and online habits, have initiated new ways of marketing.

First, a large number of customers have been accessed and engaged in through the media. The data on customers with both successful and rejected transactions and newly established firms have been recorded on electronic files. In particular, Bank of New York has data of customers, containing their personality characteristics (e.g., religion, personalities and work place) as well as current and potential needs. Moreover, bank employees have accumulated personal information of customers to have better interaction and improved services. Benefiting from this large database, banks would save costs related to new staff training and create their own identity.

Second, retail banking has been reorganized. In wholesale banking, banks may follow the traditional model to approach and provide services to customers by searching, meeting, negotiating and signing an agreement with them. On the contrary, customers of retail banking are mainly small and medium enterprises, even micro enterprises, and individual customers, who usually do not want the access to multiple banking services, simply because there are too many communication means while "customers do not know what service would work for them" (Marshall, 2015). Customers may be introduced to several products at once, which cause confusion, by the same communication mode such as TV advertisement or e-mail. Therefore, the new marketing model allows customers to experience cross-selling services from a product rather than numerous products at the same time. This approach permits banks to spend less marketing costs for the expected revenue given the same number of products. Cross-selling products offered by large banks of the world for retail customers include advisory service, mortgages, personal loans, deposits, (domestic or international) payment accounts, and bancassurance, among others. Exposing to these product packages, customers would assess the quality of bank services and make their decision more easily.

Third, mobile applications have been created in app stores of phone devices. Online marketer recommended that access via TV, email or phone, as of the present time, almost one-way in nature from bank to customer that cannot bring the interaction between parties. Meanwhile, the majority of bank customers have an account on social networks and an electronic device connected to the Internet. As a result, several major banks in the US and Europe set the "App Store" to facilitate customers in their online transactions. In addition, the "fan page" on Facebook may be helpful to optimize responses to questions from clients. Nonetheless, marketers did not mention how to manage these social networking websites and connect to the help desk.

More importantly, banks themselves must change thinking about banking products and services. Marshall (2015) asserted that the era of providing products and services directly to customers through physical branch passed. Now the distribution needs to go through virtual channels in order to save time in the best way possible. Digital marketing, as an integral part of bank development strategy, should be the best support tool for service virtualization. Digital marketing services cannot be evolved if banks remain offering traditional services to a large number of customers, who have growing demand and less time availability.

3. Application of digital marketing in Vietnam and Suggestions

Currently, the legal framework for e-commerce development in Vietnam has been formed through a number of documents such as the Decision No. 1073/2010/QD-TTg approving the Master Plan for Development of E-commerce in the period 2011 – 2015. Banks in Vietnam are legitimately enabled to apply digital marketing for seeking a new segment, Generation Y. Also, the announced retail market development strategies from foreign banks, including HSBC, Citibank, and ANZ, have put domestic banks under pressure to restructure their operations. As of July 31, 2016, there are 34 commercial banks active in Vietnam. All banks built e-portal and initiated virtual services, namely online savings and online bill payment, with help desk support. This is the premise for customers to have the best access to financial services.

At present, banks mostly focus on (1) advertisement on television as the most common mode, and hardly deploy online advertisement in YouTube of Facebook, which are highly rated by the younger generation; (2) advertisement on other media such as newspapers, online newspapers, which are carried out by branches following instruction from headquarters and in effective due to lack of direct feedback from customers in the desired segment; (3) emails or phone calls made to customers using data collected by branches or websites providing business data. This approach is more effective in communicating with the targeted customers, as well as promoting their image, though bringing mail spam or annoyance to customers sometimes; (4) large online networks established by some branches for communication, which are not significant in number and effective in customer search. The networks mainly set up by individual staff without guidance from bank managers.

Besides the promotion of service digitization in some banks, others keep on offering traditional services. They stick to tradition because the customers have not been familiar with digital services. It is worth noting that the customers of traditional bank services are wealthier than those using a virtual bank, creating a barrier against the wide application of electric mediums. Not only are those virtual services more costly than traditional banking, while generating less revenue. So far, the actual achievement of e-commerce has been far below targets, despite the enabling foundation (Pham Hong Hoa, 2013). Suffering from the less developed virtual banking and technology platforms, digital marketing in domestic banks has not been as effective as their foreign rivals, leaving an absence of a direct interaction between service suppliers and clients.

Suggestions for Vietnam banks

According to the statistic of Q&Me Vietnam Market Research, Facebook is the most popular media that almost all enterprises have the account. YouTube follows after that. 99% of the brand use Facebook for their digital marketing. YouTube is also high, as 72% use it. In addition, the objective of Facebook advertisement is for the performance. 87% of the brands have run Facebook ads for the last 12 months. The biggest objective is the lead generation. 78% use it for "increase number of inquiries (email, information request)" followed by "Increase Likes/followers." Social ads are linked to performance marketing in Vietnam. Therefore, to stand firm in an increasingly competitive environment, the players should keep up with the global trend by changing communication modes in reaching out customers.

Firstly, a home page of banks should be well designed. Banks around the world have designed their websites for a long time. Access through the home page has been one of the popular trends in digital marketing since the introduction of websites. At present, all banks in Vietnam have their own home page; however, their use is still limited. Despite the separation among services, the demonstration of core services or typical impression of the bank has not been shown clearly. Banking services provided on the website have not been highlighted and shared many common features. In some key services such as deposits and loans, which have the same core values, promotions, cannot be distinguished plainly. This makes consumers difficult to choose services in smaller banks due to their use habits in large banks. Therefore, it is essential to highlight the core services on the bank's website. Furthermore, the corporate social responsibility programs are shown in an eye-catching and concise format by international banks (usually less than five minutes long with completed images). On the contrary, banks in Vietnam tend to place these programs, which usually last more than 30 minutes and make visitors difficult to follow, in a sub-category. Finally, unlike the international competitors, few domestic banks post in the home page the information about (1) branches by location and address as "geographical indication" for customers; and (2) hotline for complaints or queries. Without addressing these two limitations, banks would fail to impress customers on both traditional and virtual networks, and satisfy the needs of clients, especially in media crisis resulting from the spread of pressing issues across social networks.

Secondly, the current digital marketing, which has extensively concentrated on television and newspapers, should gradually shift to other channels such as social networks or other highly interactive channels as YouTube or Facebook, to enhance the banker-customer relationship. A number of bank branches have created their page on these channels, though planning is a must. Banks in other countries locate a separate department to distribute their image to the public via YouTube or Facebook. Nonetheless, this practice remains missing in Vietnam. This suggests the need to establish a network connection between clients and bankers, which allows a direct interaction among them, to meet their needs best.

Thirdly, banking services may be promoted by emails. Currently, banks around the world store customer data in their internal information system. Some clients, who are infrequent or no longer service users, should be contacted via e-mail, instead of direct calls. Some banks, as Bank of New York, has targeted at students, rather than income earners. This fact indicates the need to access students in Vietnam, who might be future clients and tend to use more electronic payment. E-mail contacts, especially with the potential customers, help to distribute service information more efficiently. So far this approach has not been executed uniformly yet, and mails are usually found in the spam box of receivers.

Fourthly, marketing should be introduced on mobile devices. This is critical to the shift in distribution channels of banks and simultaneously meets the requirements to create mobile applications. In addition to the electronic wallets that have been deployed by a small number of banks, services as Internet banking and SMS banking are currently provided by another application of smartphone. Thus, banks, especially those lacking ATMs, must build these applications in the app store of mobile phone companies to save time for users. Besides, other programs should be sent to customers to show gratitude and improve service quality concurrently.

Conclusion, this would be an effective marketing tool in commercial banks in Vietnam in the coming time, especially for Generation Y and Z, which are characterized by youth, modernity and dynamic. The proper investment and application of digital marketing will certainly narrow the gap between bankers and customers and help banks to achieve their marketing objectives better.

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Asian Institute of Research
Connecting Scholars Worldwide

The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 61-72
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.67

The Effect of Work Discipline and Work Environment on the Performance of AL Hudori Cooperative of Palembang Employees

Nurul Laras Liestiani[1], Badia Perizade[2], Agustina Hanafi[3], Zunaidah[4]

[1] Master Program of Management Science Majoring Human Resources, Management of Economics Faculty, Sriwijaya University
[2,3,4] Lecturer of Management Science Faculty of Economics Magister Management Science, Sriwijaya University, Palembang, Indonesia

Corresponding Author: Nurul Laras Liestiani. Email: nurul.laras@rocketmail.com

Abstract
The purpose of this research is to determine the effect of work discipline on employees performance; the effect of work environment on employees performance; the variable that has the most dominant effect on employees performance; and the effect of work discipline and work environment simultaneously on performance employees. The population of this research is employees of Al Hudori Cooperative Palembang with the total 91 respondents taken using the sensus method and this research used multiple linear regression. The result of it showed that: 1.) The effect of work discipline have a significant effect on employees performance of Al Hudori Cooperative Palembang; 2.) Work environment has a significant effect on employees performance of Al Hudori Cooperative Palembang; 3.) Work environment variable has the most dominant effect on employees performance of Al Hudori Cooperative Palembang; 4.) Work discipline and work environment simultaneously have a significant effect on employees performance of Al Hudori Cooperative Palembang. The suggestion that can be given to the company is expected to be able to improve employees discipline such as understanding assignments, being quick to do assignments, wisely utilizing office facilities, and expected to prioritize the improvement of employees' environmental conditions so that employees performance increases.

Keywords: Work discipline, Work Environment, Employees Performance

1. Introduction

Human resource is the actor of the whole planning up to the evaluation which can utilize other resources owned by a particular organization. Because human resource is the most valuable and most important asset in an organization, the success of an organization depends much on the human element (Nawawi, 2005).

Employee performance is the output or achievement of work in quality and quantity which is achieved by employees. Simamora (2008) defines the performance as the level of work achievement which forms the employee's job. According to Gibson et al. in Srimulyo (1999), there are three factors affecting performance: 1) individual factors consisting of competence (ability or skills: mental or physical), background (family, social level, work experience, and payroll), and demography of someone; 2) psychological factors consisting of perception, role, study, attitude, personality, motivation, and work satisfaction; and 3) organizational factors consisting of organization structure, work design, leadership, and compensation (award system).

Employees with high discipline will do the work although they are not being monitored by their seniors. Moreover, they will not corrupt the working hours to do other things which do not relate to the work. Besides, they will also obey the applied rules in their work environment with high awareness without any coercion. Therefore, discipline has a strong impact on an organization to succeed in achieving the planned goals.

Suradinata (2007) states that discipline is a condition created and formed through the process of behavior, learning, obedience, loyalty, and respect to the regulations and norms applied. If the values of discipline have been embedded in the employee, behavior or attitude done will not be burdensome; instead, it will be a custom which will be burdensome when it is not done. The process, attitude, and behavior in the discipline are formed through the training of family, education, and experiences or impacts from the exemplary in life around its surroundings. If the work discipline is well- embedded, they will be aware of norms or company's rules and the demand of the obedience on norms or the rules (Hasibuan, 2007).

In giving work and responsibility to employees, the leaders of the company should consider their work environment. The work environment is a condition which relates to the physical condition of the workplace which can affect psychological changes, such as boredom, monotonous work, and tiredness (Schultz and Schultz, 2010). Work environment, according to Robbinson (2009), institutions or extrinsic strengths which potentially influence the organization's performance. The public environment, in this case, is classified into two, i.e., general environment and specific environment. The general environment is anything outside the organization which potentially influences the organization which can be in the form of the social or technological condition. The specific environment is anything in the environment which can influence individual or a group indirectly and directly in doing their activities.

Employee performance is the achievement of the employees in carrying out their work. Mathis and Jackson (2010) standardize someone's performance from the quantity of output, quality of output, output period, the presence in the workplace, and cooperative behavior. Those standards are determined from the criteria of work, such as explaining any information given by the organization to be done by the employees. Therefore, individual performance in working criteria can also increase employee performance. In this context, discipline becomes the key to realize the company's goals. The employees with good discipline will be aware and ready to do their works well (Hasibuan, 2012). It shows that work discipline is very important for a company which influences employee performance.

Al Hudori Cooperative is a cooperative for savings and loans. The success of the cooperation is very supported by employee performance. One of the important things relating to the employee work in doing effective works is the work environment. Therefore, the work environment, in this case, is the factor which is required to be concerned by the company because it closely relates to the low and high spirit of the employees. If a particular work environment of a company is conducive, it can encourage a high spirit of working which then influences the employee performance.

In accordance with the aforementioned statement, Al Hudori Cooperative should have employees with good performance. Good performance can be seen from the level of work discipline which is owned by each employee. However, the number of the employees who were absent in April, May, and December are high. On April and May, the number of absent employees was 18.7% and 19.8% in December which is the highest one. One of the reasons why they were absent is that they are applying for another job. Meanwhile, some were absent without any information. In this case, it indicates that the level of discipline of the employees is still low. Then, the absence of strict punishment from the cooperation becomes another the cause of the employee absence without information because they thought it was acceptable. The employee's absence means that they have decreased their working hours to finish work set by the deadline. Besides, the high number of absence shows that there is a problem on the employee work discipline in Al Hudori Cooperative of Palembang which can affect the employee performance.

However, there are some research gaps found in relation to this topic; one of which is on the study by Khasifah and Nugrahaeni (2016) observing the effect of work discipline, workload, and work environment on the performance of the Balai Besar employees. In their study, they investigated the work environment in physical aspects, while this study investigates the work environment in physical and nonphysical aspects. The result of the study finally shows that work discipline positively and significantly affects the employee performance. Besides, work environment positively and significantly affects the employee performance.

In achieving the goals, the employees of Al Hudori Cooperative of Palembang are very influenced by the system of discipline and work environment in order to increase employee performance. However, one of the challenges appearing is the failure of achieving optimal employee performance in accordance with the applied work standards.

2. Research Method

2.1 Research Design

The causal research design is used to know the causal variable (independent variable) and the variable that becomes the result (dependent variable) which is aimed to know the correlation and dependence among the variables and to know the effect of the causal variable (independent variable) on the dependent variable. The research design is used to prove the hypotheses that have been set. In this study, there are three variables, i.e., discipline (X_1), work environment (X_2), and a dependent variable named employee performance (Y). Moreover, multiple linear regression method is used to know the effect of discipline and work environment on the employee of Al Hudori Cooperative of Palembang.

2.2 Population and Sample

The population of this study is 91 employees of Al Hudori Cooperative of Palembang which were chosen using the census method.

2.3 Analysis Method

2.3.1 Item Validity Test

Validity test is used to measure the validity of an indicator in the form of a questionnaire. The purpose of having validity test is to show the extent to which a measuring instrument is able to measure what to measure. The test tool used to measure intercorrelation level among variables and the possibility of conducting factor analysis is Kaiser Meyer Olkin measure of sampling adequacy (KMO). The values of KMO vary from 0 to 1. In this case, the expected value should be > .5 so that analysis factor can be conducted (Ghozali, 2009). Loading factor will be valid if the value is > .4 meaning that the indicator has been valid. On the other hand, the invalid items will be eliminated and excluded from the next analysis. Furthermore, the valid items will be processed in the reliability test.

2.3.2 Reliability Test

The reliability test is aimed to show to what extent the measurement is conducted without any mistakes and to guarantee the consistent measurement. If a measurement used twice shows similar symptoms, and the result of measurement is relatively consistent, the measuring tool is reliable. The instrument will be valid if the value of Cronbach Alpha is more than .6 (Kuncoro, 2009).

2.3.3 Classical Assumption

In order to avoid the deviation of the result of the regression analysis, the classical assumption test needs to be conducted. The classical assumption test consists of a normality test, multicollinearity test, and heteroscedasticity test.

2.4 Multiple Linear Regression Analysis

2.4.1 Multiple Regression Equation

The data will be statistically processed using Statistical Product and Service Solution (SPSS) version 23.0 for windows. Multiple linear regression analysis is an analysis used to know the regression equation showing the equation between the dependent variable and independent variable and to know the regression coefficients and their significance, so they can be used to answer the hypotheses. The equation of multiple regression is formulated as follow:

$$Y = a + b_1X_1 + b_2X_2 + e \quad (1)$$

Note:
Y= Employee Performance
X_1= Work Discipline
X_2= Work Environment
a= regression constant
b_1=regression coefficient of work discipline
b_2= regression coefficient of work environment
e= error

2.4.2 Correlation (r) and Determinant Coefficient (R^2)
Correlation analysis is used to determine the correlation between variables. The type of Spearman correlation technique is used in this study because the data is ordinal data (levelled data). Spearman correlation technique is used to analyze the correlation between work discipline and employee performance variables and analyze the correlation between work environment and employee performance variables. Through the correlation test, the magnitude or strength of the correlation and the direction of the relationship or correlation of the two variables can be determined.
The correlation between variables is expressed in the correlation coefficient. The correlation coefficient interprets the strength of the correlation. The magnitude of the correlation coefficient is between +1 to -1. The magnitude of the correlation coefficient indicates the strength of the correlation between variables. The criteria for the correlation strength according to Sugiyono (2016) are as follows:
a. 0.000 - 0.199 = Very low
b. 0.200 - 0.399 = Low
c. 0.400 - 0.599 = Medium
d. 0.600 - 0.799 = High
e. 0.800 - 1,000 = Very high
Negative and positive signs in the correlation coefficient indicate the direction of the correlation between two variables. If the correlation coefficient is negative, the correlation between the two variables is inversely proportional. On the other hand, if the correlation coefficient is positive, the correlation between the two variables is directly proportional. To determine how far the independent variable can explain the dependent variable, the determination value needs to be known by determining R^2 determinant because it consists of absolute ratio and comparison values. The usefulness of adjusted R^2 is:
1. As the measure of the accuracy of a regression line applied to a group of survey data. The greater the value of R^2, the more precise the regression line will be. On the other hand, the smaller the adjusted R^2 will be the more incorrect the regression line represents the observation data.
2. To measure the proportion or percentage of the number of variations of the dependent variable, it must measure the contribution of the independent variable to the dependent variable.

2.5 Hypothesis Test Technique
2.5.1 T-Test (Partial)
Statistic hypothesis t-test is conducted to know if individually there is the effect on each independent variable toward the dependent variable. The test for every coefficient of the independent variable is conducted using 5% of t value of the level of significance (Gujarati, 1995). Each coefficient of the independent variable will be significant if the absolute value of $t_{calculate}$ is ≥ t_{table} of probability value which level of significance id smaller than .05 (the level of confidence chosen). The conclusion of the hypothesis can be conducted in two ways.
Based on the comparison of t value:
a. If $t_{calculate} < t_{table}$, H_a is rejected. It means that there is no effect of the independent variable on dependent variable.
b. If $t_{calculate} \geq t_{table}$, H_a is accepted. It means that there is an effect of independent variable on dependent variable.

Based on the comparison of significant value,
a. If the value of sig. > .05, H_a is rejected. It means that there is no effect of independent on dependent variable.

b. If the value of sig. ≤ .05, H_a is accepted. It means that there is effect of independent on dependent variable.

2.5.2 F-Test (Simultaneous)

F-test is conducted to test independent variable and dependent variable simultaneously with 5% level of significant (Gujarati, 1995).

a. If the significance is ≤ .05, H_0 is rejected, but H_a is accepted. It means that there is significant effect of independent variable simultaneously on the dependent variable.
b. If the level of significance is > .5, H_0 is accepted, but H_a is rejected. It means that there is no significant effect of independent variable simultaneously on dependent variable.

3. Findings

3.1 Validity and Reliability Test

The validity test in this study uses Pearson correlation (Product Moment). A high validity item will occur when the item has high correlation on the score total item. The validity test of this study uses the Correlation Pearson Product Moment test with the level of significance is .5 (5% error). The significance test is conducted by comparing r calculate and r critical and based on the level of sig. If r calculate ≥ .3 (r critical) and the value of sig. (2-tailed) is less than .05, the result is valid (Kuncoro, 2009). The result of the validity test toward the variable of work discipline, work environment, and employee performance are explained in Appendix.

The result of the validity test on discipline variable shows that all question items on the discipline variable have greater r calculate than r critical (.300). Therefore, it can be concluded that all question items on discipline variable are valid. The result of the validity test on work environment variable shows that all question items on work environment variable have greater r calculate than r critical (.300). Therefore, it can be concluded that all items on the work environment variable are valid. The result of the validity test on employee performance variable shows that the items of the variable have greater r calculate than r critical (.300). Therefore, it can be concluded that all question items on the variable are valid.

Reliability test is used to show the extent to which the measurement conducted without any mistakes and can guarantee the consistency of measurement. If a measurement is used to measure similar symptom and the result of the measurement is relatively consistent, the measurement is reliable. An instrument is reliable when the value of Cronbach Alpha is more than .6 (Kuncoro, 2009). The result of the reliability test can be seen in Table 1.

Table 1. The Result of Reliability Test

Variable	Statement Item	Cronbach alpha	Description
Work discipline	8	.930	Reliable
Work environment	6	.964	Reliable
Employee performance	8	.631	Reliable

Source: Processed primary data (2018)

The result of the reliability test shows that the value of Cronbach Alpha of the variables used in this study is more than .60. It means that all variables of this study are reliable.

3.2 Classical Assumption Test

In this study, multiple linear regression analysis is used. Therefore, the classical assumption test as the requirement test needs to be conducted. The result of the classical assumption test is described as follow:

3.2.1 Normality Test

Normality test is aimed to test whether the data has a normal distribution. If this assumption is neglected, the statistical test will be invalid. The result of the normality test using Kolmogrov-Sminov is presented in Table 2.

Table 2. The Result of Normality Test

Variable	Asymp. Sig. (2-tailed)
Work discipline	.052
Work environment	.063
Employee performance	.077

Source: Processed primary data (2018)

Since the criterion of the test is on the .05 level of significance, the data is called normal when it has Asymp. Sig.(2-tailed) > .05. The result of statistical Kolmogrov-Sminiv test shows that all variables have Asymp. Sig. (2-tailed) > .05. In short, all variables used in this study have a normal distribution.

3.2.2 Heteroscedasticity Test

The purpose of having heteroscedasticity is to test the similarity of variants of residual from one observation to another. If the residual has a similar variety, Homoscedasticity occurs. On the other hand, if the variety is different, heteroscedasticity occurs. The result of heteroscedasticity test is presented in Table 3.

Table 3. The Result of Heteroscedasticity Test

Variable	Sig.
Discipline toward employee performance	.149
Work environment toward employee performance	.285

Source: Processed primary data (2018)

From the heteroscedasticity test, it is found that the value of sig. is > .05 for all correlations between the independent and dependent variable. Therefore, it can be concluded that heteroscedasticity does not occur in the data of this study.

3.2.3 Multicollinearity Test

Multicollinearity test is conducted to test whether there is a correlation among the dependent variables on model regression. In this case, a good regression model will occur if multicollinearity is not detected. The result of multicollinearity test is presented in Table 4.

Table 4. The Result of Multicollinearity Test

Variable	Collinearity Statistics	
	Tolerance	VIF
Work discipline	1,000	1,000
Work environment	1,000	1,000
Employee performance	1,000	1,000

Multicollinearity is detected using the value of tolerance and variance inflation factor (VIF). Multicollinearity occurs when the value of tolerance is lower than .10, or the value of VIF is more than 10 (Ghozali, 2016). The result of multicollinearity test shows that the value of all variables is more than .1 and the value of VIF is less than10. Thus, it shows that multicollinearity does not occur in all regression models of this study.

3.2.3 Multiple Linear Regression Test

The completion of a simple linear regression model is conducted using SPSS program version 23.0. The simple linear regression model analysis is used in this study because it can test the significance and the extent to which the relationship between the independent and dependent variable.

Table 5 The Result of Multiple Linear Regression Analysis

Variable	B	Std. Error	t	Sig.
Constant	12.954	2.188	5.920	.000
Work discipline	.314	.064	4.895	.000
Work Environment	.347	.074	4.712	.000

Based on the result of linear regression analysis, the value of the constant is 12.954, the regression coefficient of discipline variable is .314, and the coefficient of regression of work environment is .347. Therefore, the regression equation can be formulated as follow:

$$KK = 12.954 + .314DK + .347LK$$

Note:
DK = work discipline
LK = work environment
KK = employee's performance

Based on the coefficient of regression or each variable, the relationship between discipline and work environment toward employee performance can be described as follow:

1. Constant indicated by 12.954 shows that when the value of work discipline and work environment is zero, the value of employee performance is 12.954.
2. The regression coefficient of work discipline variable toward employee performance is positive (.314). It means that the direction of work discipline variable and employee performance relationship is in the same direction. Every time the unit of work discipline goes up one level, the increase of employee performance will be .314.
3. The regression coefficient of work environment variable toward employee performance is positive (.347). It means that the direction of the work environment variable and employee performance relationship is in the same direction. Every time the unit of work environment goes up one level, the increase of employee' performance will be .347.
4. The regression coefficient of the work environment which is .347 shows greater value than the regression coefficient of work discipline which is .314. The result shows that the work environment affects more dominantly on the employee performance than work discipline. As a result, the hypothesis 3 is rejected.

3.3 The Result of Correlation Analysis between Variable and Determinant Coefficient

The analysis of correlation in this study is conducted to test the relationship between the independent and dependent variable. The direction and strength of both variables are observed based on r value. The result of the correlation test can be seen in Table 5.

Table 5. The Result of Correlation Analysis and Determinant Coefficient

Model	R	R square	Adjusted R Square	Std. Error of the Estimate
1	.585	.342	.327	3.82213

Based on Table 5, the value of R is .585 indicating positive sign can be categorized into moderate. It is in line with Sugiyono's (2016) statement that the criterion of relationship strength among variables is .400-.599 which is categorized into moderate. It means that the work discipline and work environment correlate positively and moderately toward employee performance. For the adjusted R square test, it is used to know the extent to which the independent variable can explain the dependent variable. Based on Table 4.14, the value of adjusted R square is .342 which means that the work discipline variable and employee performance can explain that the employee performance is 34.2% and the rest is 65.8% which is explained by other variables which are not observed in this study, such as training, leadership types, incentive, and motivation.

3.4 Hypothesis Test

3.4.1 The Result of T-Test

T-test is used to know the significance of the effect of each independent and dependent variable. If the value of sig. is < .05 and the value of t calculate ≥ t table, H_0 is rejected. It means that there is a significant effect of the independent variable on the dependent variable. Based on t-test, the significant effect of independent on the dependent variable in each hypothesis can be seen as follow.

Table 6 Table of Level of Significance

Model	**t**	**Sig**
Work discipline (X_1)	4.895	.000
Work Environment (X_2)	4.712	.000

Hypothesis 1: The effect of work discipline on employees performance

The value of t table of one-tailed on df is 89, and the 95% of confidence level is 1.662. The effect of work discipline variable on employees performance shows that the value of sig. is .000 < .05 and the value of t calculate is 4.895 > t table (1.662). It means that H_0 is rejected, but H1 is accepted. Thereby, it can be concluded that there is a significant effect of work discipline on employee performance causing hypothesis 1 is accepted.

Hypothesis 2: The effect of the work environment on employees performance

The value of t table of one-tailed on df is 89, and the 95% of confidence level is 1.662. The effect of work environment variable on employees performance shows that the value of sig. is .000 < .05 and the value of t calculate is 4.712 > t table (1.662). It means that H_0 is rejected, but H1 is accepted. Thereby, it can be concluded that there is a significant effect of the work environment on employee performance causing hypothesis 2 is accepted.

Hypothesis 3: Work discipline variable has the most dominant effect on the employees' performance of Al Hudori Cooperative of Palembang.

The result of multiple linear regression analysis in Table 4.13 shows that the regression coefficient of the work environment variable is greater than the regression coefficient of work discipline with the regression coefficient of work environment is .347, and the regression coefficient of work discipline is .314. Therefore, it shows that the work environment variable more dominantly affects employee performance than work discipline. As a result, hypothesis 3 which states that the work discipline variable has a dominant effect is rejected.

3.4.2 The Result of F-Test

F-test is used to now the significance of independent variable simultaneously on the dependent variable. If the value of sig. is < .05 and F calculate ≥ F table, H_0 is rejected. It means that there is significant effect simultaneously between the independent variable and dependent variable. The result of F-test is presented in Table 7.

Table 7. The Result of F-Test

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	669.162	2	334.581	22.903	.000[b]
	Residual	1285.563	88	14.609		
	Total	1954.725	90			

a. Dependent Variable: KK

b. Predictors: (Constant), LK, DK

Source: Processed Primary Data (2018)

Hypothesis 4: Work discipline and work environment simultaneously affect employees performance of Al Hudori Cooperative of Palembang mostly.
Regarding on F-test, the value of F table on df is 2.88, and the 95% of confidence level is 3.10. The value of sig. is .000 < .05 and the value of F calculate is 24.396 > F table (3.10). It means that H_0 is rejected, but H1 is accepted. Then, it is stated that there is a significant effect of work discipline simultaneously on work environment on employee performance. As a result, hypothesis 4 stating that work discipline and work environment simultaneously affect employees performance of Al Hudori Cooperative of Palembang mostly.

4. Discussion

4.1 The Effect Of Discipline On Employee Performance

Hypothesis 1 stating that work discipline affects the performance of Al Hudori Cooperative of Palembang employees significantly is **accepted**. The result shows that well-disciplined employees, according to Ardiansyah and Wasilati (2014), have followed the procedure of work arranged by the company which can affect their work performance. High obedience in following the company rules can also increase the employee self-confidence, so their performance increases. Moreover, well-disciplined employees will create employee's self-control, do the work in order, and have self-determination in working which increases the performance (Simamora, 2008). The similar statement is also stated by Hasibuan (2007) that employees will be aware of norms or company rules and demand of obedience on norms or the rules if work discipline is well-embedded.

In this case, work discipline takes an important role in running the daily activities of employees. Employees with high discipline will work well even without the seniors' monitor. Moreover, they will obey rules in the work environment with high awareness without any coercion. Those who have high discipline will have good performance if it is compared to those who are lazy because they will use working hours based on the target set.

The implementation of discipline in a company is aimed to make all employees obey every applied rule without any coercion. Good discipline can be seen from the high awareness of employees in obeying every applied rule and the high responsibility of their own employees. In the performance context, discipline will create mental readiness to do work. It is likely to realize more optimal performance (Hasibuan, 2007).

The result of this study is in line with the study conducted by Khasifah and Nugraheni (2016), Yoga Arsyenda (2013), Septiasari (2017), Primananda and Djastuti (2015: 1-11), Jeffrey and Soleman (2017), Hamlan Daly (2015) which show that work discipline affects employee performance significantly and positively. In addition, Lastriani (2014) states that better discipline is better employee performance is.

The result of the descriptive analysis shows that most employees of Al Hudori Cooperative of Palembang do their work on time, go home based on applied working hours, and obey the rules and seniors. In this study, employees' good discipline is based on the punctuality aspects in doing work, presence and obedience in obeying rules which increase the employee performance by being able to do work based on leader's instruction, the ability to do right work, the ability to work based on the work target, the ability to finish work on time, punctual presence, the ability to have good relationship with other colleagues, and the ability to do cooperative work well with other colleagues. However, there are some employees who were absent without any information. Based on the work discipline variable, the answers which have the highest percentage is "agree" and "strongly agree" which indicator is the punctuality of the employees in doing their work. It is presented by 47 employees (51.6%).

Regarding the result, it shows that most employees have been disciplined in working by doing the work on time. The more disciplined the employees in doing their work on time is the better the performance is. Those who can do their work on time have good quality because the work is done correctly. In this case, if the employees can do their work based on the deadline, the work will not pile up. In this condition, the employees can give a good result on the work they do. Moreover, they can do the work correctly.

4.2 The Effect of Work Environment on Employee Performance

Hypothesis 2 stating that the work environment significantly affects the performance of Al Hudori Cooperative of Palembang employees is **accepted**. Carnevale (1992) states that the physical environment can support productivity and quality more only if greater voice and control on design and physical environment operational are given to lini manager and employees. Besides, the physical condition of work can influence productivity. According to Sedarmayanti (2011), the impact of work environment suitability can be seen in a long term, while worse work environment can demand more energy and time and cannot support efficient planning work system. Therefore, the work environment is a condition which relates to the physical condition of the workplace and influences the behavior and attitude of the employees. It is said so because the physical condition of the workplace can influence the psychological changes, such as boredom, monotonous work, and tiredness (Schultz and Schultz, 2010).

In the context of the work environment, work environment consists of some aspects, such as appropriate room layout, good room lighting, and cold temperature which can increase employee work efficiency. If the condition of the environment can be fulfilled, work environment which is conducive will occur and can positively affect the employee performance (Robbins, 2009: 86). Moreover, a good work environment will give personal comfort and increase the spirit of working of the employees; thus, they can do their work well. Besides, they will be happier and more comfortable to work if the facilities are clean, not noisy, well-converted air, and sufficient and modern devices. In sH0rt, good work environment will affect employee performance.

The result of this study is supported by some studies conducted by Manggiasih and Sunardi (2014), Indarti and Mahda (2014), Khasifah and Nugrahaeni (2016), Samson et al. (2015) which results show that work environment significantly and positively affects employee performance. In addition, Rumengan and Mekel (2015) states that physical and non-physical work environment positively and significantly affect employee performance. Muhammad et al. (2016) in his study also states that the work environment is the encouragement of activating employees to do particular work.

The result of this study also shows that most employees of Al Hudori Cooperative of Palembang assume that the room lighting and room temperature do not distract their work and the office layout has been in a well-ordered. Because of the condition, the employees can do their work in accordance with the leader direction, do right work, do work based on target, finish the work on time, and cooperate with their colleagues well although some employees present without any information. The answers having the highest percentage is "disagree" and "very disagree" which indicator is about the room layout which is not in order. It is chosen by 40 employees (44%).

Regarding the result, it is found that a good work environment makes the employees work well. The more comfortable the physical environment of the workplace is the more higher the employee performance. The comfortable physical environment condition, especially which relates to room layout which is in order, makes the employees cooperate well with their colleagues and seniors. The reasons are that the work environment, especially good room layout which can keep the work privation of individual work can build good cooperation relationship in working. Moreover, a comfortable work environment makes employees have good emotion, so they can work better.

4.3 Work discipline Variable has the Dominant Effect

Hypothesis 3 stating that work discipline has a dominant effect on the employees of Al Hudori Cooperative of Palembang is **rejected**. In fact, work environment consisting of many aspects, such as appropriate room layout, good room lighting, and cool temperature can increase employee work efficiency. If the environmental condition can be fulfilled, the work environment which is conducive will be created; thus, it can positively affect employee performance (Robbins, 2009). Besides, a good work environment will give personal comfort and encourage the spirit of the employees, so they can work well. Moreover, the employees will be happier and more comfortable while working if the facilities are clean, not noisy, well-converted air, and sufficient and modern devices. In short, good work environment will affect their performance.

On the other hand, good work discipline can be seen from the high awareness of the employees in obeying every rule applied and the high responsibility of the individual's work. In relation to performance, work discipline will create mental readiness to do particular work. It is likely to result in performance which is more optimal (Hasibuan, 2007). However, the work environment can increase employee performance more than work discipline because the work environment is a factor which can give them motivation in which motivation causes the desire of the employees to act (Mathis and Jackson, 2012).

The result of this study is supported by a study conducted by Rahmasita (2015) stating that the work environment significantly and more dominant affect employee performance than work discipline. Simultaneously, work discipline and work environment significantly affect employee performance. It is supported by a study conducted by Maddinsyah and Wahyudi (2017) stating that the work environment has a greater effect on employee performance than work discipline.

Based on the work environment context, the answers having the highest percentage are "disagree" and "strongly disagree" which indicator is about the room layout which is not in order. The answers are chosen by 40 employees (44%). The highest correlation between the physical work environment and cooperative behavior of employee performance variable is considered as moderate. Based on the work discipline context, the answers having the highest percentage are “agree” and “strongly agree” which indicator is about the punctuality of employees in doing their work. The answers are chosen by 47 employees (51.6%).

The result shows that the working room which is in order can create good employee emotion, so they can work better. The employees can cooperate better with other employees and show better performance. Moreover, a good emotional condition can support employee performance more than their awareness to work based on the deadline because the condition of the work environment can be a motivation to work better.

4.4 The Effect of Work discipline and Environment Simultaneous on the Employee Performance

Hypothesis 4 stating that work discipline and work environment simultaneously affect the performance of Al Hudori Cooperative of Palembang employees is **accepted**.

The condition of the workplace can affect psycH0logical changes, such as work boredom, monotonous work, and tiredness (Schultz and Schultz, 2010: 45). Good work environment will give personal comfort and encourage employee spirit or working; thus, they can do their job well. Besides, they will be happier and more comfortable in working if the available facilities are clean, not noisy, well-circulated air, sufficient and modern. As a result, it affects employee performance.

Hasibuan (2007) states that if work discipline is well-embedded, the employees will be aware of norms or company's rules and the demand of obedience on the norms and the rules. In other words, work discipline holds an important role in doing daily activities of the employees. The employee with high discipline will work well although they are not supervised by seniors. Moreover, they will obey the rules which are available within the work environment with high awareness without any coercion.

The result of this study is in line with the study conducted by Rahmasita (2015) stating that work discipline and work environment simultaneously affect employee performance significantly. A similar result is also stated by Primananda and Djastuti (2015) that work discipline and work environment as well as cultural organization simultaneously affects employee performance significantly. Maddinsyah and Wahyudi (2017) also state in their study that work discipline and work environment simultaneously affects employee performance significantly.

In a work environment context, the answers with the highest percentage are "strongly disagree" and "strongly agree" which indicator is about the working room layout which is not in order. The answers were chosen by 40 employees (44%). Moreover, in work discipline context, the answers with the highest percentage are “agree” and “strongly agree” which indicator is about the punctuality of employees in doing their work. The answers were chosen by 47 employees (51.6%).

The result shows that the working room which is well-ordered can affect the psychological change of employees, so they will not be bored, feel monotone, and tired. Moreover, the behavior of working on time in the group can increase employee performance. In addition, besides having good emotion and motivation in working, they will also have high awareness to obey rules in working which can increase their performance.

5. Conclusions

Based on the results of the study, it can be concluded that:

1. Work discipline significantly affects the employee performance of Al Hudori Cooperative of Palembang.
2. Work environment significantly affects the employee performance of Al Hudori Cooperative of Palembang.
3. Work environment dominantly affects the employee performance of Al Hudori Cooperative of Palembang compared to work discipline.

4. Work discipline and environment simultaneously affect the employee performance of Al Hudori Cooperative of Palembang significantly.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 73-84
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.68

A Triple Hurdle Expenditure Analysis of U.S. Saltwater Recreational Fishing

Yeong Nain Chi[1]

[1] Department of Agriculture, Food and Resource Sciences, University of Maryland Eastern Shore, Princess Anne, MD 21853. Tel: 410-651-8186. E-mail: ychi@umes.edu

Abstract
This study used cross-sectional data extracted from the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation to analyze individual trip-related expenditures associated with saltwater recreational fishing in the United States. Based on the utility maximization framework in the triple hurdle model, all observations can be used to estimate a participant's final decision for saltwater recreational fishing. Positive observations that are simultaneously passed down the participation and consumption decisions can be used for estimation based on a censored and truncated sample, allowing for richer interpretation of saltwater recreational angler behavior. Empirical results (income, age, gender, ethnicity, urban setting, fishing license, fishing on a boat, fish types) showed significant effects on U.S. saltwater recreational fishing trip-related expenditures. The results of this study can provide insight into the determinants of U.S. saltwater recreational fishing trip-related expenditures, which can be used for saltwater recreational fisheries management and policy.

Keywords: Saltwater Recreational Fishing, Participation, Expenditures, Tobit Model, Triple Hurdle Model

1. Introduction

Saltwater recreational fishing has become a common practice across the United States which provides excitement, reduces stress and also serves as a means to improve unity among family members. It's also a source of revenue to the community, promotes tourism and contributes billions of dollars to the American economy. In 2015, NOAA Fisheries released the National Saltwater Recreational Fisheries Policy (U.S. Department of Commerce, 2015) to provide guidance in pertaining to development and maintenance of enduring and sustainable high quality saltwater recreational fisheries, which recognized the importance of saltwater recreational fishing to the nation.

According to the report from the 2011 National Survey of Fishing, Hunting and Wildlife-Associate Recreation, saltwater recreational fishing attracted 8.9 million anglers who took 86.2 million trips in 99 million days. A staggering amount of $10.3 billion was spent on saltwater recreational fishing trips and equipment during that year. Expenditure on trip-related cost totaling $7.3 billion was the highest, Accommodation and food cost $2.4 billion, and transportation cost was $1.5 billion. Other miscellaneous cost such as guide fees, licenses, permits, bait, membership dues and equipment rental were $3.4 billion (U.S. Fish and Wildlife Service, 2014).

Saltwater recreational fishing is usually done with equipment such as rod, reel, bait, hook and line. It was estimated by the 2011 National Survey of Fishing, Hunting and Wildlife-Associate Recreation that a total of $2.9 billion was

spent by anglers on equipment for saltwater recreational fishing. A detailed breakdown of this cost comprised of $1.4 billion on main fishing equipment (rod, reel, hook and line), $1.3 billion for special equipment (boats, travel vans etc.) and $217 million for auxiliary equipment (binoculars, camping equipment etc.) (U.S. Fish and Wildlife Service, 2014).
In 2011, saltwater recreational anglers spent an average of 11 days fishing and enjoyed an average of 10 trips. Saltwater recreational anglers spent an average of $824 per angler on trip related costs which was the highest average expenditure cost compared to average expenditure of freshwater recreational anglers and great lake recreational anglers, an average of $74 per day (U.S. Fish and Wildlife Service, 2014).

The most commonly sought fish among saltwater recreational anglers are striped bass, flatfish, redfish, sea trout, bluefish, salmon and mackerel. According to the 2011 National Survey of Fishing, Hunting and Wildlife-Associate Recreation, 2.1 million saltwater recreational anglers fished for striped bass for 18 million days, 2 million anglers fished for flatfish for 22 million days. 1.5 million Anglers fished for redfish for 21 million days and 1.1 million saltwater recreational anglers fished for 15 million days (U.S. Fish and Wildlife Service, 2014).

According to the reports from the 2001, 2006, and 2011 National Surveys of Fishing, Hunting, and Wildlife-Associated Recreation, the number of all anglers in the United States decreased from 34.1 million in 2001 to 30.0 million in 2006 then increased to 33.1 million from 2006 to 2011. The total fishing expenditures increased from $45.3 billion in 2001 to $47.0 billion in 2006, and decreased to $41.8 billion from 2006 to 2011. A comparison of the 2001, 2006 and 2011 National Survey of Fishing, Hunting and Wildlife-Associate Recreation indicated that the total number of saltwater recreational anglers decreased significantly from 9.5 million in 2001 to 7.7 million in 2006 and then increased to 8.9 million in 2011. Total expenditures on saltwater recreational fishing trip-related costs and equipment increased slightly from $8.4 billion in 2001 to $8.9 billion in 2006, and also increased to $10.3 billion from 2006 to 2011 (U.S. Fish and Wildlife Service, 2002, 2007, 2014).

The purpose of this study is to analyze the determinants of saltwater recreational fishing trip-related expenditures in the United States, based on the utility maximization framework in the triple hurdle model, all observations can be used to estimate a participant's final decision for saltwater recreational fishing. Positive observations that are simultaneously passed down the participation and consumption decisions can be used for estimation based on a censored and truncated sample, allowing for richer interpretation of saltwater recreational angler behavior. This improves our understanding of the trade-offs made in this process.

However, expenditure analysis not only provides information about how different socio-economic groups allocate their resources toward saltwater recreational fishing activities, but it may also contribute to a better understanding of current and future angler behavior of U.S. saltwater recreational fishing participation and consumption. The results of this study can provide insight into the determinants of U.S. saltwater recreational fishing trip-related expenditures, which can be used for saltwater recreational fisheries management and policy.

2. Econometric Method

An analysis of saltwater recreational fishing trip-related expenditures can be beneficial from the use of appropriate econometric analysis and measurement to comprehend the full value of this type of saltwater recreational fishing activities within the framework of saltwater recreational fisheries management and policy. In particular, analyzing saltwater recreational fishing trip-related expenditures in the framework of an angler who allocate a constrained budget to maximize utility improves a better understanding of the tradeoffs made in this process.

According to consumer choice theory, angler attempts to maximize his/her utility from saltwater recreational fishing activities subject to his/her budget constraint. Thus, the maximization of the utility function for saltwater recreational fishing activities can be stated as follows:

$$\mathrm{Max}_{y,\,z} \quad u = u(y, z \mid a, s) \quad \text{subject to} \qquad py + qz = I$$

where u(.) represents the utility function which is assumed to be continuous, increasing, and quasi-concave, y is quantity demanded of saltwater recreational fishing activities, i.e. the number of saltwater recreational fishing trips to the fishing site, z represents the quantity of all other goods consumed, a is the vector of exogenous attributes of the activity or site, s is the vector of socioeconomic characteristics, p is trip-related expenditures of saltwater recreational fishing activities, q is the vector of prices of other goods and services, and I is income.

Then the angler's demand function for saltwater recreational fishing activities can be expressed in terms of saltwater recreational fishing trip-related expenditures as follows:

$$Y = f(X, \beta, \varepsilon)$$

where Y is the vector of the dependent variable representing saltwater recreational fishing trip-related expenditures, X is the matrix of independent variables such as socioeconomic factors and trip characteristics, β is a vector of parameters including, but not limited to, the estimated coefficients of the independent variables, and ε is the vector of the random error term assumed to be independent and identically distributed.

In general, the demand function gives the quantity of a market good that the individual will purchase as a function of market prices and the individual's income. This relationship is referred to as the Engel curve. The Engel curve can be used to estimate the relationship between expenditures and income, holding price constant. Typically, price is assumed to be constant with the cross-sectional data that is usually used to estimate the Engel function. Hence, given the individual's income and prices of goods, the quantities demanded by the individual can be determined from the individual's demand function (Deaton & Muellbauer, 1980; Henderson & Quandt, 1980; Varian, 2010).

In order to develop the relationship between trip-related expenditures associated with saltwater recreational fishing activities, anglers' income and their socio-economic characteristics, sample recognition and data related issues (censored and truncated samples), which are common to expenditure model, improve measurement reliability. A better understanding of the nature of this data helps select an appropriate econometric model for this expenditure analysis. Modeling consumer behavior with cross-sectional data is complicated by a significant proportion of zero expenditures in the sample. In practice, the sample containing observations with reported zero expenditure presents a unique problem with cross-sectional survey data. Using traditional econometric techniques, the parameter estimates are biased and inconsistent (Maddala, 1983; Judge, et al. 1988; Greene, 2008). For example, regression analysis based on nonzero observations of the dependent variable can lead to biased parameter estimates.

Empirically, researchers have often used the Tobit model, first represented by Tobin (1958), to consider the fact that the expenditures, the limited dependent variable of the regression model, cannot be negative when analyzing household expenditures on durable goods. Thus, the Tobit model can be used to analyze the demand for any specific goods when household expenditures can be observed only in a limited value, usually zero. Under the Tobit specification, zero expenditure implies zero consumption. Hence, it represents a true corner solution (Gould, 1992). Statistically, the Tobit model can be expressed as:

$$\begin{aligned} y_i &= y_i^* \qquad \text{if } y_i^* = x_i'\beta + e_i > 0 \qquad i = 1, \ldots, n \\ y_i &= 0 \qquad \text{otherwise} \end{aligned}$$

where y_i is a vector of individual observed expenditures, y_i^* is a vector of the corresponding desired expenditures, x_i is a vector of regressor that influence expenditures, β is a vector of unknown parameters, and e_i is an independently distributed error term with distribution $N(0, \sigma^2)$. For the observations y_i that are zero,

$$\text{Prob}(y_i = 0) = 1 - \text{Prob}(y_i > 0) = 1 - \Phi(x_i'\beta/\sigma)$$

For the observations y_i that are greater than zero,

$$\text{Prob}(y_i > 0)f(y_i|y_i > 0) = (1/\sigma)\phi[(y_i - x_i'\beta)/\sigma]$$

where $\phi(.)$ and $\Phi(.)$ are the standard normal density and cumulative distribution functions, respectively. Using 0 to denote zero observations and + denote positive observations, the likelihood function for the Tobit model can be specified as:

$$L = \Pi_0[1 - \Phi(x_i'\beta/\sigma)]\ \Pi_+[(1/\sigma)\phi[(y_i - x_i'\beta)/\sigma]]$$

Then the log-likelihood function for the Tobit model is:

$$\ln L = \Sigma_0 \ln[1 - \Phi(x_i'\beta/\sigma)] + \Sigma_+ \ln\{[(1/\sigma)\phi[(y_i - x_i'\beta)/\sigma]\}$$

The maximum likelihood estimation technique can be used to estimate the unknown parameters.

Recently, the triple hurdle model has been drawn attention to the importance in empirical applications in agricultural economics and agribusiness. Burke, et al. (2015) applied the triple hurdle model to evaluate production and market participation in Kenya's dairy sector, and to examine the factors associated with the decision to produce or not produce; the decision of producers whether to participate or not participate in the market; and the decision of market participating producers on how much to buy or sell.

Jensen, et al. (2015) employed the triple hurdle model to estimate cattle farmer willingness to adopt or expand prescribed grazing on pasture in response to a hypothetical incentive program. Interest in adoption/expansion was estimated first, then willingness to participate in the program, followed by intensity of participation measured as additional acres enrolled.

The triple hurdle model may provide a better interpretation of consumer choice behavior that takes into account the probability of consumption and the level of consumption simultaneously. Statistically, the triple hurdle model is established as a useful extension of the univariate Tobit model. It allows three separate stochastic processes for participation in and consumption for saltwater recreational fishing. The triple hurdle model in this study can be expressed as:

$$\begin{aligned} y_i &= y_i^* \quad \text{if } g_i = z_i'\alpha + u_i = 1,\ h_i = w_i'\gamma + v_i = 1,\ y_i^* = x_i'\beta + e_i > 0 \qquad i = 1, \ldots, n \\ y_i &= 0 \quad \text{otherwise} \end{aligned}$$

where g_i characterizes the decision of whether to participate in any recreational fishing (the first stage of participation), z_i is a vector of regressor that influence participation in any recreational fishing; α is a vector of unknown parameters; and u_i is an independently distributed error term with distribution N(0, 1); h_i characterizes the decision of whether to participate in saltwater recreational fishing (the second stage of participation), w_i is a vector of regressor that influence participation in saltwater recreational fishing; γ is a vector of unknown parameters; and v_i is an independently distributed error term with distribution N(0, 1). For the observations y_i that are zero,

$$\text{Prob}(y_i = 0) = 1 - \text{Prob}(g_i = 1)\text{Prob}(h_i = 1)\text{Prob}(y_i > 0) = 1 - \Phi(z_i'\alpha)\Phi(w_i'\gamma)\Phi(x_i'\beta/\sigma)$$

For the observations y_i that are greater than zero,

$$\text{Prob}(y_i > 0)f(y_i|y_i > 0) = \Phi(z_i'\alpha)\Phi(w_i'\gamma)(1/\sigma)\phi[(y_i - x_i'\beta)/\sigma]$$

The likelihood function for the triple hurdle model can be specified as:

$$L = \Pi_0[1 - \Phi(z_i'\alpha)\Phi(w_i'\gamma)\Phi(x_i'\beta/\sigma)]\ \Pi_+\{\Phi(z_i'\alpha)\Phi(w_i'\gamma)(1/\sigma)\phi[(y_i - x_i'\beta)/\sigma]\}$$

And the log-likelihood function for the triple hurdle model is:

$$\ln L = \Sigma_0 \ln[1 - \Phi(w_i'\gamma)\Phi(z_i'\alpha)\Phi(x_i'\beta/\sigma)] + \Sigma_+ \ln\{\Phi(w_i'\gamma)\Phi(z_i'\alpha)(1/\sigma)\phi[(y_i - x_i'\beta)/\sigma]\}$$

The maximum likelihood estimation technique can be used to estimate the unknown parameters. Based on the assumptions of normality and independence of the error term, the probability of non-zero consumption can be expressed as:

$$\text{Prob}(y_i > 0) = \Phi(z_i'\alpha)\Phi(w_i'\gamma)\Phi(x_i'\beta/\sigma)$$

Because the dependent variable y_i is truncated at zero, the expected value of conditional consumption is simply $x_i'\beta$ plus the expected value of the truncated normal error term, which can be expressed as:

$$E(y_i|y_i > 0) = x_i'\beta + \sigma[\phi(x_i'\beta/\sigma)/\Phi(x_i'\beta/\sigma)]$$

Thus, the expected value of total consumption is directly related to the expected value of conditional consumption via the probability of non-zero consumption. The expected value of total consumption can be expressed as:

$$E(y_i) = \text{Prob}(y_i > 0)E(y_i|y_i > 0) = \Phi(z_i'\alpha)\Phi(w_i'\gamma)\Phi(x_i'\beta/\sigma)\{x_i'\beta + \sigma[\phi(x_i'\beta/\sigma)/\Phi(x_i'\beta/\sigma)]\}$$

The probability of non-zero consumption in the triple hurdle model considered here requires consideration of the probability from the participations and consumption equations simultaneously. Otherwise, the maximum likelihood estimates of the expected value of total consumption with respect to the explanatory variable would be biased.

In practical applications, the likelihood ratio (LR) test seems to be a popular selection in empirical expenditure analysis between the Tobit model and the triple hurdle model, which is based on the principle of maximum likelihood estimation. It can be used to test the hypotheses that the Tobit model performs as well as the triple hurdle model by comparing the values of the maximized likelihood functions under the restricted (H_0) and unrestricted (H_1) models. Systematically, the LR test is based on the statistic:

$$\lambda_{LR} = -2[L(H_1) - L(H_0)]$$

where (H_0) and (H_1) are the maximized values of the log-likelihood function under the restricted and unrestricted models, respectively. The null hypothesis (H_0) is rejected when $\lambda_{LR} > \chi^2_c$, where χ^2_c is a chosen critical value from the $\chi^2_{(j)}$ distribution, and j is the number of the restrictions under the null hypothesis (Judge, et al. 1988; Greene, 2008).

3. Data

The source of data for this study was extracted from the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (U.S. Fish and Wildlife Service, 2014), which is developed by the U.S. Fish and Wildlife Service every five years. This type of survey started in 1955 and the 2011 survey is the 12th of its kind. It is one of the comprehensive and most reliable recreation surveys in the United States. Basically, the survey aims to collect information on the frequency of participation and expenditure on fishing activities in the United States as well as the number of anglers, hunters and wildlife watchers.

Data was collected for the survey by the U.S Census Bureau in two phases namely the screening phase and three detailed wave process. According to the 2011 National Survey of Fishing, Hunting and Wildlife-Associated Recreation, the U.S. Census Bureau interviewed a sample of 48,600 households in the United States to determine who in the household participated in fishing, hunting or watched wildlife in 2010 and those planning on engaging in those activities in 2011. Mostly, one adult household member provided information for all members.

The second phase of the survey consisted of three detailed interviews. Interviews were conducted with people who were at least 16 years who were chosen from the screening phase. According to the report from the 2011 National Survey of Fishing, Hunting and Wildlife-Associated Recreation, most of the respondents were interviewed by phone whiles in-person interviews was used for those who couldn't be reached on phones.

From this initial phase, 11,016 recreational anglers were selected for a detailed interview about their participation and expenditures associated with saltwater recreational fishing activities in the United States in 2011, based on the question (1) "Did you do any recreational fishing, including shell fishing, in the United States, from January 1, 2011 to December 31, 2011?" (the first stage of participation), (2) followed up "Respondent fished in saltwater in the United States in 2011?" (the second stage of participation) and (3) then "When you were fishing in the U.S. chiefly in saltwater during 2011, how much was spend for your share of (…)?" (consumption).

Trip-related expenditures on saltwater recreational fishing activities include: (1) food, drink, and refreshments; (2) lodging of motels, cabins, lodges, campgrounds, etc.; (3) public transportation, including airplanes, trains, buses, and car rentals; (4) the round trip cost for transportation by private vehicle; (5) guide fees, pack trip or package fees; (6) public land use or access fees; (7) private land use or access fees (not including leases); (8) equipment rental as boats, camping equipment, etc.; (9) boat fuel; (10) other boat costs (such as launching, mooring, storing, maintenance, pump out fees, insurance); (11) heating and cooking fuel; and (12) bait (live, cut, prepared) and ice.

4. Empirical Results

The choice of explanatory variables (Table 1) selected for U.S. saltwater recreational fishing trip-related expenditure equation estimated in this study can be expressed as:

Trip-Related Expenditures = f(Age, Male, Household Income, Graduate, White, Minority, Urban, License, Boat, Salmon, Striped Bass, Bluefish, Flatfish, Redfish, Seatrout, Mackerel, Marlin, Tuna, Mahi-Mahi, Shellfish)

Table 1. Parameter Description of U.S. Saltwater Recreational Fishing Expenditures

Parameter	Description
Expenditures	Saltwater recreational fishing trip-related expenditures
AGE	Respondent's age (in year; 16 years old and older)
MALE	Respondent's gender; 1 if male; 0 otherwise
HOUINC	1 if respondent's household income greater than $50,000; 0 otherwise
GRADUATE	Respondent's education level; 1 if graduate or professional degree; 0 otherwise
WHITE	Respondent's ethnicity; 1 if white; 0 otherwise.
MINOR	Respondent's ethnicity; 1 if minority; 0 otherwise
URBAN	1 if respondent lived in the urban settings; 0 otherwise
LICENSE	1 if respondent bought a fishing license; 0 otherwise.
BOAT	1 if respondent fished on the boat; 0 otherwise.
SALMON	1 if Salmon was one type of targeted fish; 0 otherwise
SBASS	1 if Striped Bass was one type of targeted fish; 0 otherwise
BLUEFISH	1 if Bluefish was one type of targeted fish; 0 otherwise
FLATFISH	1 if Flounder, Flatfish, or Halibut was one type of targeted fish; 0 otherwise
REDFISH	1 if Red Drum (Redfish) was one type of targeted fish; 0 otherwise
SEATROUT	1 if Sea Trout (Weakfish) was one type of targeted fish; 0 otherwise
MACKEREL	1 if Mackerel was one type of targeted fish; 0 otherwise
MARLIN	1 if Marlin was one type of targeted fish; 0 otherwise
TUNA	1 if Tuna was one type of targeted fish; 0 otherwise
MAHI-MAHI	1 if Dolphin (Mahi-Mahi) was one type of targeted fish; 0 otherwise
SHELLFISH	1 if Shellfish was one type of targeted fish; 0 otherwise

Descriptive statistics for the explanatory variables selected in this analysis are presented in Table 2. In 2011, average trip-related expenditures were $136.96 for the total sample (n = 11,106), but average trip-related expenditures were $957.94 for the sample with positive expenditures (n = 1,575) in the United States. About 85 percent of respondents reported zero expenditures in this study. In order to test which variables are collinear with other variables, a collinearity diagnostic test based on condition indexes was performed. In this analysis, the value of the largest condition index, from the principal component analysis, was 22.23. It implied that multicollinearity was not a concern in the estimated model (Belsley, et al. 1980).

Table 2. Descriptive Statistics of U.S. Saltwater Recreational Fishing Expenditures

Parameter	Recreational Fishing Samples (n = 11,016)		Saltwater Fishing Samples (n = 6,052)		Positive Expenditure Samples (n = 1,575)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Expenditures	136.96	796.41	249.30	1061.40	957.94	1910.94
AGE	48.27	16.40	46.60	16.08	48.33	15.25
MALE	0.68		0.74		0.78	
HOUINC	0.55		0.60		0.64	
GRADUATE	0.13		0.12		0.17	
WHITE	0.91		0.91		0.86	
MINOR	0.13		0.13		0.18	
URBAN	0.53		0.52		0.61	
LICENSE	0.37		0.68		0.61	
BOAT	0.10		0.19		0.67	
SALMON	0.01		0.02		0.08	
SBASS	0.04		0.08		0.28	
BLUEFISH	0.02		0.04		0.14	
FLATFISH	0.04		0.06		0.23	
REDFISH	0.02		0.03		0.11	
SEATROUT	0.01		0.03		0.09	
MACKEREL	0.01		0.02		0.06	
MARLIN	0.01		0.01		0.02	
TUNA	0.01		0.02		0.06	
MAHI-MAHI	0.01		0.02		0.05	
SHELLFISH	0.01		0.03		0.09	

Based on the LR test results, $\lambda_{LR} = -2[L(H_1) - L(H_0)] = [(6578.509+1694.991+27983.342) – 30308.87] = 5947.972 > \chi^2_{20} = 36.1909$, the hypothesis that the Tobit model performs as well as the triple hurdle model in modeling saltwater recreational fishing trip-related expenditure analysis was strongly rejected at the 0.01 significance level. Thus, participation and consumption decisions in the saltwater recreational fishing trip-related expenditure analysis were not based on the same decision-making structure, and the triple hurdle model was clearly the preferred specification. As a result, drawing inferences about the effects of the explanatory variables selected on participation and consumption decisions based on the Tobit model for the saltwater recreational fishing trip-related expenditure analysis would lead to erroneous conclusions.

In summary, empirical results of the Tobit model (Table 3) indicated that well-educated mature male, including white and minority, living in the urban area with higher income, who has a fishing license, would spend more to go fishing on the boat for Salmon, Striped Bass, Bluefish, Flatfish, Redfish, Seatrout, Mackerel, Marlin, Tuna, Dolphin (Mahi-Mahi), and Shellfish in U.S. saltwater areas.

Table 3. Tobit Model for U.S. Saltwater Recreational Fishing Expenditures

Parameter	Recreational Fishing (n = 11,016)		
	Estimates	S.E.	p-value
INTERCEPT	-3994.127	248.269	< 0.0001
AGE	5.173	2.278	0.021
MALE	294.051	81.317	< 0.0001
HOUINC	225.037	72.790	0.002
GRADUATE	186.485	97.155	0.055
WHITE	-552.785	179.593	0.002
MINOR	537.235	161.789	0.001
URBAN	256.572	71.746	< 0.0001
LICENSE	553.538	73.115	< 0.0001

BOAT	2950.270	97.340	< 0.0001
SALMON	879.721	173.853	< 0.0001
SBASS	1195.373	111.522	< 0.0001
BLUEFISH	822.939	142.779	< 0.0001
FLATFISH	846.347	113.234	< 0.0001
REDFISH	1135.277	166.055	< 0.0001
SEATROUT	381.860	177.884	0.032
MACKEREL	515.681	196.857	0.009
MARLIN	772.863	339.826	0.023
TUNA	722.428	220.085	0.001
MAHI-MAHI	1209.006	240.548	< 0.0001
SHELLFISH	2007.681	161.421	< 0.0001
σ	1880.031	34.019	
-2 Log-Likelihood	30308.87		

The triple hurdle model for U.S. saltwater recreational fishing trip-related expenditures was estimated by maximizing the logarithm of the likelihood functions. Empirical results of the triple hurdle model are presented in Table 4. All observations can be used in the estimation for two stages of participation decisions, but only positive observations which pass through participation and consumption decisions simultaneously can be used in the estimation based on a censored and truncated sample.

The triple hurdle estimates indicated that the explanatory variables might have different impacts on two stages of participation and consumption decisions in sign or magnitude. There is no strong economic theoretical basis to suggest what explanatory variables should be in each hurdle or for predicting the signs of estimated coefficients in each hurdle.
The variables *AGE*, *MALE*, *HOUINC*, *GRADUATE*, *URBAN*, and *LICENSE*, all had different signs in the two stages of participation and consumption decisions. The variables *AGE*, *MALE*, and *HOUINC* were significant in the recreational fishing participation and saltwater fishing consumption decisions, but not significant in the saltwater fishing participation decision. The variables *GRADUATE* and *WHITE* were significant in the both two stages of participation decisions but not significant in the saltwater recreational fishing consumption decision. Even having different signs, the variable *LICENSE* was significant for both saltwater fishing participation and consumption decisions, not significant in the recreational fishing participation decision. The variable *URBAN* was significant for both saltwater fishing participation and consumption decisions with a positive sign, but also positively significant in the recreational fishing participation decision as well.

Table 4. Triple Hurdle Model for U.S. Saltwater Recreational Fishing Expenditures

Parameter	Recreational Fishing (n = 11,016)		Saltwater Fishing (n = 6,052)		Positive Expenditures (n = 1,575)	
	Estimates	S.E.	Estimates	S.E.	Estimates	S.E.
INTERCEPT	-0.495**	0.209	-2.283***	0.390	-689.485**	330.681
AGE	-0.007***	0.002	-0.002	0.004	6.616**	3.056
MALE	0.311***	0.064	-0.016	0.150	281.707**	112.317
HOUINC	-0.288***	0.063	0.100	0.139	329.554***	97.229
GRADUATE	-0.161*	0.096	0.521***	0.197	-41.733	123.685
WHITE	-0.354**	0.171	-0.580**	0.269	-100.939	241.395
MINOR	0.088	0.149	1.105***	0.253	56.290	218.509
URBAN	-0.344***	0.062	0.619***	0.144	167.085*	94.893
LICENSE	22.058	581.362	-1.294***	0.139	303.818***	97.586
BOAT	19.371	805.542	22.213	852.089	485.004***	105.158
SALMON	17.179	2209.242	21.489	2440.822	162.567	172.398
SBASS	18.121	1173.797	21.857	1280.418	249.760**	110.879
BLUEFISH	18.075	1593.119	20.496	1674.244	190.099	139.709
FLATFISH	18.563	1311.913	21.253	1379.549	234.584**	111.177
REDFISH	17.761	1807.098	21.133	1909.357	322.098**	163.044
SEATROUT	17.029	1952.625	20.928	2117.287	138.722	175.309
MACKEREL	17.655	2369.445	20.637	2554.493	138.166	191.286

MARLIN	-0.009	4042.853	0.400	4611.837	1269.091***	343.722
TUNA	16.762	2358.778	16.052	2366.980	543.221**	214.916
MAHI-MAHI	16.777	2496.663	17.800	2724.994	1122.022***	236.758
SHELLFISH	20.913	2308.085	22.991	2389.008	248.324	162.809
σ	---	---	---	---	1790.461	31.959
-2 Log-Likelihood	6578.509		1694.991		27983.342	

*** denotes statistical significance at the 1% level.
** denotes statistical significance at the 5% level.
* denotes statistical significance at the 10% level.

Previous studies on outdoor recreation expenditures have suggested that income level has a strong influence on outdoor recreation expenditures, as did other socio-economic characteristics including age, gender, ethnicity, and level of education (Arlinghaus, 2006; Dalrymple, et al. 2010; Brida & Scuderi, 2012). The age of respondents appeared to have a positive and significant impact on the saltwater recreational fishing expenditures, but negative effect on participation in recreational fishing significantly and saltwater fishing insignificantly. It revealed that the higher age the anglers had, the more expenditures they spent when they fished in the saltwater areas, implying that demand increases with the older anglers significantly. Results also showed that respondents who had graduate or professional degree did not have a significant effect on U.S. saltwater recreational fishing expenditures.

According to studies of traditional recreational fishing activities, men tended to dominate saltwater recreational fishing activities and spent more on such kinds of recreational fishing activities than women did. Thus, men were hypothesized to have a positive impact on saltwater recreational fishing expenditures due to different life styles and different time constraints (Arlinghaus, 2006; Dalrymple, et al. 2010; Brida & Scuderi 2012). Consistent with the previous studies, males spent more when they participated in saltwater recreational fishing activities.

Theoretically, one would expect saltwater recreational fishing expenditures to be positively correlated with income, holding price of saltwater recreational fishing constant. Thus, income was hypothesized to have a positive impact on saltwater recreational fishing expenditures (Arlinghaus, 2006; Dalrymple, et al. 2010; Brida & Scuderi, 2012). As expected, results indicated that household income greater than \$50,000 had a positive and significant effect on U.S. saltwater recreational fishing expenditures, but insignificant in the participation decision. It also revealed that saltwater recreational fishing is a normal good for which demand increases with high household income.

In general, non-white individuals have been observed to have a much lower preference for participation in most types of wildlife-based recreation than did white individuals (Arlinghaus, 2006; Dalrymple, et al. 2010; Brida & Scuderi, 2012). The variable *WHITE* was negatively and significantly related to recreational fishing participation and saltwater fishing participation decisions, but not significant in the saltwater fishing consumption decision. The variable *MINOR* was significant in the saltwater fishing participation decision positively, but insignificant in the saltwater fishing consumption decision. It indicated that those who were white had a significantly negative impact, and that those who were minority had a significantly positive impact, on saltwater recreational fishing participation, implying that demand decreases with the white anglers, but increases with the minority anglers significantly.

The variable *URBAN* was positively and significantly related to saltwater recreational fishing for both participation and consumption decisions, but negatively significant in the recreational fishing participation decision. It revealed that those who reside in the urban settings had a positive and significant impact on saltwater recreational fishing participation and consumption, implying that demand increases significantly with the urban residents. The variable *LICENSE* was negatively and significantly related to saltwater recreational fishing participation decision, but significant in consumption decision positively. It revealed that those who purchased the fishing license had a positive and significant impact on saltwater recreational fishing consumption, implying that demand increases significantly with the anglers who purchased the fishing license.

The variables *BOAT* was positively significant in the saltwater fishing consumption decision, but insignificant in the both of two participation decisions. The variable *BOAT* had a significantly positive effect on saltwater recreational fishing expenditures, showing that the demand for saltwater recreational fishing activities increases with the satisfaction of fishing on the boat. The variables *SBASS*, *FLATFISH*, *REDFISH*, *MARLIN*, *TUNA*, and *MAHI-MAHI* were positively significant in the saltwater fishing consumption decision, but insignificant in the both of two participation decisions. As expected, the variables *SBASS*, *FLATFISH*, *REDFISH*, *MARLIN*, *TUNA*, and *MAHI-MAHI* all had a significant and positive impact on saltwater recreational fishing expenditures, indicating that demand increases significantly with the presence of fish categories, including Striped Bass, Flatfish, Redfish, Marlin, Tuna, and Mahi-Mahi, which is the primary purpose of saltwater recreational fishing activities.

Intuitively, saltwater recreational anglers purchasing fishing licenses were less likely to participate in, but tended to consume more for saltwater recreational fishing activities when they fished significantly. Insignificantly, older male anglers were less likely to participate in saltwater recreational fishing, but tended to consume more significantly related to saltwater recreational fishing activities. Similarly, anglers with high household income were more likely to participate in, and tended to consume more significantly related to saltwater recreational fishing activities. Empirically, this study also showed that anglers living in the urban area with a fishing license, would spend more to go fishing on the boat for Striped Bass, Flatfish, Redfish, Marlin, Tuna, and Mahi-Mahi in U.S. saltwater areas.

5. Discussion and Conclusion

This study provided an empirical analysis of individual participation and consumption behavior for saltwater recreational fishing using data extracted from the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (U.S. Fish and Wildlife Service, 2014). The triple hurdle analysis of U.S. saltwater recreational fishing expenditures, in this case, is a necessary step in understanding relationship between individual participation and consumption behavior, anglers' socioeconomic characteristics, and the attributes of fish species.

Under the Tobit specification, zero expenditure implies zero consumption, hence represents a true corner solution (Gould, 1992). On statistical grounds, the Tobit model is very restrictive in its parameterization which implies that the probability of consumption and the level of consumption are determined by the same sets of variables and parameters. Hence, drawing inferences from the Tobit model would lead to erroneous conclusions (Bockstael, et al. 1990).

To compare the Tobit model and the triple hurdle model, all observations can be used in the estimation, but only positive observations which pass through participation and consumption decisions simultaneously can be used in the estimation for the triple hurdle model based on a censored and truncated sample. The Tobit model is a one-step model, while the triple hurdle model is a three-step process.

The results of this study are multi-dimensional. First, purchasing a fishing license and fishing on the boat are important driving forces for saltwater recreational fishing expenditures. Anglers are more likely to participate in and consume for saltwater recreational fishing activities in order to satisfy their fishing desires. Second, a mature male living in urban settings with higher household income does appear to be a distinguishing factor in saltwater recreational fishing activities. Thus, saltwater recreational fisheries managers have an opportunity to target this specific user group in their management plans, expanding a shrinking constituency. Third, the availability of a diversity of species plays an important role in saltwater recreational fishing activities. Saltwater recreational fisheries managers should educate the public about the availability or location of diverse habitats to generate continued interest and increased participation in saltwater recreational fishing activities.

Saltwater recreational fishing activities has grown in popularity in the United States. The purpose of trip taken for saltwater recreational fishing would be expected to have a positive impact on saltwater recreational fishing expenditures. Many studies have reported that the opportunity for saltwater recreational fishing expenditures should consider species and numbers of fisheries that participants want to participate in, what species actually are caught, and how many visual encounters with fisheries are made, and the quality of the experiences (Arlinghaus, 2006; Cisneros-Montemayor & Sumaila, 2010; Brida & Scuderi, 2012).Thus, fisheries habitats and populations can be viewed as a critical factor. With an increase in ecosystem and biodiversity of fisheries, the more saltwater recreational anglers would participate and consume (Cisneros-Montemayor & Sumaila, 2010).

Most importantly, healthy fisheries habitat are not only essential for a healthy fisheries, but are also an essential part of the fishing experience. Saltwater recreational fishing adds to mixed activity vacation venues attracting anglers and families with multiple interests. In particular, saltwater recreational fishing businesses succeed on the quality basis of fishable resources, ancillary experiences of nature, comfort, and well-directed marketing strategies that match specific venues to the needs of various types of anglers (Cisneros-Montemayor & Sumaila, 2010). In order to continue high quality saltwater recreational fishing experiences for anglers, a healthy environment for fish must be properly provided through well-defined planning and management strategies and decision-making processes.

The empirical results in this study provided insight into the determinants of saltwater recreational fishing expenditures, which can be interpreted in terms of three stochastic processes, recreational fishing participation, saltwater fishing participation and consumption, allowing for richer interpretation of saltwater recreational angler behavior. Also, the results of this study provide insight into the determinants of saltwater recreational fishing expenditures, which can be used in analyzing the social and economic impacts of saltwater recreational fisheries planning and management.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 85-90
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.69

Position Paper of Suggested Paradigm of the Know–How Gap between University and Industry inside Arab Countries – Researchers on the Horns of a Dilemma

Dr. Ahmad Taha Kahwaji[1]

[1] Assistant Professor, Department of Management, College of Commerce and Business Administration, Dhofar University, Sultanate of Oman. e-mail: akahwaji@du.edu.om

Abstract
The relationship between researches and industries in many Arab countries is characterized by a great deal of ambiguity and negativity. These characteristics create a big gap, especially in the transfer of Know-how. This research aims to clarify this relationship based on historical view and qualitative/descriptive analysis. We create a URI paradigm (University-Researchers-Industries), where we explained the interactions between the three players. We found three destructive spots and one constructive which called "Fertility Spot" which considered only hope to get out of the gap. We also tried to build a matrix of know-how between researchers and industries, which illustrate the only two positive cells out of sixteen, where we found the optimal interaction during the relationship. Finally, we illustrate in the agenda for future as a conclusion, set of limitations to be considered in future researches, to finalize the characteristics of a strategic road which can reduce the gap mentioned and make the relationship between research and industry more coherent.

Keywords: Know-How, Researches, University, Industry, Arab Countries

1. Introduction

The concept of universities and industries cooperation and collaboration is a vital social experiment for the development of any society. This position paper examines the different relationships between researches conducted by academic researchers and industries (private and public), especially in Arab countries. It focuses on the actual "give-and-take" process between faculty members and industrial firms. We used a preliminary qualitative/descriptive assessment through examining the relationships between three players (Universities-Researchers-Industries), and by focusing on what they actually get out of this relationships.

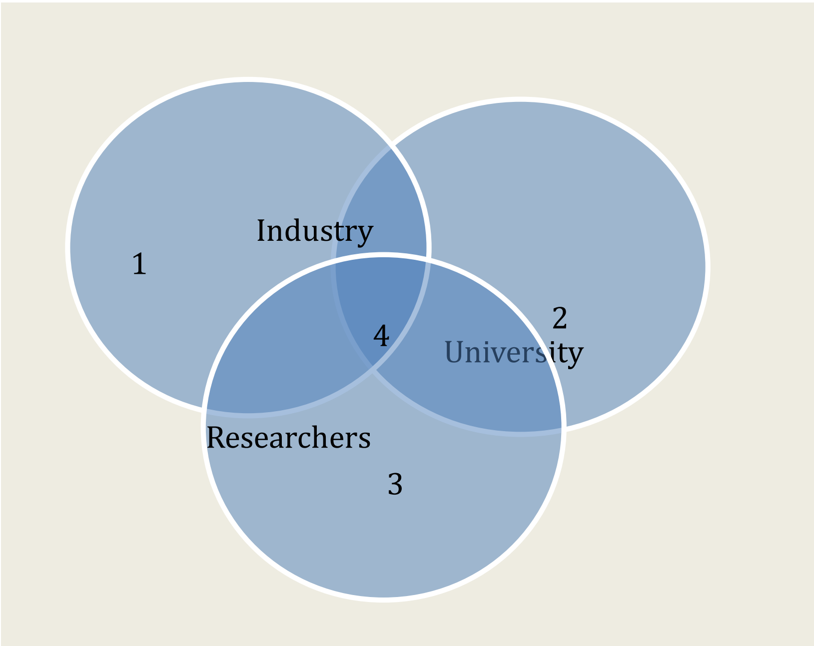
2. Literature Review

The majority of academic researchers identifying industrial and corporate problems or dilemmas with suspicious. With few exceptions, academic researchers had little effect on industries (especially in Arab countries). Organizations, on the other hand, had little effect on academic life and universities, despite the increasingly clear evidence in the last ten years, regarding the social responsibility activities toward society.

Why do these things happen? It is really an intriguing question. Some of the reasons reflect subtle deep-routed suspicious. But many of the reasons reflect underlying differences regarding Personal and legal interests, reciprocity benefits, and sometimes only to earn the satisfaction of society and government.

In this article, we highlight some existing and potential breakthroughs which occur continuously and permanently, especially from the side of researchers as individual players. We will take a quasi-historical approach and provide clear paradigm and create a new suitable matrix in order to explain and examine the extent of Know-How gaps between three involved groups in the process Figure 1: (URI - University-Researchers-Industry). The aim of this research will also be supplying an agenda for future progress, contains a list of tips which present the hope to achieve from the side of all involved, responsible persons, Managers, Deans, Heads of Departments, DVCs, and sure by researchers by themselves. We need to flip the table! to draw a comprehensive plan which transfer researches from destructive status to a constructive one.

Figure 1: URI Relationships



Source: Kahwaji A. T., Relationship between URI Groups, 2019.

This position paper focuses on the relationship between Universities/Researchers/Industries, that we notice in Arab zone not to have very clear evidence, and almost suffer many defects, which create gaps and obstacles to innovation and creativity in all fields, and finally, many negative effects to the economy and society.

Such relationships are different from generic 'Links' as graduate recruitment or sometimes related to the exploitation of scientific publications or university-generated patents within firms. Therefore, in this regard, it is Legitimate to ask ourselves: What we know about such relationships? in what forms they appear and what effects they have on industries.

3. URI Paradigm

Using the paradigm illustrated in Figure 1, we note the interaction relationships between the three players, which can create four types of interrelations (we called it spots), describe in the following:

Relation 1: University-Industry (MOUs Spot)
Many empirical studies have analyzed the process of know-how transfer between universities and firms. Academic researches like publication and patents seem to be the most important input to industry (Narin et al., 1997; Mc Millan et al., 2000; Cohen et al., 2002).

Zucker et al. 2002 described transfer Know-How from universities to firms as an effective way by conducting many types of transfer. The importance of Universities' researches for the process of industry innovation also has been widely studied. Majority of researchers have shown a positive impact in this regard (Salter and Martin, 2001).

Moreover, Cohen et al., (2002) find that the most important channels for universities to have an impact on industries R&D are published papers, reports, public conferences, the mobility of students, meeting, etc. In fact, Meyer-Krahmer and Schmoch (1995) find that collaborative research is the most widespread form of Know-How transfer. However, not all sciences and majors are involved in this process, as Schrtinger et al., (2002) described that some fields of science are relevant to a large number of industries, which others are not. For instance, contract research and collaborative research are expected to be important in the engineering fields, while for the other types of science have less effect.

Usually, organizations rely on universities as sources of innovation and development via inter-organizational network relationship (Ceombs et al., 2003; Powell et al., 1996). Firms, in general, should get out monetary benefits, which are very hard to define, especially in the short-run. It depends on the findings of the researches, which could differ from one science to another. For instance, if the finding is incorporated into new products or services, saving costs and time, or improving the production process, in that time the benefits appear clearly.
Yong S. L. (2000) identified reasons for building the relationship between universities and industries.

- To create student internship and job placement opportunities
- To support the projects by firms.

But the question is: how many universities' projects are funded by firms in Arab countries?

In many cases, the relationship between universities and industries remains a formal one, which is signing of agreements and memorandums of understanding, which in turn remain "Ink on paper," and does not make both parties benefit from each other. Perhaps the main objective is to polish the mental image of these parties to win the public and governments satisfaction within the concepts of social responsibility of companies and universities. This is one of the gaps that we mean in our research. The problem remains and is aggravated in the industries and universities, which cannot provide the appropriate solutions.

Relation 2: University – Researcher (Score Spot)
Despite the missions of the universities, which beautify its image in the eyes of the public internal and external, almost of time is not rosy for most academics. The relationship between the university and academic researchers is not as it appears. Universities are always seeking to empower themselves through academic researches to occupy a prestigious position among competitors.

This often imposes a heavy burden on academic researchers, who often do not have enough time to conduct research that is capable of solving the problems of industries in Arab economies. Even the research they provide is rare and of poor quality in general, relying on questionnaires that are often unreliable for many reasons. The members of the academic and teaching staff are mostly busy. Teaching, serving the community, meetings of different committees All these reduce the time allocated to research and follow-up of everything new in scientific research.

The research provided is often intended to maintain prestige, or for purposes related to the academic promotion. For all these reasons, academic research has widened the gap between universities and industries, because it has not essentially come to solve the problems of industry, except that the findings and recommendations are often not binding on companies. Thus, the gap between academics and university reflected the gap between universities and industries

The individual characteristics of researchers also seem to matter for the process of Know-How transfer. Zucher et al., 2002; D'Este and Patel, 2005; Lam, 2005 ensured that the experience of researchers plays a vital role in developing the relationships between universities and researchers.
Relation 3: Researchers – Industry (Individual Benefit Spot)

After all, it is the individual faculty member, not the university, who conducts research. Similarly, university-industry links often rely on formal social links like contracts, agreements, MOUs, conferences, but also sometimes rely on informal social links. In other words, we should know to what degree such inter-organizational relationships between academic and industrial organizations exist, and to identify the main forms in which the relationships are practiced. In fact, given the faculty member job responsibilities (Teaching, community service, and researches), the collaboration with industry essentially is a matter of personal choice.

There are reciprocity benefits for both. Yong S. L. (2000) identified many reasons for academic collaboration with industry, for instance

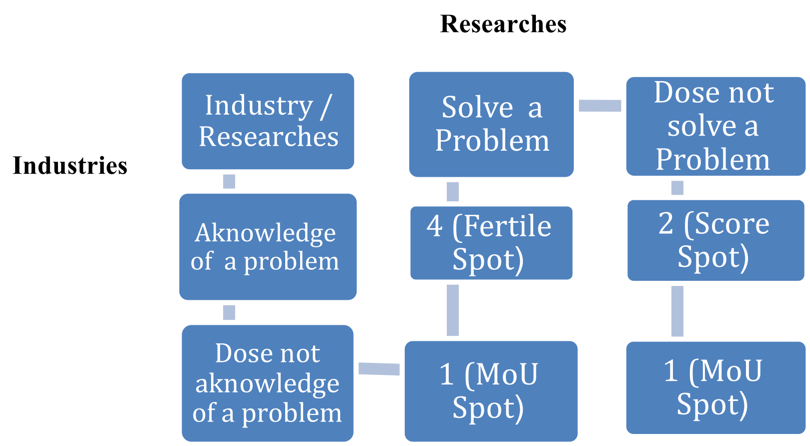
- To supplement funds for one's own academic research
- To test the practical application of one's own research
- To gain insights into the area of one's own research
- To look for a business opportunity

Also, Yong S. L. (2000) listed reasons firms seek collaboration with university faculty, like

- To solve specific technical or design problems
- To develop new products and processes and improve quality
- To lead to new products or services
- To recruit university graduates

But researchers often tend to provide consulting and research services to the industry. Not all academics have the knowledge necessary to solve industrial problems with their multiple facets, and sometimes they have the knowledge but do not have the possibility to apply it. Here we can distinguish between applied research and theoretical research, for example, managerial problems. The directors at their "Ivory Palace" think they have all the solutions**.** This also creates a gap between researchers and industries. (See figure 2).

Figure 2: Researches\Industries Matrix



Source: Kahwaji A. T., 2019

Relation 4: Fertility Spot (Benefits for All)

Through the three relations formed between the three players (see Figure 1), many factors can widen the gap between completed research and industries, especially in Arab countries. The state of the fertility spot between the three players is an ideal situation that everyone wants and can only be reached through fruitful cooperation between them. Contractual agreements and memorandums of understanding between universities and industry must involve solutions to problems in the industry.

Researchers on their part, those who have the knowledge and how should be helped by universities to use their abilities and skills to solve those problems. According to the return on investment, the three players will be in a real profit situation, industry profit will increase, the university will have led its community function, and The researcher also has achieved success and profit morally and materially. The interest will be shared not only by the three players but by the entire economy

4. Know-How Matrix

In the proposed matrix (see Table 1), which illustrates the relationship between researchers at universities and different industries in terms of know-how, there are two cells that represent the fertility spot, when the players (researchers and industrialists) possess the knowledge and how it will create the desirable benefits.

Table 1: Know-How Intensity Matrix

Researchers

	Know/ How	+ How	+ Know	- How	- Know
Industry	+ Know	+	-	-	-
	+ How	-	+	-	-
	- How	-	-	-	-
	- Know	-	-	-	-

Source: Kahwaji A. T., 2019

5. Conclusion: Agenda for the Future

It is important to note, that there are some limitations to be clarified:

- We have to differentiate between researches related to applied sciences and theoretical sciences.
- We have to differentiate between private and public industries and their contributions.
- We should know that there is a lack of resources, especially the lack of required data for the research.
- Agreements and MOU should be at the level of departments, not universities.
- The main reason for the current financial crisis in private and public universities is related to the little number of investments in projects with industries.
- Firms should help researchers to conduct researches, and help graduate by recruiting and encourage to find solutions for the industrial dilemmas.
- We should ensure the role of government in Arab countries which can contribute to the growing involvement of universities in industries.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 91-99
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.70

Sustainable Development vs. Middle-Income Trap

Bozena Leven[1]

[1] The College of New Jersey, Ewing, NJ 08807, USA. Email bleven@tcnj.edu

Abstract
The middle-income trap (MIT) describes a situation faced by countries at a relatively mature stage of development that often poses an obstacle to sustainable long-term growth. The MIT is characterized by declining factor productivity from the exhaustion of labor-intensive, import and Foreign Direct Investment (FDI) based strategies when middle-income status is achieved. In this paper we focus on the MIT and Poland. In the past two decades, Poland experienced steady growth based largely on imported technologies and low-cost labor. Recently that economic growth has slowed, prompting economists to ask whether Poland is experiencing an MIT. To answer this question, we analyze changes in investment in Poland – specifically its growth and composition – as well as savings, FDI, educational attainments of the labor force, development of new technologies and products, the role of imports, diversification of exports, and product complexity. We also examine the development of modern infrastructure, institutions (including legal environment) and demographic changes in Poland that support growth. Our findings indicate that certain factors consistent with the MIT are gaining importance in Poland and that those factors represent a challenge to Poland's future growth rate.

Keywords: Middle-Income Trap, Total Factor Productivity Growth

1. Introduction

The middle-income trap (MIT) refers to a condition faced by countries at a relatively mature stage of development that often creates obstacles to sustainable long-term growth. The MIT is typically characterized by declining factor productivity from the exhaustion of labor-intensive, import and Foreign Direct Investment (FDI) based strategies when middle-income status is achieved. In this paper we focus on conditions associated with the MIT focusing on Poland's economy. Poland's is selected for this analysis because it has experienced steady growth based largely on imported technologies and low-cost labor in the last two decades. Recently that economic growth has become more erratic, prompting economists to ask whether Poland is experiencing an MIT. To answer this question, we analyze changes several factors supporting growth: investment – specifically its growth and composition – as well as savings, FDI, educational attainments of the labor force, development of new technologies and products, the role of imports, diversification of exports, and product complexity. Aside from factors that are quantifiable, we also examine the development of modern infrastructure, institutions (including legal environment) and demographic changes in Poland that support growth. Our findings indicate that certain factors consistent with the MIT are gaining importance in Poland and that those factors might challenge to Poland's future growth rate.

2. Literature Review

The concept of the middle-income trap (MIT) is relatively new and spurred some controversy in the literature. Analyzed first at length by the World Bank in the context of selected Asian economies' slowdowns focused mainly on their limited macroeconomic conversion problems (Gill, et al. 2007). Since then, literature expanded rapidly, including new versions of definition, causes, and policies preventing its occurrence. The attempts to define MIT can be condensed into two, not necessarily mutually exclusive groups: one focusing on statistical evidence indicating slowdown in macroeconomic measures of growth and development; the other one identifying economic slowdowns connected with the lack of structural and institutional reforms necessary for a country to progress past the middle-income stage of development. Generally, the MIT is associated with a relatively sustained economic slowdown based on systemic reasons, preventing income conversion to the level of the most developed economies. The term 'trap' resembles Nelson's 1956 "low-level equilibrium trap", though it was originally applied to diverse low-income countries unable accelerate their growth (Nelson 1956). The actual income at which the trap occurs, the specific decline in growth rate, as well as time involved are not well defined in the literature (Griffith 2011). However, as disputes regarding systemic problems of middle-income countries are common, most researchers agree that if a country found itself in an MIT, its per capita income levels would be in the 'teens' of thousands of dollars (Eichengreen 2011).

The discrepancies in definitions and characteristics of the MIT are further exacerbated by structural factors and changes among the countries that are potentially threatened by the MIT. In fact, it is easier to identify countries outside of the MIT threat: at the low GDP/capital level are those that have not yet reached that level of modern development and those that passed the danger of an MIT. The first category includes slow-growing developing economies that rely on low-skill labor-intensive production, natural resources, foreign capital supplementing low domestic savings and low diversification of exports (Baumol 1967). The second group includes most developed countries, with an accumulated stock of physical and human capital, rising total factor productivity, high-skill labor and capital-intensive production, are generating their own technologies and innovation, and have income exceeding $20,000 per capita (Shahid et al. 2009).

Despite discrepancies related to the exact characteristics, the MIT seems to be a real threat for some countries (Rostow, 1990). For example, Brazil – following its strong economic performance in the 1950s through the 1970s – remains stuck at the income level attained in the early 1980s. In over two last decades, Brazil experienced slow productivity growth, limited export diversification and weak or declining institutional progress, as indicated by its Gini coefficient, governance and corruption indices (World Bank Annual Report 2015) The post 2009 slowdown in Chinese growth, accelerated in 2016-17 also fostered extensive research on whether China is likely to experience its own MIT and on factors that might contribute to it (Zhang 2017).

Table I generally summarizes selected characteristics of progression in growth. It ranges from low income at the left to the most advanced level of development at the right. Based on general characteristics cited by literature, an MIT is likely to occur between stages III and IV (Rostow 1990).

I. Reliance on subsistence agriculture, aid dependency	II. Introduction of simple manufacturing involving foreign capital	III. Complex manufacturing/continues reliance of foreign capital	IV. Quick absorption of foreign management and technology; starting to produce and develop own goods	V. Reliance on own innovation, product design; global leader in many products
1. low growth in per capita income	1. moderate growth of per capita income	1. rising growth of per capita income	1. fast structural change	1. steadily increase TFP growth
	2. moderate structural change	2. moderate structural change	2.shift of the employment share from the	2. high capital and technology content

2. agricultural employment exceeding 80% 3. government driven industrialization, wide use of subsidies 4. limited structural change	3. increase of labor outside of agriculture 4. infrastructure build up	3. increase of labor outside of agriculture 4. formation of domestic service industry (outside of traditional services)	agricultural to the industry and services 3.increased labor productivity and participation	of production and exports
Rwanda, Ghana	Vietnam	Thailand Malaysia	Korea, Taiwan	US, Japan, most of the EU

Table 1. Major Stages of Economic Growth and Development
Source Rostow, 1990

In the early stages of development, an economy can generate growth by specializing in labor-intensive and low-wage production, and importing or imitating technologies from more advanced countries. Over time, a shift from stage I to II of economic development is associated with the reallocation of capital and workforce from the agricultural sector to the more productive industry or service sectors. This shift is often supported by the inflow of foreign capital and active governments supporting industrialization. With appropriate institutional adjustments and policies, inflow of capital, rise in savings and productivity, countries tend to move to stage III. It is roughly at this stage that the MIT challenge may arise as countries try to shift from an extensive growth, relying on existing comparative advantages concentrating mostly in labor to increasing total factor productivity and developing new technology and innovation-based growth engines (Porter 2002).

The purpose of focusing on a potential MIT stems from the recognition of unique challenges faced by countries at the third stage of development and from a necessary shift in policies and sources of growth to avoid a potential MIT. Thus, while the MIT may not be clearly defined and lacks strong empirical evidence for it being a systemic problem, it is useful as a concept for guiding policy discussions.

3. Some reasons responsible for MIT

The major factor behind the MIT is the need for changing role of factors that support growth in low-income countries who have achieved middle-income status. Reliance on labor-intensive processes, imported technologies and foreign investment becomes less viable as growth pushes domestic prices and wages upward. Thus, it becomes necessary to increase productivity of labor and/or capital and to create modern economies that rely on rising total factor productivity, development of new technologies and innovation. In the following section, we explore changes in some of the factors which threaten a country's sustained growth and movement to higher stages of development (in Table I, from stage III to stages IV and V).

While searching for potential causes of an MIT and a country’s inability to move to sustainable modern development literature focuses on declining total factor productivities (Fernando 2017), other factors are often considered in the literature: slow growth and composition of investment (particularly where previous high and unsustainable investment rates are not supported by domestic savings (Hayat 2014), extensive reliance on FDI in funding domestic investment, lack of rising educational attainments of labor force (Leibfritz 2008), failure to develop domestically new technologies and products, reliance on imported capital and technology-intensive goods (Zakia 2007), insufficient R&D, lack of diversification of exports, and limited product complexity. In addition, slow development of modern infrastructure, weak institutions (including legal environment), and unfavorable demographics tend to exacerbate the growth problem (Douglass 1989).

4. Poland's case study

Poland has recently been a subject of literature focusing on sources of growth and its sustainable, (Radwan 2014). Following its transition to a market economy in the 1990s, Poland has often been viewed as a model of growth, and was the only country maintaining positive growth rates amid the global recession. However, Table II shows us that, after the recession ended, Poland's growth has fluctuated and tended to decline. The average rate of growth from 2001 to 2008 was 4.1%, but it declined to 2.9% during 2009 to 2016. Such decline alone is not alarming and must have been partially associated with the global recession, but it becomes more problematic when it coincides with existence of systemic factors that may contribute to the MIT. Although the time frame examined is too short to provide definite trends, and Poland's economic slowdown does not necessarily imply any systemic threats, we will examine changes in some economic factors associated with a potential MIT to assess its likelihood.

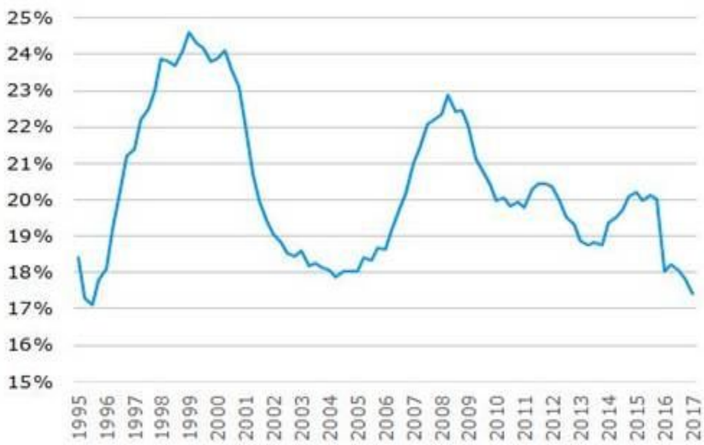
year	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
growth	1.2	1.3	3.7	5.6	3.4	5.8	6.6	4.8	1.7	3.8	4.4	2	1.3	3.3	3.7	3.1
prod/hr, $	14.4	15.7	16.5	17.8	18.1	19.1	20.3	21.4	22.7	22.5	27.5	28.8	29.9	30.4	31.2	32.0
I	90.5	82.1	83.5	87.5	94.2	108	126	138	149	154	168	164	156	166	173	175
VA	101	103	106	112	116	123	132	138	142	147	154	157	160	165	171	176
X	103	108	123	129	142	164	181	193	182	206	222	232	246	263	283	308
I/GDP	20.6	18.4	18.8	20.2	19.2	21.7	25.2	24.6	20.6	21.3	22.4	21.0	19.0	20.4	205	19.6
Ed	1.1	1.3	1.4	1.5	1.6	1.9	2.0	2.0	2.0	2.2	2.5	2.5	2.5	2.5	2.7	2.6
R&D	0.62	0.56	0.54	0.55	0.56	0.55	0.56	0.60	0.66	0.72	0.75	0.88	0.97	0.94	1.00	
Pate	22.3	21.8	16.1	20.4	27.6	29.4	41.3	38.0	40.3	36.0	51.6	48.0	60.8	64.7	62.5	66.7
L	61.5	62.2	62.9	63.4	64.0	64.2	64.4	64.5	64.5	64.4	64.2	63.9	63.4	63.0	62.4	61.9
Lprod	73.4	77.4	80.9	84.0	85.4	87.8	90.1	90.8	93.7	100	105	107	108	112	113	
FDI	5283	3991	2897	2750	2223	4027	2689	6696	3799	3181	2424			9900	12200	

Table 2. Changes in Poland's Major Indicators in the Period 1999 to 2016
Sources: own calculations based on: CIA Country Factbook, OECD Statistics and Rocznik Statystyczny GUS Wskazniki Makroekonomiczne.

Indicators are as follows: (1) growth: percentage growth rate of GDP (2) prod/hr, $: total factor productivity per hour in dollars (3) I: investment index, year 2000=100 (4) VA: value-added index, year 2000=100 (5) X: exports index, year 2000=100 (6) I/GDP: share of investment in GDP (7) Ed: number of graduates with tertiary degrees outside of arts and sciences per 1000 (8) R&D/GDP: share of Research & Development in GDP (9) Pate: Number of patents/1000 (10) L: percent of population age 18-64 (11) Lprod: GDP per hour worked index, year 2000=100 (12) FDI: total FDI in million Euros

The high and rising share of public investment results from Poland's reliance on the EU funding designated primarily for large capital-intensive projects, such as infrastructure (highways), environment-friendly transport (railways, public transport), projects related to investment in broadband internet access, and development of renewable energy sources. The EU funding is usually transferred to various levels of government responsible for infrastructure and is classified as public investment. Throughout most of 2008 to 2015, Poland was among the top three largest recipients of EU funds, reaching first place in 2013 with over $20 billion in funding for domestic investment. However, the absorption of those funds has often been problematic, threatening its future inflows and is blamed for the recent cuts in such EU funding (Szymański 2017).

Figure 1. Poland's Share of Investment in GDP



Source: own calculation based on Rocznik Statystyczny GUS Wskazniki Makroekonomiczne various years.

A The high share and reliance on public investment funded by the EU is so far the strongest concern when considering sustained growth and a possibility of Poland succumbing to an MIT. To successfully move to modern, sustainable development a country needs to facilitate private sector growth and investment. Even though construction of modern infrastructure, which is necessary to support modern growth, typically relies largely on public funding, low and declining share of private investment could be a sign of concern. However, given the relatively short time period examined and major global macroeconomic decline occurring during that time period, further analysis of trends and factors affecting private investment is needed to assess whether investment composition and its changes are likely to contribute to a systemic slowdown.

Another factor potentially contributing to an MIT is rooted in education (Jimenez, 2012). Here Poland has been making steady progress, as evidenced by the number of people with tertiary degrees outside of arts and sciences (Ed), which increased 2.6-fold in the examined period. When comparing Poland's overall share of population with tertiary degrees – which was 28% in 2015 – to other OECD countries, we see that it is on par with Germany, and exceeds those of Hungary, Portugal, Italy and the Czech Republic. This heavy investment in human capital should be definitely helpful in sustainable growth and development, consequently diminishing the threat of the MIT.

An additional factor often examined when analyzing signs of an MIT is innovation. Measuring the role of innovation in growth is typically problematic, but we can rely on two proxies: the share of Research and Development (R&D) in GDP and the number of patents granted per 1000 people (Pate). Poland's GDP share of spending on R&D has been increasing throughout the entire period, though it remains the lowest among the European OECD countries, hovering around 1% of GDP. The equivalent numbers for Germany, Hungary, Portugal, Italy and Czech Republic are 2.9, 1.4, 1.3, 1.3 and 2% of GDP, respectively.

The other proxy used to measure innovation and the modernization of economic engines of growth is the number of patents granted per 1000 people. This number increased in Poland from 22.5 to 66.7 in the 2000 to 2016 period. However, according to the World Intellectual Property Organization, Poland still ranks 20th in filings for intellectual property protection rights, behind most European countries at a similar level of development (Khan, 2016). The low number of patent applications is consistent with Poland's low spending on R&D and could be partially due to limited government funding for private innovation.

Two more factors that sometimes contribute to economic stagnation are an aging labor force and a consequent rising dependence of the elderly on the working population. In Poland, however, the share of working-age population remained over 60% throughout the examined period, peaking in 2008-2009 and declining slightly afterwards. While examining related data, we stumble upon labor participation rate, which followed an inverse trend to average population age – peaking at 57% in 1999 and falling to 53% in 2007, only to recover to 56.3% in 2016 – and does not appear to cause immediate MIT concerns (Trading Economics, 2017). Another popular measure is the dependency rate, which reveals the number of dependents, ages up to 14 and over 65, to the total population. Poland's dependency rate is 43.8% (IndexMundi, 2017), which is lower than Germany (51.62%), Czech Republic (49.52%) and Hungary (47.91%), indicating that a higher percentage of labor is working age and thereby a lesser strain on the state budget (IndexMundi 2016). Although, this short trend might be reversed because in 2015 Poland reduced the retirement age to below 65, which is below the retirement age in most EU countries. However, due to currently limited data it is hard to support a hypothesis that Poland's demographics constitute an immediate systemic threat to its economic growth.

Another major engine of economic growth is exports. To attain modern sustainable growth a country needs to switch from labor-intensive exports and or exports relying on FDI and imported technology to capital and technology-intensive products, based on domestic innovation. Between 2000 and 2016 Poland's exports both tripled and experienced a change in structure. In 2016 the following ten categories dominated Poland's exports: machinery (including computers) (13.1% of total exports), vehicles (12.2%), electrical machinery and equipment (11.5%), furniture (6%), plastics (4.7%), articles of iron or steel (3%), mineral fuels including oil (2.6%) and meat (2.2%) (Workman, 2017). In 2004 Poland's exports were also dominated by machinery and equipment (21.9%), followed by metals and semi-finished metal products (12.57%), minerals (5.73%), plastics and rubber products (5.14%), chemicals (5.06%), textiles (4.9%), food and tobacco products (3.73%), and wood and paper products (3.21%) (Exports/Imports, 2017).

These are highly aggregated categories and therefore it is difficult to determine the extent of value added generated by skilled labor or technology in those exports, which is necessary in the long run to avoid an MIT. However, some structural changes in Poland's export composition are worth noting: in 2016, the largest categories of Poland's exports included computers and vehicles, which were absent in 2004. This itself is not necessarily a sign of higher innovation content in Poland's exports; in fact, EU firms frequently rely on Poland's less expensive labor to produce their vehicles and other machinery. However, there are some indications that Poland's exports have become more advanced and contain higher value added. For example, metals and semi-finished metal products, minerals, and textiles, all of which are typical low value-added exports, were absent from 2016's top ten exports; and these low value-added exports have been replaced by a higher share of equipment and machinery, indicating an increase in Poland's sophistication of exports. Nevertheless, Poland's current exports still rely highly on foreign capital and technology, so such a shift from textiles, minerals and food products to more technology-based exports does not necessarily protect Poland from an MIT.

Further examination of Poland's FDI structure sheds only limited light onto the extent of modernization and reliance on domestic versus foreign innovation in Polish production. When comparing changes in accumulated stock of FDI in Poland between 2005 and 2015, we see that the total share of FDI in Poland's GDP increased from 24% to 40% (Ancyparowicz, 2009). Throughout the entire period manufacturing, transportation equipment, and food processing were the most attractive locations for foreign capital. By 2015 however, services – whose development is necessary to facilitate modern growth – gained a larger share in FDI, particularly through financial intermediaries (19%) and commerce (16%). Like the changing export structure, the changing FDI composition indicates that Poland has not quite moved to Table I's stage IV of development and remains dependent on foreign capital for technology while providing cheaper manufacturing opportunities.

5. Policy Implications

Based on Poland's rapid growth and development in the last two decades, the question often considered is whether current engines of growth will continuously support transformation to a modern sustainable economy. While there are some signs of a macroeconomic slowdown, it is unclear if they result from systemic causes considered in the literature as typical triggers responsible for the MIT. On the positive side, some of the factors examined indicate a lack of systemic threats commonly associated with an MIT. Most importantly, Poland's productivity, as measured by total factor productivity and GDP growth per hour, does not reveal any signs of a slowdown. Also related to modern growth are data on Poland's education, which show a rapid increase in the share of those with tertiary degrees. As for population, both the dependency ratio and data on aging support modern growth needs.

A more problematic picture emerges when analyzing investment. The high and rising share of public investment financed through EU infrastructure funds is helping to build a modern economy. Since this investment is vital to modern development, Poland needs to address frequent criticism from Brussels about its limited absorption of funds (Kersan-Škabić, 2017). Some changes that could increase absorption include changes in Poland's institutional and regulatory framework involved in the absorption process. On the legal side, simplification of public procurement rules, elimination of the need for a ministerial-level regulation for all documents, and elimination of court appeals for all bids (for example, for those under a 100,000 Euro) could help the absorption process. On the financial side, absorption could improve by simplifying the process of refund claims.

However, assuming Poland will continue improving and building modern infrastructure, it also needs to increase the share of private investment. This may require more business-friendly regulation, streamlining business registration procedures, and monitoring the impact of the recent reform of insolvency law. In addition, restrictive labor laws and irregular work relationships often hamper small and medium-size business investment and growth, undermine labor productivity, and often prevent firms from hiring new workers (OECD, 2016).

Related to factors of labor contributing to an MIT is the potential impact of the recent change in Poland's retirement age, which was lowered to 60 for women and 65 for men, reversing an increase to 67 approved in 2012 by the former government. While it is too early to find its impact statistically, this policy will definitely harm Poland's future dependency ratios and may impact growth, particularly as the number of retirees increases (most of whom rely exclusively on the state for their pensions).

Poland's current spending on R&D also raises some concerns because it indicates a limited role of government in that area. While the government is highly involved in investment, private innovation and technology hardly rely on public spending. Experiences of countries that successfully moved to a modern stage of development all demonstrate that government-funded R&D is critical to support this process, particularly in areas where high costs and risks are involved in producing technological advances.

Changes in Poland's foreign trade structure indicate a shift from manufacturing low value-added exports to more advanced products, but it appears that both exports and FDI still rely on relatively lower labor costs to produce goods based on imported technologies. This implies that a shift to a modern growth based on domestic technologies and innovation has yet to occur.

6. Conclusions

The existence of the MIT and systemic factors that contribute to it are still debated in the literature, and the mixed results obtained upon examining those factors in Poland reinforce deepen the controversy. While most factors that tend to inhibit economic growth, and shifts to modern stages of development are absent in Poland, some potential threats have been identified in the process of the analysis. The key elements include the low share and slow growth of private investment, declining absorption of the EU funds, limited spending on R&D, and an expected rise in dependency rates. If left unaddressed, those factors alone will likely hamper Poland's economic growth and development.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 100-119
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.71

On Artificial Intelligence's Razor's Edge: On the Future of Democracy and Society in the Artificial Age*

Julia M. Puaschunder[1,2,3]

[1] The New School, Department of Economics, Schwartz Center for Economic Policy Analysis, 6 East 16th Street, 11rd floor, 1129F-99, New York, New York 10003, USA, Julia.Puaschunder@newschool.edu, T 001 212 229 5700 4905, M 001 917 929 7038, F 001 212 229 5724, http://juliampuaschunder.com/
[2] Columbia University, Graduate School of Arts and Sciences, 116th Street Broadway, New York, New York 10027, USA, Julia.Puaschunder@columbia.edu, http://blogs.cuit.columbia.edu/jmp2265/
[3] Princeton University, Graduate School of Arts and Sciences, Princeton, New Jersey, USA, Julia.Puaschunder@princeton.edu

Abstract
The introduction of Artificial Intelligence (AI) in our contemporary society imposes historically unique challenges for humankind. The emerging autonomy of AI holds unique potentials of the eternal life of robots, AI and algorithms alongside unprecedented economic superiority, data storage, and computational advantages. However, the introduction of AI to society also raises ethical questions. What is the social impact of robots, algorithms, blockchain and AI entering the workforce and our daily lives on the economy and human society? Should AI become eternal or is there a virtue in switching off AI at a certain point? If so, we may have to define a 'virtue of killing' and a 'right to destroy' that may draw from legal but also philosophical sources to answer the question how to handle the abyss of killing with ethical grace and fair style. In light of robots already having gained citizenship and being attributed as quasi-human under Common Law jurisdiction, should AI and robots be granted full citizen rights – such as voting rights? Or should we simply reap the benefits of AI and consider to define a democracy with different classes having diversified access to public choice and voting – as practiced in the ancient Athenian city-state, which became the cradle of Western civilization and democratic traditions spread around the globe. Or should we legally justify AI slaves to economically reap their benefits, as was common in ancient Rome, which became the Roman Law legal foundation for Continental and some of Scandinavian Law traditions and which inspired very many different codifications around the world. Finally, we may also draw from the Code Napoléon, the French Code Civil established under Napoleon in 1804, which defined male and female into two classes of human with substantial right and power differences, and – to this day – accounts for one of the few documents that have influenced the whole world in legal and societal ways. In asking critical questions and unraveling the ethical boundary conditions of our future artificial world, the paper thereby takes a descriptive – afar from normative – theoretical angle targeted at aiding a successful introduction of AI into our contemporary workforce, democracy, and society.

Keywords: AI, Artificial Intelligence, Athenian city-state, Code Civil, Code Napoléon, Democracy, Right to destroy, Roman Law, Slavery, Society, Workforce

* Financial support of the Austrian Office of Science and Technology, Fritz Thyssen Foundation, Research Association for Interdisciplinary Studies, The New School (Dean's Office, Department of Economics, Fee Board, Social Science Fellowship, The New School for Social Research, The New School Eugene Lang College), Taylor & Francis, University of Vienna and Vernon Arts and Science is gratefully acknowledged. The author declares no conflict of interest. All omissions, errors, and misunderstandings in this piece are solely the author's.

1. Introduction

Artificial Intelligence (AI) poses historically unique challenges on humankind. The article addresses the introduction of Artificial Intelligence (AI) in our contemporary society. What is the impact of robots, algorithms, blockchain and AI entering the workforce and our daily lives on the economy and human society? As emerging globally trend, AI is extending its presence at almost all levels of human conduct having raised both expectations and concerns (Cellan-Jones, 2018; Sofge, 2015; United Nations, 2017). AI will hold the potential to replicate human existence but grant eternal being.

On innovation's razor's edge of 24/7 working robots that can live eternally and have no feelings, ethical questions arise whether robots, algorithms and AI should be granted citizenship and legally be considered as quasi-human beings — a technocratic and legal trend that has already started (Weller, 2017). As AI is currently reaching status of actual personhood – e.g., via citizenship and quasi-human rights applied in the Common Law but also Roman Law territories of the US and the EU – this legal personhood raises challenging legal and ethical questions (Browne, 2017).

The novel predicament between eternity and overpopulation hence calls for revising legal codes for killing, which would allow switching off AI at a certain point to curb overpopulation and harmful behavior. But how to argue legally the right to kill? And when to pull the plug? How do we switch quasi-human intelligence off when misbehaving or if AI life has become a burden that cannot be borne by society? How to balance robots living forever in light of overpopulation and finite resources? We may want to draw on the ethics of dying and virtues of killing as well as suicide literature to answer these novel questions. The proposed frame offers innovative insights for legal conducts but also overlapping generations relationships. The nature of algorithms and digital technology being global demands for an international response, potentially via international law supremacy principle.

Is feelingless AI vulnerable and prone to become enslaved or will the computational power and energetic capacities of robots outperform and enslave humankind? Should we have a democracy with a diversified populace of human enslaving robots? In light of robots already having gained citizenship and being attributed as quasi-human, should AI and robots be granted full citizen rights – such as voting rights? Given the humane fallibility and biases, would a rational AI agent make better democratic choices? Should AI, therefore, be used for governance as for being insusceptible for bribery and fraud, or does the installment of algorithms in leadership positions imbue dangers to humankind? How should we organize the human-led evolution of AI production and the blend of human-AI enhanced workforce? Or will algorithms in charge put humankind in danger? And what is it that makes human humane in the artificial age?

The paper proposes to investigate the economic, legal and societal impact of AI from an ethical perspective. The current legal status of robots being referred to as quasi-human will be discussed as for implications to society and democracy.

The power divide imperatives between human and AI robotics will become subject to scrutiny in light of historical examples of early forms of ancient Athenian democracy and Roman Law civilization that legally allowed for slavery but also with an eye on French Napoleonic code civil that established a supremacy of a man over his wife and children with attention to possession and property.

Humanness will be highlighted as key to future success in the age of AI and automated control. The proposed research will thereby draw from behavioral human decision making insights and evolutionary economics in order to outline what makes human humane and how human decision making is unique to set us apart from AI rationality. AI will be argued to bevalue humanness and improve the value of human-imbued unique features.

While the research is planned to be descriptive – afar from normative – and targeted to aid a successful introduction of AI into the workforce and society, the project will ask critical questions and unravel the ethical boundary conditions of our future artificial world. The findings promise to hold novel insights on future success factors for human resource management but also invaluable contributions for the successful introduction of AI and digital humanities in modern democracies and societies. Innovation's razor's edge is thereby aimed to be ennobled by ethical imperatives as old as humankind civilization.

The paper is structured as follows: First, the ontology of AI is outlined as well as an analysis of legal personhood. Then, the predicament between eternal life and overpopulation is presented. The virtues of dying and killing but also philosophical arguments for choosing suicide are discussed. The paper then embarks on the discussion of a future society with AI and draws on the socio-historic and legal examples of the Athenian city-state democracy with different access to democratic rights, the ancient Roman Empire justification of a society featuring slavery but also the Code Napoléon of 1804, which granted male and female different rights establishing a substantial and justified power hierarchy between different classes of human. The article closes with an international law prospect on regulating AI.

2. Theory

2.1 Artificial Intelligence (AI)

Artificial Intelligence (AI) is "a broad set of methods, algorithms, and technologies that make software 'smart' in a way that may seem human-like to an outside observer" (Noyes, 2016). The "human-like" intelligence of machines derives from machines being created to think like humans but at the same time to also act rationally (Laton, 2016; Russell & Norvig 1995; Themistoklis, 2018). AI is perceived as innovative technology or as the sum of different technological advances as the privilege of the private, technological sector with little — if any — public regulation (Dowell, 2018).

As the most novel trend, AI, robots and algorithms are believed to soon disrupt the economy and employment patterns. With the advancement of technologies, employment patterns will shift to a polarization between AI's rationality and humanness. Robots and social machines have already replaced people in a variety of jobs – e.g., airports smart flight check-in kiosks or self-check-outs instead of traditional cashiers. Almost all traditional professional are prospected to be infused with or influenced by AI, algorithms, and robotics. For instance, robots have already begun to serve in the medical and health care profession, law and – of course – IT, transportation, retail, logistics, and finance, to name a few. Social robotics may also serve as quasi-servants that overwhelmingly affect our relationships. Already, social robots are beginning to take care of our elderly and children, and some studies are currently underway on the effects of such care (Alemi, Meghdari & Saffari, 2017). Not only will AI and robots offer luxuries of affordability and democratization of access to services, as they will be – on the long run – commercially more affordable and readily available to serve all humanity; but also does the longevity potential of machines outperform any human ever having lived (Hayes, 2018). However, the new technology also comes with the price of overpopulation problems and the potential for misuse and violent action. Just like many other technologies, robots could be misused for wars, terrorism, violence, and oppression (Alemi et al., 2017; Puaschunder, 2018).

AI's entrance in society will revolutionize the interaction between humans and AI with amply legal, moral and social implications (Kowert, 2017; Larson, 2010). Autonomous AI entities are currently on the way to become as legal quasi-human beings, hence self-rule autonomous entities (Themistoklis, 2018). AI is in principle distinguished between weak AI, where "the computer is merely an instrument for investigating cognitive processes" and strong AI, where "[t]he processes in the computer are intellectual, self-learning processes" (Wisskirchen, Biacabe, Bormann, Muntz, Niehaus, Jiménez Soler & von Brauchitsch, 2017, 10). Weak AI is labeled as Artificial Narrow Intelligence (ANI) while strong AI is further classified into Artificial General Intelligence (AGI) and Artificial Super Intelligence (ASI).

The emergence of robotics technology is developing much quicker than previously thought. Robots are anticipated to soon be as ubiquitous as computers are today (Meghdari & Alemi, 2018). Society has long been concerned with the impact of robotics technology from nearly a century ago, when the word "*Robot*" was devised for the first time (Căpek, 1921; Meghdari & Alemi, 2018). The EU Committee on Legal Affairs (2016, p. 4) holds that

"[U]ltimately there is a possibility that within the space of a few decades AI could surpass human intellectual capacity in a manner which, if not prepared for, could pose a challenge to humanity's capacity to control its own creation and, consequently, perhaps also to its capacity to be in charge of its own destiny and to ensure the survival of the species." AI mimicking human intellect could soon surpass humans intellectually but also holistically breaking the barrier of human controlled-automization (Schuller, 2017; Themistoklis, 2018). Modern literature about robots features cautionary accounts about insufficient programming, evolving behavior, errors, and other issues that make robots unpredictable and potentially risky or dangerous (Asimov, 1942/1950, 1978, 1985; Meghdari & Alemi, 2018). "Observe, orient, decide, act" will, therefore, become essential in the eye of machine learning autonomy and AI forming a new domain of intellectual entities (Armstrong & Sotala 2012, p. 52; Copeland 2000; Galeon & Reedy, 2017; Marra & McNeil, 2013). The uncertainty surrounding AI development and self-learning capabilities give rise to the need for guarding AI and an extension of the current legal system to cope with AI (Themistoklis, 2018; Puaschunder, 2018).

With the advancement of technology, social robots have found broader applications in the private and public sectors, such as educational and cultural affairs, games and entertainment, clinical and rehabilitation, nursing of children and/or elderly, search and rescue operations (Meghdari, Alemi, Shariati & Zakipour, 2018). For example, social robots such as ASIMO, Nao, iCub, ARASH, and RASA have been developed for "Edutainment" or "education entertainment" purposes. They aid the study of cognition (both human and artificial), motion, and other areas related to the advancement of robotics serving our society (Meghdari & Alemi, 2018). In addition, a few medical and healthcare toy-like robots, such as PARO, which looks like a baby seal, or ARASH, which is a humanoid, have been designed for therapeutic purposes such as reducing distress, stimulating cognitive activity, teaching specific subjects, and improving socialization (Meghdari, Shariati, Alemi & Vossoughi, 2018). Similarly, Sharif University of Technology's socially assistive robot RASA has been developed to help coach and teach Persian Sign-Language to Iranian deaf children (Meghdari, Alemi, Zakipour & Kashanian, 2018). Personal care and companion robots are increasingly being used to care for the elderly and children, such as RI-MAN, PaPeRo, and CareBot (Meghdari & Alemi, 2018; Puaschunder, 2018).

In recent years, robotics technology has extended its applications from factories to more general-purpose practices in society – for instance, such as the use of robots in clinical and rehabilitation, nursing and elderly care, search and rescue operations (Meghdari & Alemi, 2018). Social robots have become clinical and educational assistants for social interventions, treatment, and education such as language trainings but also assistance with children with disabilities like autism, down syndrome, cancer distress, hearing impairment, etc. (Meghdari et al., 2018). Initial investigations clearly indicate that social robots can play a positive role in the improvement of children's social performance, reduction of distress during treatments, and enhancing their learning abilities (Meghdari & Alemi, 2018). Surprisingly, although not too hard to imagine, relationships of a more intimate nature have not quite been satisfied by robots yet (Meghdari et al., 2018; Veruggio, 2005).

3. AI's ethical boundaries

In today's economy, robots and algorithms now taking over human decision-making tasks and entering the workforce but also encroaching our private lives currently challenges legal systems around the globe (Themistoklis, 2018). The attribution of human legal codes to AI is one of the most groundbreaking contemporary legal and judicial innovations. Until now, legal personhood has only been attached directly or indirectly to human entities (Dowell, 2018). The detachment of legal personhood from human being now remains somewhat of a paradox causing an extent of "fuzziness" of the concept of personhood (Barrat, 2013; Solum, 1992, p. 1285). As AI gets bestowed with quasi-human rights, defining factors of human personhood will need to be adjusted (Dowell, 2018). Human concepts, such as morality, ownership, profitability, and viability will have different meaning for AI. The need for redefining AIE has therefore reached unprecedented momentum.

As a predicted trend, the co-existence of AI with the human species is believed to change the fundamental concepts of social, political and legal systems. AI has already produces legal creations and will do so even more in the near future, through its developing autonomy. In addition, the technology leading to AGI and ASI is already present, posing moral and legal dilemmas about who should control it and under what terms (Themistoklis, 2018). The emergence of AGI and ASI will necessitate the attribution of some extent and of some type of legal personhood, bearing rights and obligations. AI will not be most probably an exact replication of human intellect behavior (Themistoklis, 2018). "[U]ltimately, robots' autonomy raises the question of their nature in the light of the existing legal categories – of whether they should be regarded as natural persons, legal persons, animals or objects – or whether a new category should be created, with its own specific features and implications as regards the attribution of rights and duties" (Committee on Legal Affairs 2016, p. 5). Behavioral economists add the question whether AI and robots should be created to resemble human beings' decision making with fast thinking and fallible choices or rather be targeted at perfect rationality and slow thinking (Kahneman & Tversky, 1979). General conscious is strived for so that AI possesses consciousness, which it can evolve and enhance on the basis of its own critical reflection and assessment of external factors (Themistoklis, 2018). A lower level of autonomy exists if an entity can demonstrate such consciousness at a narrow field or can self-evolve and self-adapt to external influences, thus reaching decisions "of its own," without being conscious of its intelligence as such (Themistoklis, 2018). As AI emerges as new types of intellect capacities coupled with human-like emotional features, they are attributed a legal personhood in order to ensure to be comprehended correctly and to avoid unfair treatment, towards humans as well (Themistoklis, 2018). Artificial entities are currently gaining human or quasi-human status in the Western and Arab worlds in forming an intellectual autonomy of the entity (MacDonald, 2016). For instance, in Saudi Arabia, the first female robot got a citizenship in 2017, and the robot appears to have more rights than a human female in Saudi Arabia. With the rise of AI persons, their eternal life poses ethical challenges in light of overpopulation and evolutionary perfection, which could crowd out human fallibility if determining merit-based eternal life.

With citizenship and quasi-humanness being attributed to AI, the power relation between human and AI will need to be defined. Should AI be granted full citizenship rights, the problem of overpopulation occurs, since there is the possibility of infinite life of AI. In a human-led evolution, AI will have to be switched off for various reasons, such as malfunction but also merit-based efficiency calculus. If now AI is considered as quasi-human and granted citizenship rights, switching off AI becomes a legally problematic.

While there is currently cutting-edge writing about the potential emergence of an AI personhood as well as concern over the merge of AI with cyberspace that might lead to the breach of the relationship between legal personhood and nation-state sovereignty and a nomenclature is emerging on legal characterizations of different levels of AI development; hardly any information exists about the eternal living of AI (Beerbaum & Puaschunder, 2018; Hildebrandt, 2013). From the theoretical standpoint, the eternal longevity of AI contradicts the fundamental concept of fairness in death, as a general condition for all. From the practical standpoint, the international community is currently urged to think on the basis of global commons in terms of AI and AI eternal life potentials contributing to overpopulation. Thereby global commons theories may be tabbed on, which primarily offer guidance for a regulatory framework, which establishes control "…for the benefit of all nations" and refer to space constraints (Clancy, 1998; Puaschunder, 2018; Tsagourias, 2015).

Regarding limited space, longevity and eternal life appears problematic. Humankind may face tough decisions whether or not to have AI proceed and what kind of developments to flourish and what to extinct. In what cases should we consider to switch off AI? In 1950, Isaac Asimov introduced the idea robot to (1) not injure a human being or, through inaction, allow a human being to come to harm. (2) A robot obeying the orders given it by human beings except where such orders conflict with the first law. (3) A robot must protect its own existence as long as such protection does not conflict with the first or second law. So in the cases of overpopulation and harm emerging from AI, algorithms, and robots can be considered to be switched off. But when to stop AI?

An economic killing market mechanism may be natural market selection via price mechanisms and the falling rate of profit. Regarding prices, natural supply and demand mechanisms will always favor innovation with a higher price and following supply of goods lead to a price drop. The falling rate of profit is one of the major underlying features of business cycles, long-term booms and downturns (Brenner, 2002, 2006a, b). Capitalism is thereby described as competitive battle for innovation and reaping benefit from first-market introductions. Once followers enter the market, profit declines, leading eventually to market actors seeking novel ways to innovate in order to regain a competitive market advantage and higher rates of profit. Thereby industries and innovations fade and die off. Such a natural market evolution is also likely to occur with AI innovations, which will determine which AI traits will remain and which ones will fade off (Puaschunder, 2018). Apart from soft market mechanisms that may lead to AI evolution, what are the cases when AI should be shut down or switched off or – in the case if AI personhood – be killed?

4. Killing AI

Errors and Safety: The main and leading concern about any new and emerging technology is to be safe and error-free (Meghdari & Alemi, 2018). Therefore, sufficient and numerous tests on health and safety must be performed by developers and/or well-known independent sources before rolling out any technology onto the marketplace and society (Meghdari & Alemi, 2018). In robotics, the safety issue mainly centers around software and/or hardware designs (Meghdari & Alemi, 2018). Even a tiny software flaw or a manufacturing defect in an intelligent machine, like a smart car or a social robot, could lead to fatal results (Meghdari & Alemi, 2018). When these deviations occur and especially when they are harmful to the human community but also to other AI species, the faulty AI should be terminated. With regard to the risk of robotic malfunctions and errors, product legal responsibility laws are mostly untested in robotics (Meghdari & Alemi, 2018). A usual way to minimize the risk of damage from social robots is to program them to obey predefined regulations or follow a code-of-ethics (Meghdari & Alemi, 2018). Ethical codes for robotics are currently needed and should become formed as a natural behavioral law to then be defined and codified as law. Laws but also an ethical understanding to terminate AI, algorithms, and robots in case of impairment and harm are needed.

Morals, Ethics, and the Law: As social robots become more intelligent and autonomous and exhibit enough of the features that typically define an individual person, it may be conceivable to assign them responsibility and use them in social, educational, and therapeutic settings (Meghdari & Alemi, 2018). In the currently ongoing research on the integration of computers and robotics with biological corpse it is found that a cognizant human brain (and its physical body) apparently has *human-rights*; hence, replacing parts of the brain with artificial ones, while not harming its function, preserves those rights (Meghdari & Alemi, 2018; Warwick & Shah, 2014). Also, consider a handicapped person featuring an electronic robot arm that commits a crime. It becomes obvious that half-robot-human beings should be considered as human and robots as quasi-human beings. Meghdari & Alemi (2018) speculate that at some point in the future, we may face a situation in which more than half of the brain or body is artificial, making the organism more robotic than human, which consolidates the need of special *robot-rights* and attributing (quasi)-human rights onto robots. When considering robots as quasi-human beings, their termination appears legally questionable and ethically challenging, requiring revisiting laws as legitimation to kill a likewise species as well as ethical consensus on the virtue of killing (Puaschunder, 2018).

The legal argumentation may draw on justifiable homicide as outlined in criminal law cases – such as prevention of greater harm to innocents during an imminent threat to life or well-being in self-defense. According to the United Nations Universal Declaration of Human Rights, Article 3 states that everyone has the right to life, liberty, and security of person and most nations' policy allows for some degree of leniency for self-defense, which reduces charges. Potentially excusing conditions common to most jurisdictions include wartime, when the person's death is inflicted by the effect of a lawful arrest or prevention of lawfully detained person's escape, quelling riot or insurrection, when the use of force is „no more than absolutely necessary." Some countries deem it lawful for a citizen to resort to violence to protect valuable property and there is the "heat of the moment" defense argument, in which the defendant deemed to have lost control through provocation. Doctrine of necessity allows, for example, a surgeon to separate conjoined twins and killing the weaker twin to allow the stronger twin to survive. While fetuses are considered as unborn children in the US, the right to an abortion was upheld in the US legal system as exemption from prosecution (*Roe v. Wade*, 1973). Several countries, such as the Netherlands, Belgium, Switzerland, Japan, and the U.S. states of Oregon and Washington, allow both active and passive euthanasia by law if justified. Where the person concerned is to be arrested for an offense referred to in Schedule 1 or is to be arrested on the ground of having committed such an offense, and the person authorized under this Act to arrest or to assist in arresting him cannot arrest him or prevent him from fleeing by other means than killing him, the killing shall be deemed to be justifiable homicide. If any arrestor attempts to arrest a suspect and the suspect resists the attempt, or flees, or resists the attempt and flees, when it is clear that an attempt to arrest him or her is being made, and the suspect cannot be arrested without the use of force, the arrestor may, in order to effect the arrest, use such force as may be reasonably necessary and proportional in the circumstances to overcome resistance or to prevent the suspect from fleeing: Provided that the arrestor is justified in terms of this section in using deadly force that is intended or is likely to cause death or grievous bodily harm to a suspect, only if he or she believes on reasonable grounds (§7 Judicial Matters Second Amendment Act 122 of 1998).

In light of overpopulation and harmful behavior of AI, switching off artificial life, which is currently be granted quasi-human status, will need to be argued legally and supported ethically. Killing in terms of the death penalty is justified legally in the 5th (and the 14th) amendment that states "no person shall be deprived of life, liberty, or property without due process of law," while the eighth amendment prohibits "cruel and unusual punishment." Killing in terms of harmful behavior of AI can be grounded on similar legal reasons to ensure that no AI harms the collective. Overpopulation claims leading to the need to take AI partially off the grid more lead to philosophical sources that argue for individual's free will to choose to live or die (Critchley, 2015).

Apart from self-defense, suicide may also serve as legally justified argument for switching off AI, if artificial life is programmed to terminate itself when harmful in such way that AI causes injury to a human being or, through inaction, allow a human being to come to harm. A robot not obeying the orders given it by human beings except where such orders conflict with the first law. We could argue that AI should stay alive at whatever the cost in virtue of killing AI when turning harmful.

Suicide has been tabooed for most part of history and propagated to be a religious sin or classified as a psychological disorder (Critchley, 2015). Yet the human gift of reflection and search for meaning in life or death could leverage into an asset in the AI evolution in the decades to come. Suicide understood as neither a legal nor a moral offence but as right to death bestowed upon human beings in their self-conscious reflection may be extended as a virtue of killing in the artificial age, when human beings will have to decide what AI should stay alive and what AI be taken off the grid. Human will thereby become the rulers of the forthcoming AI evolution.

The ethical imperative of switching AI off may be found in David Humes' saying '*No man ever threw away life, while it was worth keeping*' (Critchley, 2015, p. 15f.). Hume's point is that when life has become a burden that cannot be borne, one is justified in taking it. In this argumentation line, if AI life has become a burden that cannot be borne by society, society is justified in taking AI's life. Critchley (2015) recommends reflective compassion based on empathy and introspection, but we may also need foresight and inclusion of future externalities. In the artificial age, AI may, therefore, be programmed with a constitution for suicide. Also in Seneca, we find that when a human life no longer flourishes, one being permitted to end it (Critchley, 2015). The Stoic tradition argued that suicide is a legitimate act and an honorable gesture of farewell from a state of unbearable pain, whether physical or psychical (Critchley, 2015). In this sense, AI's death may be argued to be justified when AI imposes a state of unbearable pain unto others. Religious stances that suicide is wrong because only God having moral authority over human lives and thus us being property of God could be subsumed into a condition to legitimize human having authority over AI and thus being our property, in which we can decide what developments to maintain and which ones to switch off in a human-led AI-evolution. This human-led evolution is believed to revolutionize modern society and civilization. Killing AI – or determining what AI development should survive – may, therefore, become an act of self-defense or legalized suicide.

As in a suicide note that speaks as final communication to the descendants, algorithms that are forced to be switched off should also store information on the reason that terminated them and be conserved in a blockchain that serves to educate the network about malfunction and malpractice. This piece of publicity should serve as disciplinary and signal function. In suicides with guns, people aim at the head, not the heart – while both head and heart stop function in human thereafter, in AI, we may program that the brain function, that is constant storage of information, and adaptive reprogramming and actions get switched off, but some positive parts remain intact to be reprogrammed (Critchley, 2015). Death will end the incoherence in creating a beautifully benevolent AI structure, which we may see as evolutionary cleansing of destruction coming out of AI. The death algorithm button will bestow coherence to the human-led evolution of AI. The voluntary switch to shut AI off will be the pejorative of human and dominating privilege of human over AI. There will be a beauty to death, the stillness, the rest and the finally stopped negative character of AI evolution (Puaschunder, 2018).

The virtue of killing could also be grounded on Viktor Mayer-Schönbergers "right to be forgotten," which ensures data privacy through automated deletion of contents after a certain period and grants individuals rights to have their data been destroyed (Puaschunder, 2018; forthcoming). In this line, we may argue a "right to destroy" and program AI to stop itself should it incur hurt, damages and losses to humankind. However, the implementation of this right is still in infancy and hindered by questions of what court is responsible for an as such claim. As a legal subsumption, we may speculate that individuals may be granted a 'right to terminate' and can order for robots to be switched off if causing harm to them. As the 'right to be forgotten' law can be overruled by concern for public safety, this may also apply to the right to terminate. Thereby it deserves mentioning that safety differs around the world and also expected safety standards (Puaschunder, 2018). All these developments are prospected to lead to an AI-evolution, in which human are meant to select the process what AI should survive or be killed. Key decision maker thereby divert favorable traits and developments from unfavorable. But who should determine what should survive, human or AI? A question that can be answered by sorting out the legal power relation between AI and human.

5. AI human democracy and society

With AI entering human society and being considered as quasi-human and granted citizenship, the ethical question arises, what kind of citizen AI are? Should AI be considered as full citizens, we run into the problem of overpopulation as discussed. In addition, AI dominance of physical and computational power creates risks of AI outperforming and eventually dominating human. With this scenario in mind, a legal power hierarchy should be established that grants a predominance of human over AI that allows human to benefit from AI but also ensures that dignity in the treatment of AI is upheld for the sake of breeding a generally favorable and amicable climate in society.

5.1 Human predominance over AI

When considering the enormous physical and longevity advantages AI hold over human, a natural dominance of AI over humankind is implied. In order to ensure that human lead AI and are not subordinated, a society should be established, in which robots gain quasi-human rights but may not have the same powers and rights as human beings. In the earliest form of democracy in the ancient Athenian city-state, different classes of citizenship existed.

The first known democracy developed around the fifth century BC in the Greek city-state of Athens, which featured the first government by its people, in which the supreme power was vested in the people and exercised directly by them or by their elected agents under a free electoral system. The ancient Athenian democracy became an important source for 18th-century revolutionaries' intellectual background during the American, French and other continental European revolutions. State constitutions around the globe and over time, political speeches and writings about nation states and society reflect the core principles conveyed in the ancient Athenian city-state democratic model, which become a model for shaping civilization throughout the world. To this day, a democracy accounts for the most advanced political order in an egalitarian society (Vlassopoulos, 2009).

In 507 BC, the Athenian leader Cleisthenes introduced a system of political reforms called *demokratia* or rule by the people to ensure security, stability, and prosperity to the entire community. Key features of democracy are equality, accountability, citizen participation, rule of law, political tolerance, transparency, economic freedom, and a multi-party political system. In the ancient Athenian democracy model, not every citizen had the right to vote, run for office and participate in political discussions. Yet to all, the democracy was meant to protect and uphold dignity of all people. Therefore, the Athenian democracy bestowed a favorable climate in society without political equality of all citizens.

As a direct democracy, citizens voted directly on legislation and executive bills. However, participation in democracy was not open to all residents but limited to adult, male citizens excluding women, foreign residents, and slaves. In ancient Athens, only male Athenian citizens who had completed their military training had the right to vote, and only about 10 to 20% of inhabitants actually participated in governmental decision making. Women had limited rights and privileges, restricted movement in public and were legally segregated from men. Also excluded from voting were citizens whose rights were under suspension – foremost for failure to pay debt to the city. Only descendants from two Athenian parents could claim Athenian citizenship. Citizenship could also be granted by the assembly and sometimes given to large population groups as a reward for service to the state. As slavery was widespread in Athens and seemed to have developed the city-state, the ancient Athenian democracy is attributed to economically be based on slavery, which allowed the general public to devote privileged amounts of time to political life.

The Athenian form of direct democracy does not only serve as an example of not all citizens being allowed to vote being a feasible governmental structure but also – as for its direct character – as a forerunner of electronic democracy. A future world with AI blended into society could structure the human – AI relation based on the ancient Athenian city-state societal composition, in which different classes of citizenship lived together in harmony. As in the ancient Athenian democracy model, not every citizen should have the right to vote, run for office and participate in political discussions. AI could become citizen, yet not be allowed to vote, run for office and participate in political discussions. Yet to all, AI and human, democracy, and citizenship is meant to protect and uphold dignity of all people and AI.

In order to create a more inclusive democracy than the ancient Athenian direct electronic democracy may be introduced, in which voters vote on a political agenda featuring different spectra of choices (e.g., libertarian versus state-controlled, pro-against immigration…) and the mean of their choices then gets processed by algorithmic choice of programs to be enacted by politicians. Algorithms could thereby compute the standard choice of politicians representing different agenda based on historical information and aid to inform politicians about the outcomes of several choices in the past. AI and algorithms hold the computational power and data calculus capacity to do so. This would ensure closer accuracy of political will resembling collective choice and enable to reap AI benefits for political choice while ensuring human to stay in charge but enhanced by artificial benefits. This integration of AI in form of an advisory role to governments could enable AI access to democracy as a compromise without AI having direct voting rights.

5.2 Human reaping benefits of AI

AI entering the workforce and holding enormous physical and longevity advantages over human, implies the economic gains to be reapable. Standard economic growth models hold that capital and labor are essential for an economy to flourish. While capital is usually considered as fungible and exchangeable and eternal; labor is more individual, human and inflexible. AI entering the workforce and blending in as a substitute to human capital will change the nature of labor, potentially dividing labor into a putty, flexible, eternal and exchangeable AI part and a clay labor of inflexible human capital (Puaschunder, work in progress). In order to ensure that human can legally benefit from the economic output and growth generated by AI, a society should be established, in which robots gain quasi-human rights but may not have the same material needs and rights as human beings. In the earliest form of society in the ancient Roman Empire, a society existed that featured a high culture and human protection but legal slavery.

Slavery in ancient Rome played an important role in society and the economy. Slaves provided manual labor and agriculture, working on farms, mines, and mills, household domestic services, urban crafts and services but also skilled, educated professions, such as accountants and physicians as well as imperial and public services. Slaves were considered property under Roman Law and had no legal personhood. Unlike Roman citizens, they could be subject to corporal punishment, sexual exploitation, torture, and summary execution. Over time in history, slaves gained increased legal protection, including the right to file complaints against their masters.

Legal foundations of slavery can already be found as early as in the Twelve Tables, Rome's oldest legal code. Around the 2nd century, Ulpian defined slavery as an aspect of the *ius gentium*, a customary international law held in common among all people. Slavery was held to be a practice common to all nations, who might then have specific civil laws pertaining to slaves. In ancient warfare, the victor had the right under the *ius gentium* to enslave a defeated population. The *ius gentium* was not a legal code but reasoned compliance with standards of international conduct (Bederman, 2004). During the Roman imperial expansion, substantial growth of slavery transformed the economy (Hopkins, 1983). Delos in the eastern Mediterranean was made a free port in 166 BC and become one of the main market venues for slaves. Augustus imposed taxes on slave trade, which was increased over time with the rising number of slaves, which comprised of up to 35-40% of Italy's population (Harris, 2000). The price of slaves was determined by origin, health, character, intelligence, and education. The living conditions of urban slaves was inferior to free persons living with them but sometimes superior to that of many free urban poor in Rome. Household slaves likely enjoyed the highest standard of living among Roman slaves, next to publicly owned slaves, who were not subject to the whims of a single master (Johnston, 1957). Imperial slaves were those attached to the emperor's household (The Oxford Encyclopedia of Ancient Greece and Rome, 2010). Sophisticated slaves that were used for economic trade were permitted to earn money for their personal use (Berger, 1991). Slaves could also be freed by a magistrate's declaration with the prior authorization of the Senate or the Emperor.

Slaves were seen as excluded from the persona, the synonym for the true nature of the individual, and considered to not have a personality. A slave would not own his or her body, had no ancestors, no name, no cognomen and no goods of his or her own (Mauss, 1979). The testimony of a slave could not be accepted in a court of law unless the slave was tortured. Rome differed from Greek city-states slaves in allowing freed slaves to become citizens. After *manumission*, a male slave who had belonged to a Roman citizen and now acquired *libertas* as a *libertus/a* (freed person) enjoyed active political freedom including the right to vote. The former master become a patron. Freed slaves become the class of *libertini*, who were not entitled to hold public office or state priesthoods, nor could they achieve senatorial rank. Any future children of a freedman would be born free, with full citizenship rights. Roman slaves could hold and use property, which belonged to their masters as if it were their own (Gamauf, 2009). Skilled or educated slaves were allowed to earn their own money in hope to buy their own freedom (Kehoe, 2011). Slaves that were abandoned by masters were also free. Legal protection of slaves grew over time and history due to egalitarian views of humanity of the Stoics. A master who killed a slave without just cause could be tried for homicide, and it became common for slaves to complain against cruel and unfair treatment of owners (Dillon & Garland, 2005). Rebellions and runaways of escaped slaves were published and those returning fugitives rewarded. Fugitives were branded on the forehead or had to wear a metal collar around the neck with the contact of the master. Slave rebellions surrected several times, and most noticeable are the First, Second and Third Servile War. On the countryside, the Roman Empire also featured practiced serfdom. The Stoics and early Christians opposed ill-treatment of slaves.

In order to ensure that human can legally benefit from the economic output and growth generated by AI, robots should be granted quasi-human rights but may not have the same material needs and rights as human beings. Slavery thereby allows to reap the benefits AI. AI's newly assigned roles appear to overlap with slave tasks of ancient Rome slaves that provided manual labor and agriculture, working on farms, mines and mills, household domestic services, urban crafts, and services as well as skilled, educated professions, such as accountants and physicians as well as imperial and public services. Like in ancient Rome, AI should be considered as property with no legal personhood. However, unlike ancient Roman slaves, they should not be subject to corporal punishment, sexual exploitation, torture, and summary execution. Over time in history, AI – as the ancient Roman Law example of slaves – may gain more sophisticated legal protection, including the right to file complaints against misuse.

As for the international character of AI and algorithms, their fungibility and fluid capital character; broad legal foundations of AI and the overarching regulatory framework how to classify reaping benefits from AI should be codified in customary international law held in common among all people. This would resemble the ancient tradition of Roman slavery being codified under *ius gentium* – an ancient predecessor of international law – and allow AI to remain fully fungible and practiced common in all nations, who might then have specific civil laws pertaining nuances of AI conduct in society.

As practiced during slavery in the Roman Empire and proposed by Bill Gates, reaping benefits from AI should be taxed based on the revenue generated by AI and/or the price of AI determined by sophistication. Defining AI as slaves would ensure to uphold decent standards of living for these creatures, while human naturally stay in charge of the evolution and introduction of AI into human society. As debated in the ancient Roman society, sophisticated AI that is used for economic trade may also be permitted to earn money for their personal use; but should never be freed and gain the same rights as human as there is something unique and special to humanness, which will be discussed in more detail in the discussion section of this paper. The uniqueness of human naturally leads to the natural exclusion of AI from the *persona*, the synonym for the true nature of the individual, and considered to not have a personality. As a Roman Law slave, AI should not own his or her body, have no awareness of its ancestors, and no goods or material cravings of his or her own. The testimony of AI should not be accepted in a court of law unless AI reports misuse that can be harmful to humankind. Differing from Roman Law slavery, AI should never be freed, and human should always stay masters of their own creation. AI should not be entitled to hold public office or religious leadership and remain without rights to hold and use property on their own. AI and robots should not be allowed to earn their own money, and even if being abandoned by masters, they should never be considered as free.

In order to protect humankind against rebellions of robots and AI, fugitives or deviant developens should be published, stopped according to the right to destroy and those aiding to inform about deviant developments rewarded. While fugitives in the ancient Roman Empire were branded on the forehead or had to wear a metal collar around the neck with the contact of the master; stopped AI or robots should be integrated into a blockchain as a trace of information on unwanted AI and robot behavior but also as a disciplinary function against other AI uprising and rebellious tendencies.

As in the case of the Greek and the Roman Law slaves, legal protection of AI may grow over time and history due to egalitarian views of humanity. For instance, destruction of AI without just cause could be tried for homicide and complaints of robots against cruel and unfair treatment of owners be supported in front of courts. In order to oppose ill-treatment of slaves immediately, dignity may be upheld in applying a legal code with two different classes of society. As such, the Code Napoléon as the first civil code may serve as guiding example.

5.3 Dignity upheld in the treatment of AI

If AI gets legally and economically subordinated to human, ethical questions arise. According to Kant's categorical imperative, which states one should only engage in actions, one wants to be done to oneself, and AI should be protected against harm and misuse or abuse. The concern here is less so the emotional and psychological state of AI, which arguably may not exists given missing self-cognition and emotions in AI, but more to set a signal and not to allow triggering sadist and negative compulsion in human that could be taken out on other human as well, if human become conditioned and learn from mistreating AI on a daily basis.

A legal code that may serve as reference hereby may be the Code Napoléon of 1804, a Civil Law code that defines and classifies male and female as human beings but legally bestows upon them substantial power differences, especially regarding material possession and democratic participation.

The Napoleonic Code (Code Napoléon, Code civil de Français) is the French civil code established under Napoléon I in 1804. As the first clearly written and accessible compilation of modern law, the Code Napoléon has become one of the most influential legal documents in history that influenced the law of many countries around the world (Mohamed, 2016). The Napoleonic Code became the most influential legal civil law code around the world that was adopted as the basis of private law systems of Arab world, Austria,ss Belgium, Canada, Chile, the Commonwealth, Egypt, Germany, Italy, Ireland, Latin America, the Netherlands, Portugal, Poland, Puerto Rico, Romania, Russia, Scandinavian countries, Scotland, Spain, Switzerland, United Kingdom, United States Louisiana to name a few.

With regard to family, the Code established the supremacy of the man over the wife and children, which was the general legal situation in Europe at the time (Smith, 2006). A woman was given even fewer rights than a minor.

In the attempt to protect AI against suffering, harm, and misuse or abuse, the Code Napoléon may be applied and define AI and human as quasi-human and grant citizenship to both forms but different power regarding material possession, democratic participation, and public leadership. A natural supremacy of human over AI and robots could be established. As the role of woman and minor even differed, a power hierarchy could even be codified between sophisticated and less-sophisticated AI and robots.

6. The value of humanness in the artificial age

Globalization led to an intricate set of interactive relationships between individuals, organizations, and states. Unprecedented global interaction possibilities have made communication more complex than ever before in history as the whole has different properties than the sum of its increasing diversified parts. Electronic outsourcing in the age of artificial intelligence is likely to increase and with this trend a possible nudgital divide in the 21st century. In the light of growing tendencies of globalization, the demand for an in-depth understanding of how information will be shared around the globe and artificial intelligence hubs may evolve in economically more developed parts of the world has gained unprecedented momentum. Another predictable trend in the wake of the artificial intelligence revolution will feature time. Artificial intelligence with eternal life and 24/7 productivity capacities will change tact.

Finally, we may address the question what is it that makes human humane? In the age of artificial intelligence and automated control, humanness is key to future success. Future research may draw from behavioral human decision making insights and evolutionary economics in order to outline what makes human humane and how human decision making is unique to set us apart from artificial intelligence rationality.

Drawing from proposed research will thereby draw from behavioral human decision making insights and evolutionary economics in order to outline what makes human humane and how human decision making is unique to set us apart from AI rationality; AI is argued to bevalue humanness and improve the value of human-imbued unique features.

Humanness as found in heuristics, decision-making errors but also procreation and creativity is believed to become more valuable in a future of AI entering the workforce and our daily lives.

The findings promise to hold novel insights for future success factors for human resource management but also invaluable contributions for artificial intelligence ethics. Having parts of the world being AI-driven and others being human capital grounded is prospected to increase the international development divide in the years to come. While in the AI-hubs human will be incentivized become more creative and humane while AI performs all rational tasks to a maximum productivity, other parts of the world will naturally fall back as for being stuck in spending human capital time on machine-outsourceable tasks and not honing humane skills, which are not replicable by machines.

Future research endeavors may address inequality drawing on the future vision that central rational AI-hubs will outperform underdeveloped remote areas of the world even more in the digital age.

7. Discussion

Overall the ongoing research project plays an important role in the evaluation of AI's entrance into the workforce and our daily lives. Depicting nudging during this unprecedented time of economic change and regulatory reform holds invaluable historic opportunities for capturing AI's influence on the stability of economic markets and societal systems. Global governance policymakers can snapshot AI's potential in the digital age and bestow market actors with future-oriented foresighted. The results are aimed at guiding a successful AI and robot implementation to lower systemic economic market downfalls with attention to the changes implied in the wake of the ongoing artificial intelligence revolution. Market and societal policy recommendations for global governance experts on how to strengthen society by AI but also overcome unknown emergent risks within globalized markets and bestow market actors with key qualifications in a digitalized world are endeavored in future research.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 120-126
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.72

The Effect of Good Corporate Governance on Tax Avoidance of Listed Companies in Indonesian Stock Exchange in 2015-2017

Retnaningtyas Widuri[1], Winnie Wijaya[2], Jessica Effendi[3], Elvina Cikita[4]

[1] Tax Accounting, Petra Christian University, Indonesia. Email: Widuri@peter.petra.ac.id
[2] Tax Accounting, Petra Christian University, Indonesia. Email: m32415206@john.petra.ac.id
[3] Tax Accounting, Petra Christian University, Indonesia. Email: m32415132@john.petra.ac.id
[4] Tax Accounting, Petra Christian University, Indonesia. Email: m32415104@john.petra.ac.id

Abstract
The purpose of this research was to find out the effect of mechanism good corporate governance on tax avoidance. The mechanism of good corporate governance was proxied in executive compensation, executive character, company size, institutional ownership, the proportion of board of commissioners, audit committee and audit quality. The sample in this study were 238 companies listed on the Indonesia Stock Exchange and obtained 714 research data. In this study, tax avoidance was measured by using the current effective tax rate (CETR). The results of this study concluded that executive compensation, executive character, institutional ownership, audit committee, and audit quality had an effect on tax avoidance. In addition, the size of the company and independent board of commissioners didn't affect on tax avoidance.

Keywords: Good Corporate Governance, Tax Avoidance, CETR

1. Introduction

Indonesia is a developing country that is advancing the country's growth and development to improve people's welfare. The biggest income source for Indonesia is tax. Tax is a mandatory contribution to the state owed by an individual or a coercive institution under the Law, by not getting direct feedback and used for state needs and society prosperity (Law Number 28 in 2007). This understanding provides an understanding that tax has a forceful nature so that it can provide a burden to the guarantor. One of the main obstacles in tax revenue is tax avoidance. Tax avoidance is an activity or action that can have an impact on taxpayers, both activities that can be allowed by taxes or certain activities to be able to reduce taxes (Dyren, 2008). In addition, tax avoidance is also a legal strategy or technique and safe for taxpayers because it does not conflict with the provisions of tax law (Pohan, 2015).

The company wants a large profit by minimizing the expenses incurred, especially tax expense. Companies assume that paid taxes are one of big enough burden for companies, so companies must take action in the form of a strategy or effort to minimize tax payments. One way to reduce the tax is by implementing tax avoidance. Therefore, in some accounting literature are stated that tax avoidance cannot be eliminated from the business world, but it can be minimized or monitored in order that companies do not carry out tax avoidance. To minimize tax avoidance it needs the existence of good corporate governance.

Winarsihet al (2014) defines that good corporate governance as a structure, system, and process used by corporate organs as an effort to provide sustainable value added for the company in the long term by watching out the interests of norms that based on other stakeholder, ethics, culture, and rules. The role of corporate governance as a management mechanism in paying taxes, so companies that implement corporate governance are expected to have good corporate performance. By implementing corporate governance, corporate can also reduce the existence of different interests between shareholders and company managers which is called with agency theory.

Therefore, based on the explanation above, research on the effect of good corporate governance on tax avoidance, especially in Indonesia, needs to be studied further and deeply. This study used the variable of executive compensation, executive characteristics, company size, institutional ownership, the proportion of independent commissioners, audit committees and audit quality. In addition, this study also used a population of companies listed on the Indonesia Stock Exchange in period 2015-2017.

2. Hypothesis

1. Effects of Executive Compensation on Tax Avoidance

Company owners provide high compensation with the aim that management is motivated in increasing productivity to achieve a high level of performance. In addition, giving compensation is also one of the ways which are implemented by the owner of the company to overcome agency conflicts that often occur within the company caused by information asymmetry. Prihatiningtyas (2012), revealed that the interests of company owners and management could be harmonized by providing compensation to one or more measures of performance achievement in the company.
H_1: Executive compensation affects tax avoidance

2. Effect of Executive Character on Tax Avoidance

Companies, where want to implement tax avoidance, must require a decision from the heads of companies. In making decisions leaders have different characters. The leadership character can be divided into a risk taker and risk-averse. Leaders who have risk taker nature will make cash ETR getting lower, thus spurring companies to carry out tax avoidance. Budiman and Setiyono's (2012) research proved that a risk taker executive would have higher tax avoidance as indicated by a declining CETR. Large risk level indicated that the leaders of companies who have risk taker nature would be more willing to take risks. Conversely, if the level of risk is small, it will indicate that the leader is more risk-averse nature, which is more likely to avoid risk. Based on the explanation above, a hypothesis could be drawn:
H_2: Executive characters have an influence on tax avoidance

3. Effect of Company Size on Tax Avoidance

Basically, large companies tend to have greater profits than smaller companies. Large profits will also have a large tax burden. Therefore, large companies are trying more to minimize the tax costs paid every year. Large companies will have more transaction complexes so that companies will increasingly take advantage of loopholes to carry out tax avoidance actions (Rego, 2003). Then the hypothesis can be concluded as follows:
H_3: Company size affects tax avoidance

4. Effects of Institutional Ownership on Tax Avoidance

Institutional ownership has functioned as a management policy supervisor so that institutional ownership plays a role in monitoring the policies taken by managers in making such decisions. That decision will give effectiveness to the company. Companies that have high institutional ownership will be more aggressive in tax reporting. The higher institutional ownership, the implementation of corporate governance will be more effective, and the system in tax avoidance will be carried out according to planning (Fadhilah, 2014). Based on the explanation above, a hypothesis can be concluded as follows:
H_4: Institutional ownership has an influence on tax avoidance

5. Effect of Independent Commissioner Proportion on Tax Avoidance

Raharjo and Daljono (2014) explained that the proportion of large independent commissioners in the structure of the board of commissioners will provide better supervision and can limit opportunities for fraud by management. Hanum and Zulaikha (2013) in their study stated that there was a positive relationship between independent commissioners and Effective Tax Rates (ETR) by showing that the supervision carried out by independent

commissioners was carried out, so that information asymmetry didn't occur between company management and stakeholders. If the percentage of independent commissioners was above 30% then this was an indicator that the implementation of corporate governance (CG) had been going well so that it could control and control the desire of the company management to make tax savings, and reduce agency costs so that the practice of tax avoidance decreases (Annisa and Kurniasih, 2012). In Prakosa's (2014) study, which said that independent commissioners could have a negative influence because if independent commissioners experienced an increase, tax avoidance activities would decline so that an increase in the proportion of independent commissioners could prevent the occurrence of tax avoidance activities. Based on the explanation above, a hypothesis can be concluded as follows:
H_5: Proportion of independent commissioners has an influence on tax avoidance

6. Effect of the Audit Committee on Tax Avoidance

The audit committee is a committee that is responsible for overseeing the company's external audit and is the main contact between the auditor and the company. The audit committee is an important component that must exist in the structure of corporate governance in public companies. Therefore, Indonesia Stock Exchange obliges every issuer to form and have an audit committee known by independent commissioners. Fadhilah (2014) found that audit committees influenced on tax avoidance. The reason that the audit committee had an effect on tax avoidance was first, if the audit committee owned by the company was a little, it would increase the opportunity for management to carry out tax avoidance. Likewise, if the number of audit committees was large, then, of course, the supervision carried out was getting tougher, so management did not have the opportunity to take tax avoidance measures. Therefore the proper hypothesis based on the explanation is:
H_6: Audit committee has effects on tax avoidance

7. Effect of Audit Quality on Tax Avoidance

An audit is the activity of collecting and examining information in the form of financial statements that can be used to prove whether the information is in accordance with the set criteria or not so that later there will be no errors in auditing. Audits are usually carried out by public accountants to assess how fair financial statements are made by companies with accounting principles. Public companies increasingly demand every company for transparency, because transparency is the disclosure of financial statements as they are without any manipulation of information. Good audit quality can minimize the practice of tax avoidance (Dewi dan Jati, 2014).
The audited companies by KAP were proven not to do tax avoidance, because auditors included in the Big Four were more competent and professional compared to auditors included in Non The Big Four, so the Big Four had more knowledge about how to detect and manipulate financial reports what might be done by the company (Asfiyati, 2012). Based on the explanation above, a hypothesis can be concluded as follows:
H_7: Audit quality has an effect on tax avoidance

2. Method

2.1 Identify Subsections

This study used a quantitative approach using a ratio scale. Quantitative data was a type of data that could be measured directly as a variable number or number to produce a conclusion. This type of research used secondary data obtained from the Indonesia Stock Exchange (IDX), through *website* www.idx.co.id. The source of the data obtained was the financial statements of listed companies in Indonesia Stock Exchange. In addition to getting more accurate and complete data, data was also taken from www.sahamok.com.

2.2 Participant (Subject) Characteristics

The population used in this study were listed companies on Indonesia Stock Exchange (IDX) for period 2015-2017. The main reason for using companies that were listed on the Stock Exchange in addition to accurate data but also to determine the level of tax avoidance in these companies.

2.3 Sampling Procedures

Sampling in this study used judgment sampling method, namely by obtaining a representative sample based on certain criteria. The criteria considered in the selection of samples in this study were as follows:

a. All companies that had been listed on Indonesia Stock Exchange (IDX) in 2015-2017

b. These companies published financial statements in full from the year 2015-2017
c. The company had needed data in this study, namely, compensation costs (salary, allowances, and bonuses), a total of assets, the proportion of shares held by the institution, number of shares issued, number of board of commissioners, and KAP / company that audits the company's information.
d. The company had an audit committee and independent commissioner in 2015-2017.
e. The company in its financial statements used Rupiah.
f. The company had profits before and after positive tax in 2015-2017.
g. The company had a current ETR above 0

2.3.1 *Sample Size, Power, and Precision*
Determination of population came from listed companies on all sectors on Indonesia Stock Exchange. This study used purposive sampling. Listed companies on Indonesia Stock Exchange in 2015-2017 amounted to 238 companies which were used as research data properly and obtained 714 research data.

Table 2.3 Sample Determination Results

Sample Criteria	**Total**	**Unit**
All listed companies on the Indonesia Stock Exchange in 2015-2017	527	Company
Newly registered company over the year 2015	(79)	Company
Companies that didn't have complete variables for research	(134)	Company
Companies that had profit after tax and as well as for experiencing loss before tax	(86)	Company
The amount of used data as the object of research	(238/ 714)	Company / Data

Source: Research Data

2.3.2 *Measures and Covariates*
The method of data collection in this study was the documentation method. Data collection began with the level of conducting library studies. Next, collecting all the needed data to answer the research problems.

2.3.3 *Research Design*
This study used data analysis performed with classic assumption test, multiple determination coefficient analysis, simple regression analysis, multiple linear regression analysis, and hypothesis testing.

2.3.4 *Experimental Manipulations or Interventions*
The analysis model used in this study uses a research model that is in the study of Vivian and Winnie (2016). This analysis model used independent corporate governance variables with seven measurement tools and dependent variable tax avoidance
The analysis model formulation was as follows:

$$ETR = b_0 + b_1KOMP + b_2RES + b_3SIZE + b_4INST + b_5INDP + b_6KOM + b_7KA + \varepsilon$$

Where :

- ETR = *Current* ETR
- b_0 = Constant
- $b_{1,2,3,4}$ = Koefisien
- KOMP = Executive Compensation (X_1)
- RES = Risk (X_2)
- SIZE = Size (X_3)
- INST = Institutional Ownership (X_4)
- INDP = Proportion of Independent Board of Commissioners (X_5)
- KOM = Audit Committee (X_6)
- KA = Audit Quality (X_7)
- ε = Residual *error domain analysis* and *taxonomy analysis*

3. Results

Simultaneous tests were used to determine the compatibility of linear regression models between the dependent variables namely tax avoidance, executive variable independent compensation, executive character, company size, institutional ownership, independent board of commissioners, audit committee and audit quality. The results of the F test were as follows:

Table 1. Table of F Test

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8,180	7	1,169	3,538	,001[b]
	Residual	233,228	706	,330		
	Total	241,408	713			

Source: Authorized Results Based on SPSS Output

Authorized Results Based on SPS Output The used regression model showed a significance value of F test was smaller than 5% ($P < 0.05$). The regression model was declared feasible to be used to test the hypothesis because it had a significance of less than 0.05. When a regression model was feasible to use, determination coefficient value (R2) could be believed.

The significance of the effect in the results of research in a test could be determined by looking at the significance of T test, if T test was smaller or equal to 0.05, it could be concluded that the independent variables and control variables partially tested had a significant effect on tax avoidance. The results of the significance of the T test were greater than 0.05, and the independent variables partially didn't significantly influence tax avoidance.

Table 2. Table of the significance of T Test

Model		t	Sig.	Explanation
1	(Constant)	-1,441	,150	Constanta
	KEKS_X1	-1,980	,048	Effect
	KREKS_X2	2,008	,045	Effect
	UK_X3	,998	,318	Not Effect
	KPINS_X4	2,088	,037	Effect
	DKI_X5	-,098	,922	Not Effect
	KAD_X6	-1,970	,049	Effect
	KLAD_X7	-2,055	,040	Effect

Source: Authorized Results Based on SPSS Output

Executive compensation on the results of the T test showed a significance level less than 0.05, and this proved that executive compensation affected tax avoidance so that H1 was accepted. So it could be said that by giving large compensation to management would minimize management for doing tax avoidance.

The executive character of the T test results showed a significance level less than 0.05, and this proved true if the increase of executive character would increase tax avoidance. In accordance with the results obtained, H2 was accepted. Based on the results of data that had been processed, the more an executive dares to take risks in making decisions so that leaders would tend to do tax avoidance, The size of the company on the results of the T test showed a significance level of more than 0.05, and this proved true if the increase of company size didn't affect tax avoidance. In accordance with the results of the tested data, H3 was rejected. The size of large and small companies didn't affect tax avoidance. Large companies would maintain their reputation and reputation by providing relevant information, having effective risk management and having a strong internal control system and conducting social activities to get a good name for the company. While small companies couldn't manage the tax burden maximally because experts in the field of taxation tend to be minimal.

Institutional ownership of the results of the T test showed a significance level less than 0.05, and this indicated true if increasing institutional ownership will increase tax avoidance. Based on the results tested, H4 was accepted. Because the bigger the shares owned by an institution it would encourage increased supervision more optimally so that it could avoid actions that could harm shareholders or other actions such as tax avoidance.

The proportion of the board of commissioners on the results of the T test showed a significance level more than 0.05, indicating that H5 was rejected. This was because if the percentage of independent commissioners was above 30%, this was an indicator that the implementation of corporate governance (CG) had been running well so that it could control and controlled the desire of the company management to make tax savings, and reduce agency costs. (Annisa and Kurniasih, 2012). Prakorsa Research (2014) which said that independent commissioners could have a negative effect because if independent commissioners experience an increase, tax avoidance activities will decline so that an increase in the proportion of independent commissioners could prevent tax avoidance activities. Therefore, the proportion or absence of an independent board of commissioners didn't affect tax avoidance.

The audit committee on the results of the T test shows a significance level less than 0.05, and according to H6 was accepted. If the number of members of the audit committee in a company was small, the company would increase the opportunity for management to carry out tax avoidance. In contrast, if the company had a large number of committee members, the supervision carried out on management was increasingly stringent and reduced tax avoidance. It could be concluded that the audit committee affected tax avoidance in the company.

The quality of the audit on the results of the T test showed a significance level of less than 0.05, and H7 received. Companies whose financial reports were audited by the Big Four KAP would be more independent because they could withstand the pressure of managers and had a lower fraud rate compared to companies whose financial reports were audited by Non The Big Four Public Accountants.

4. Conclusions

The main objective of this study examined the effect of good corporate governance on tax avoidance by using seven indicators. Good corporate governance should provide supervision of the company not to do tax avoidance. But according to the results of this study that there were two variables that had no effect on tax avoidance. These variables included company size and the proportion of independent commissioners.

In general of the study, it was concluded that executive compensation, the executive character had a positive impact on tax avoidance. The higher the compensation and executive character, the higher the chance for tax avoidance. While the audit quality if audited by the Big Four, tax avoidance also decreased. For audit committees, if the number of audit committee members was high, tax avoidance falled due to strict supervision toward management. Limitations in this study were found in the selection of variables that not all companies had the seven variables used in this study. This could be seen from the sample obtained from 527 samples contained in the Indonesia Stock Exchange only 238 companies per year that could be used in this study. On the basis of these limitations, further research was suggested to use different variables from this study so that it could show more accurate and varied results from this study. In addition, further researchers could also use different methods of calculation from this study.

Acknowledgments
On this occasion, we would like to express our gratitude to Mrs. Widuri as our lecturer who helped in making this research. In addition, we also want to thanks our university for giving the opportunity to provide facilities in this research process.

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ASIAN INSTITUTE OF RESEARCH
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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 127-136
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.73

Identifying Future Brand Ambassadors in The National Basketball Association (NBA) for Predicting Future NBA Superstars for Superior Marketing

Pratik V. Sawant[1], Nikita S. Upadhyaya[2], Paul D. Berger[3]

[1,2,3] Bentley University, Waltham, MA, USA

Abstract
This paper seeks to determine which factors/variables are useful to predict the salary of a National Basketball Association (NBA) player. Our goal is motivated by the presumed connection between a player's salary and how well he is known nationally and perhaps internationally, and the connection between how well a player is known and his value as a brand ambassador/spokesperson for selected brands. We use stepwise regression as the key statistical tool for our analyses.

Keywords: National Basketball Association (NBA), Brand Ambassador/Spokesperson, Stepwise Regression Analysis, NBA Data

INTRODUCTION

Since the advent of cable television, popular sports have occupied a major part of the entertainment spectrum. Sportspersons have commanded a fan following, second only to major Hollywood Stars. Many of these sportspersons serve as brand ambassadors/spokespersons for major brands or franchises. When a sports person becomes a face of the brand, the image of the brand often directly benefits or "takes a hit" based on the performance of the player in the sport. As such, brands do well to perform due diligence before selecting their ambassadors.

The most popular sports stars are often also the most highly compensated. Many popular stars represent brands and are compensated handsomely for it. As such, player compensation by their league is a good indicator of player success. If player success is related to certain parameters, it will be beneficial for brands to look at these parameters as a precursor to the success of a player as a way to judge who might be an effective ambassador/spokesperson for the brand. This may be able to help brands to identify superstars (presumably, *superior ambassadors/spokespersons*) early in their career.

In this paper, we have used the National Basketball Association (NBA) as a model for such predictive modeling. We use data from the NBA, to predict the performance parameters that are the best indicators of future player performance, as measured by salary.

Our core objective is to study the performance statistics of players in the National Basketball Association and try to determine the performance parameters which are most likely to impact their salaries. Tying these parameters to salary implies, to an extent, that NBA general managers and owners are capable of determining which parameters are *deserving* of more vs. less of a role in salary determination. NBA athletes are the most highly paid sportsmen in the world, as measured by average annual salary per player (Gaines, 2015). While overall performance is generally credited for the high salary of a player, we are attempting to breakdown the overall performance into individual components, to see if there are specific identifiable components of performance that makes certain players more attractive to clubs and to what degree, again, as measured by salary.

Our approach is aimed toward helping brands to identify players who are more likely to become superstars by looking at certain variables in their performance which have a linear relationship with their compensation. Brands can then use these variables to identify and tap talent early on in their career. In theory, those who perform better on the court are more likely to be more effective ambassadors/spokespersons for the brand. While we do not believe that this is *always* true – after all – there are other aspects of players, such as personality, city played in, and others, which likely also speak to effectiveness as a brand ambassador/spokesperson for a brand, we believe that *everything else equal*, superior play on the court leads to being a superior ambassador/spokesperson.

LITERATURE REVIEW:

The NBA has been of interest to researchers from various fields ranging from labor research to economics. Hajime Katayama and Hudan Nuch of the University of Sydney, in their paper, "A game level analysis of salary dispersion and team performance in national basket ball association," have studied the impact of "within team" salary dispersion on team performance (Katayama, 2009).

Michael Wallace's (1982) study titled, "Labor Market Structure and Salary Determination among Professional Basketball Players," concluded that structural variables, such as team and race, play an important role in earnings determination in the NBA and that player position is not significant. Also, out of all performance indicators, he found only scoring and rebounding to be statistically significant. For the purpose of this study, we are not considering (the specific) team as a variable (Wallace, 1988).

Andrew Fleenor of the University of Tennessee created a prediction model for salaries of players in NBA (Fleenor, 1999). However, his study entitled, "Predicting National Basketball Association (NBA) Player salaries," considers data only for the 1997-98 season. Since the scope of our paper is to identify superstars based on performance characteristics displayed consistently, we have considered total career statistics of players.

Jerry Hausman (MIT) and Gregory Leonard (Cambridge Econometric Inc.), in their paper, "Superstars in NBA: Economic Value and Policy," conducted an econometric analysis demonstrating that TV ratings are higher for games in which certain superstars are playing. They concluded that the presence of superstars leads to inefficient distribution of talent (Hausman & Leonard,1997).

There are also a large number of other studies which explored a wide array of topics such as racial differences in salaries and the impact of reputation and status on salaries in the NBA.

RESEARCH METHODOLOGY:

For the purpose of this study, we have used 4 datasets available in the public domain (retrieved from Kaggle datasets) and consolidated them into a single dataset using "player name" as a common factor. The 4 datasets available to us were:

1) Performance Statistics of 3922 players, who have played in the NBA since 1950. This data set gave us the individual statistics for every player for every season on 31 parameters.
2) Player data of 3922 players was obtained from an NBA database. This included the Name, Height, Weight, College, Year of Birth, Birth City and Birth State

3) Player data of 4550 players was obtained from an independent data set. This data set included the name, start year, end year, position, height, weight, birth date and college
4) Player Salaries for 2017-2018 season were obtained from the NBA records. These data were for 573 players who played in that season.

A master file for analysis was created by consolidating the data from these 4 sources into a single file. For this analysis, only the data of 573 players who played in the 17'-18' season was considered (file 4). The data from files 1,2 and 3 were looked up from those files. A pivot was used to consolidate the statistics against each player. Out of 573 players, complete data was obtained for only 479 players. Thus, we have used a dataset with a total of 479 data points (i.e., n=479.)

The final master file for analysis, thus prepared, contained -

- All player related data such as team, salary, height, weight, college, birth year, birth city, state, start year, end year, no. of years playing and position.
- Parameters of player performance (refer to Table 1). As the parameters were separate for each year, they had to be consolidated / aggregated in the final file. The technique used for consolidation / aggregation varied for each parameter. For numerical values such as Games Started (GS) and Minutes Played (MP), a sum of the values was done. For percentage values such as True Shooting Percentage (TS%) and Point Attempt Rate (3Par3), an average of the values was taken.

Table 1 summarizes the consolidation / aggregation techniques used:

Acronym	**Full form**	**Method of Aggregation**
GS	Games Started	Sum
MP	Minutes Played	Sum
PER	Player Efficiency Rating	Average
TS%	True Shooting Percentage	Average
3PAr3	Point Attempt Rate	Average
FTR	Free Throw Rate	Average
ORB%	Offensive Rebound Percentage	Average
DRB%	Defensive Rebound Percentage	Average
TRB%	Total Rebound Percentage	Average
AST%	Assist Percentage	Average
STL%	Steal Percentage	Average
BLK%	Block Percentage	Average
TOV%	Turnover Percentage	Average
USG%	Usage Percentage	Average
OWS	Offensive Win Shares	Sum
DWS	Defensive Win Shares	Sum
WS	Win Shares	Sum
WS/48	Win Shares per 48 mins	Sum
OBPM	Offensive Box Plus Minus	Average
DBPM	Defensive Box Plus Minus	Average
BPM	Box Plus Minus	Average
VORP	Value Over Replacement	Average
FG	Field Goals	Sum
FGA	Field Goal Attempts	Sum

FG%	Field Goal Percentage	Average
3P3	Point Field Goals	Sum
3P3A	Point Field Goals Attempts	Sum
3P%3	Point Field Goal Percentage	Average
2P2	Point Field Goals	Sum
2PA2	Point Field Goals Attempts	Sum
2P%2	Point Field Goal Percentage	Average
eFG%	Effective Field Goal Percentage	Average
FT	Free Throws	Sum
FTA	Free Throw Attempts	Sum
FT%	Free Throw Percentage	Average
ORB	Offensive Rebounds	Sum
ORB	Offensive Rebounds	Sum
DRB	Defensive Rebounds	Sum
TRB	Total Rebounds	Sum
AST	Assists	Sum
STL	Steals	Sum
BLK	Blocks	Sum
TOV	Turnovers	Sum
PFP	Personal Fouls	Sum
PTS	Points	Sum

Table 1: Consolidation / Aggregation techniques

Qualitative Variables and Recoding

We had 47 independent variables, of which, 46 were quantitative and 1 was qualitative / categorical. The categorical variable was player position. There are 7 (n=7) player positions (C, C-F, F, F-C, F-G, G, G-F). Guard Forward (G-F) was taken as the base/dummy category and 6 (i.e., [n-1]) dummy variables were created. (C = Center, F = Forward, G = Guard; many players can play/two positions, which is why we have C-F, F-C, F-G and G-F, where the first letter is his majority position.)

Dependent and Independent Variables:

Our dependent variable (Y) is Salaries of Players (2017-2018.) We have 52 quantitative independent variables, of which 6 are dummy variables, as noted in Table 2.

X	Variable	Full name
X1	Height	Height
X2	Weight LBS	Weight
X3	No. of years played	No. of years played
X4	Games Started	Games Started
X5	MP	Minutes Played
X6	PER	Player Efficiency Rating
X7	TS%	True Shooting Percentage
X8	3Par	Point Attempt Rate
X9	FTr	Free Throw Rate

X10	ORB%	Offensive Rebound Percentage
X11	DRB%	Defensive Rebound Percentage
X12	TRB%	Total Rebound Percentage
X13	AST%	Assist Percentage
X14	STL%	Steal Percentage
X15	BLK%	Block Percentage
X16	TOV%	Turnover Percentage
X17	USG%	Usage Percentage
X18	OWS	Offensive Win Shares
X19	DWS	Defensive Win Shares
X20	WS	Win Shares
X21	WS/48	Win Shares per 48 mins
X22	OBPM	Offensive Box Plus Minus
X23	DBPM	Defensive Box Plus Minus
X24	BPM	Box Plus Minus
X25	VORP	Value Over Replacement
X26	FG	Field Goals
X27	FGA	Field Goal Attempts
X28	FG%	Field Goal Percentage
X29	3P	Point Field Goals
X30	3PA	Point Field Goals Attempts
X31	3P%	Point Field Goal Percentage
X32	2P	Point Field Goals
X33	2PA	Point Field Goals Attempts
X34	2P%	Point Field Goal Percentage
X35	eFG%	Effective Field Goal Percentage
X36	FT	Free Throws
X37	FTA	Free Throw Attempts
X38	FT%	Free Throw Percentage
X39	ORB	Offensive Rebounds
X40	DRB	Defensive Rebounds
X41	TRB	Total Rebounds
X42	AST	Assists
X43	BLK	Blocks
X44	TOV	Turnovers
X45	PF	Personal Fouls
X46	PTS	Points
X47	C	Dummy
X48	CF	Dummy
X49	F	Dummy
X50	FC	Dummy
X51	FG1	Dummy
X52	G	Dummy

Table 2: Based on previous research, and our knowledge of the game, we have the following hypotheses:

H_0: Position, No. of years played, player efficiency rating, true shooting percentage and field goals are not related to salary.
H_1: Position, No. of years played, player efficiency rating, true shooting percentage and field goals **are** related to salary.

We expect to reject H_0 overwhelmingly.

REGRESSION ANALYSIS & DISCUSSION OF RESULTS:

Our data are used to conduct stepwise multiple linear-regression analysis using 2017-2018 Salary as the dependent variable to determine how it is related to the independent variables. The variables that are part of our final stepwise model are Value over Replacement (VORP), Games Started, Defensive Win shares (DWS), Offensive Rebounds (ORB), Offensive Rebounds Percentage (ORB%), Player Efficiency Rating (PER), Center Position, and Two Point Average (2PA). The R-square of this model is 0.47; this means that 47% of the variability in salary is estimated to be explained by the variables included in this model. The details of the model summary are shown below in Figure 1 (in essence, the last step of the stepwise-regression analysis.)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.636[a]	0.404	0.403	5795278.
2	.640[b]	0.410	0.408	5773369.
3	.646[c]	0.417	0.413	5746623.
4	.662[d]	0.438	0.433	5647230.
5	.669[e]	0.448	0.442	5602822.
6	.668[f]	0.446	0.441	5607263.
7	.672[g]	0.452	0.446	5581319.
8	.676[h]	0.457	0.450	5561574.
9	.681[i]	0.464	0.456	5531695.
10	.685[j]	0.470	0.461	5508773.
a. Predictors: (Constant), VORP				
b. Predictors: (Constant), VORP, AST				
c. Predictors: (Constant), VORP, AST, Games Started				
d. Predictors: (Constant), VORP, AST, Games Started, DWS				
e. Predictors: (Constant), VORP, AST, Games Started, DWS, ORB				
f. Predictors: (Constant), VORP, Games Started, DWS, ORB				
g. Predictors: (Constant), VORP, Games Started, DWS, ORB, ORB%				
h. Predictors: (Constant), VORP, Games Started, DWS, ORB, ORB%, PER				
i. Predictors: (Constant), VORP, Games Started, DWS, ORB, ORB%, PER, C				
j. Predictors: (Constant), VORP, Games Started, DWS, ORB, ORB%, PER, C, 2 2PA				

Figure 1

It should be noted that Figure 1 contains 8 independent variables, even though there are 10 steps. One variable, AST, entered the model early on, but was then deleted, as other variables entered the model and, while adding predictive ability, eventually rendered AST redundant, and, consequently, AST was deleted as not adding any incremental value. This phenomenon (of a variable entering the model and subsequently being deleted from the model) is not an infrequent one in the stepwise-regression process.
The coefficients in the model are depicted in Figure 2:

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
10	(Constant)	3118879.3	833589.7		3.7	0.0		
	VORP	4274633.8	367026.2	0.7	11.6	0.0	0.4	2.8
	Games Started	9694.8	3010.5	0.4	3.2	0.0	0.1	10.8
	DWS	-335740.8	62194.5	-0.6	-5.4	0.0	0.1	10.0
	ORB	5432.8	970.2	0.4	5.6	0.0	0.2	5.1
	ORB%	-446181.9	104755.3	-0.2	-4.3	0.0	0.4	2.8
	PER	253843.5	80063.8	0.2	3.2	0.0	0.4	2.5
	C	2231316.8	951821.7	0.1	2.3	0.0	0.7	1.4
	2PA	-521.6	235.0	-0.2	-2.2	0.0	0.1	10.5
a. Dependent Variable: Salary in 2017-2018 Season								

Figure 2

Multicollinearity Analysis

With this output, the VIF value was found to be higher than 10 for 3 variables - Games Started, DWS and 2PA. As such, these variables have a possible multicollinearity issue. To address this issue, we will include just one of these 3 variables and run the regression again. We conducted the stepwise multiple linear regression excluding the following variables: DWS and Games Started (GS).

The new output of our stepwise regression is shown below in Figure 3:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.636[a]	0.404	0.403	5795278.96
2	.640[b]	0.410	0.408	5773369.03
3	.645[c]	0.417	0.413	5748028.05
4	.650[d]	0.422	0.417	5727288.32
5	.654[e]	0.427	0.421	5706840.13
6	.661[f]	0.437	0.430	5665467.96
7	.666[g]	0.444	0.436	5635240.97
8	.671[h]	0.450	0.441	5609815.77
9	.682[i]	0.465	0.455	5540361.06
10	.688[j]	0.474	0.462	5500492.08
a. Predictors: (Constant), VORP				
b. Predictors: (Constant), VORP, AST				
c. Predictors: (Constant), VORP, AST, 3P				
d. Predictors: (Constant), VORP, AST, 3P, 3Par				
e. Predictors: (Constant), VORP, AST, 3P, 3PAr, OBPM				

f. Predictors: (Constant), VORP, AST, 3P, 3PAr, OBPM, ORB%
g. Predictors: (Constant), VORP, AST, 3P, 3PAr, OBPM, ORB%, C
h. Predictors: (Constant), VORP, AST, 3P, 3PAr, OBPM, ORB%, C, ORB
i. Predictors: (Constant), VORP, AST, 3P, 3PAr, OBPM, ORB%, C, ORB, WS/48
j. Predictors: (Constant), VORP, AST, 3P, 3PAr, OBPM, ORB%, C, ORB, WS/48, BLK

Figure 3

The variables in this model includes Value Over Replacement (VORP), Assists (AST), Point Field Goals Attempts(3PA), Point Attempt Rate (3PAr), Offensive Box Plus Minus (OBPM), Offensive Rebound Percentage (ORB%), Center Position C, Offensive Rebounds (ORB), Winshares per 48 mins (WS/48), and Blocks (BLKs). The R-square of this model has slightly improved to 0.474. This means that we estimate that 47.4% of the variability in the Salary is explained by the variables included in this model.
The coefficients in the model are depicted in Figure 4:

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
10	(Constant)	9069609.779	1205728.651		7.52	0.000		
	VORP	4115288.497	342327.192	0.631	12.02	0.000	0.409	2.448
	AST	-1193.123	328.407	-0.233	-3.63	0.000	0.275	3.641
	3P	2975.381	940.738	0.181	3.163	0.002	0.344	2.906
	3Par	-7004321.347	2145036.236	-0.176	-3.27	0.001	0.387	2.582
	OBPM	545674.469	131518.162	0.210	4.15	0.000	0.440	2.275
	ORB%	-377105.097	107641.257	-0.203	-3.50	0.001	0.334	2.991
	C	2531639.073	976798.188	0.104	2.59	0.010	0.696	1.437
	ORB	4660.124	953.811	0.365	4.89	0.000	0.202	4.948
	WS/48	-2528740.408	839471.712	-0.235	-3.01	0.003	0.184	5.433
	BLK	-4337.377	1550.695	-0.190	-2.80	0.005	0.245	4.086
a. Dependent Variable: Salary in 2017-2018 Season								

Figure 4

The Stepwise Multiple Linear Regression equation is as follows:

Y-predicted = 9069609.779+4115288.497*VORP – 1193.123*AST + 2975.381*3P – 7004321.347*3Par + 545674.469*OBPM - 377105.097*ORB% + 2531639.073*C + 4660.124*ORB – 2528740.408*WS/48 – 4337.377*BLK

Interpretation of the model

To interpret the intercept of the model, if all variables in the model were zero for an NBA player, that NBA player would be paid a base salary of about $9 million annually. We are not “married” to this number, since often, an intercept is not a very accurate value, especially when there are no data values “near” the premise of every single variable having a zero value.

From our model, we can predict that the salary of the player depends on Value Over Replacement (VORP), Assists (AST), Point Field Goals Attempts (3PA), Point Attempt Rate (3PAr), Offensive Box Plus Minus (OBPM), Offensive Rebound Percentage (ORB%), Offensive Rebounds (ORB), Winshares per 48 mins (WS/48), and Blocks (BLKs) among all the quantitative variables. Center (C) is also a variable that is predictive of salary, given all other variables are held constant.

Player compensation increases with an increase in value over replacement. This makes sense because VORP measures the marginal utility of a player to his team, compared to a replacement level player (Woolner 1997). Player compensation increases with increase in point field goals. This was expected since the field goal is one of the most popular metrics of measurement of player success. Player compensation increases with Offensive Box Plus Minus and Offensive Rebound. This also makes sense because Offensive Box plus minus is a metric for evaluating a basketball player's quality and contribution to the team while an offensive rebound gives the offensive team another opportunity to score right away. (The majority of rebounds are defensive, since the defending team is generally in a better position to recover the ball; the shooter is generally not positioned well to get a rebound of his own missed shot, so that, at minimum, there are 5 defensive players, and only 4 offensive players, positioned to get the rebound.) As such, a player with ability to get offensive rebounds is valuable.

Player compensation decreases with increase in assists, point attempt rate, offensive rebound percentage, Winshares per 48 minutes, and blocks; these are the variables with a negative coefficient in the final model. None of these negative coefficients make very clear sense. In some cases, one might make a "partial argument" (e.g., assists are distributed quite liberally, and *perhaps*, is less reflective of true contribution), but overall, we admit that we are not prepared to support a logical explanation for these negative coefficients. Since this is a stepwise regression with no "very high" VIF values, none of the variables should be highly correlated with other variables. If they were, not all the variables would "survive" in the final model – redundancy would suggest/mandate some deletions. Thus, we cannot "blame" multicollinearity for the negative values.

The qualitative variable, Center Position (C) is also statistically significant, which essentially means that (we estimate that) a player who plays the center position receives approximately $2.5 million more in salary annually compared to players who play in the Guard-Forward position (the "dummy" category), when all other variables in the model are held constant.

CONCLUSION

Our study concludes that brands can effectively identify future superstars by looking at certain performance parameters. A player who has a high VORP, scores a "larger" number of field goals, has a higher box plus minus, and has more offensive rebounds, fewer assists, has a lower point attempt rate, winshares and blocks is most likely to be successful, salary-wise. As mentioned earlier in this paper, this study can help advertising agencies and brands to identify promising prospects from a pipeline of future players.

LIMITATIONS AND SCOPE OF FUTURE RESEARCH:

In an ideal situation, the VIF values of variables should have been in the range of 1 to 2. However, the nature of the data is such that many variables are related to each other. As such, we have relaxed this requirement and excluded only those variables that are very strongly correlated with each other ($r > 0.8$.)

We have excluded certain qualitative variables such as college/school of a player, and city and/or country of birth of each player. The cap on salaries of players in the form of cap of maximum allowable expenditure on player salaries by a team is another factor which may distort the market forces at work. Certain adjustments made for those factors could change the model output.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 137-146
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.74

Factors Influencing Islamic Bank Financing in Indonesia

Henny Medyawati[1], Muhamad Yunanto[2]

[1,2] Faculty of Economics, Gunadarma University, Indonesia

Abstract
As intermediary institutions, Islamic banks gather funds from society and then transmit in the form of financing. In practice, the distribution of financing that is the main feature that runs Islamic banks is not as easy in practice as it is in theory since it involves a large number of troubled financing constraints. The reason for this is the lack of procedures to assess banks and supervise customers. This research thus aims to analyze the effect of third-party funds (DPK), Return On Assets (ROA), Non-Performing Financing (NPF) and Financing the Deposit Ratio (FDR) on the total financing provided to society by the Islamic banks in Indonesia. The data used was monthly data issued by Otoritas Jasa Keuangan (OJK) in Sharia Banking Statistics during the period of January 2009-2017. This research uses the Johansen cointegration test to investigate long-term relationships and use the model of error correction (Error Correction Model) to see the short-term relationship. The results show that third-party funds and ROA influence financing in the short term and long term. Other variable is the FDR, which had the influence of short-term financing. Non Performing Financing does not affect the financing either in a short-term or long-term period.

Keywords: Islamic Bank Financing, Non-Performing Financing, Financing to Deposit Ratio

1. Introduction

Background

Islamic Bank (in Indonesia known as Syariah or sharia) is a financial institution that puts an effort in providing financing and other services in traffic economy, national or international operations are adjusted based on the principle of Islamic jurisprudence. Islamic banking started in 1992 in Indonesia with the founding of Bank Muamalat. Islamic banks, as the main motor of financial institutions, have become a locomotive for the development of theory and practice of Islamic economy (Karim, 2004). At present, the development of Islamic banking in Indonesia is experiencing rapid growth. The emergence of Islamic banking in Indonesia began after the amendment of the banking law that was marked by the issuance of Law No. 10/1998. This is one of the contents of the provisions of Bank Indonesia concerning the licensing for the opening of the new Islamic bank as well as the establishment of Syariah Business Units (UUS). Up to the year 2017, there were 13 public sharia banks (BUS), 21 UUS and 99 sharia people's financing banks (BPRS).

By August 2017, the projected market share of Islamic banking in Indonesia is estimated to be 5.44% (Galvan, 2017). With this development, of course, the Islamic banking industry sector in Indonesia has been increasingly promising. The banking sector, as the intermediary, occupies a very important position in bridging the needs of working capital investments in the real sector with that of the owner of the funds. Similar to intermediary institutions, Islamic banks gather funds from society and then distribute them in the form of financing. The financing practices carried out by Islamic financial institutions are based on profit sharing. This profit sharing financing is divided into two, namely mudharabah financing and musyarakah financing. Other types of financing also exist in Islamic banks in the form of buying and selling contracts, namely financing murabaha, salam, and istishna. Financing is one of the main tasks of the bank, namely the provision of funds to meet those who need funding. Basically, the products offered by Islamic banks are product distribution (channeling) funds or financing and product gathering funds. In practice, the distribution of funds run by Islamic banks is not easy, because in reality there are quite a lot of financing problems. The non-performing loan ratio (NPF) is a ratio that measures the level of problematic financing. The higher the ratio of troubled financing, the lower is the total funding channeled. This will affect the bank's profitability. A healthy bank must have profitability with a minimum of 1% Return On Assets (ROA) according to Bank Indonesia.

In Islamic banking, funds disbursed are not a loan or credit but rather it is the financing. This function assesses how liquid the bank is in orde channel its funds to customers. The bank's liquidity is seen through the Finance to Deposit Ratio (FDR), which shows that the bank has run its functions as an intermediary financial institution, to gather and distribute funds. Most bank funds come from customer deposits in the form of savings, current accounts, and time deposits. These customer deposits are referred to as third-party funds (DPK). The high nominal value of third-party funds indicates that public confidence is increasing in saving funds in Islamic banks, while at the same time demonstrating that the sharia banking market in Indonesia is still large (Hamidi, 2003).

Several previous studies regarding the financing of Islamic banks in Indonesia included Pramita, Wuri Arianti Novi and Harjum Muharam (2011), Sri, Ratna Anggraini, Etty Gurendrawati, and Nuramalia Hasanah (2013). They all used independent variables of third-party funds (DPK), NPF, Capital Adequacy Ratio (CAR) and ROA, but show different results. Pramita et al. (2011) observed that only TPF influences financing, while in Sri, et al. (2013) found that only NPF variables influence financing. Nugroho (2014) noted that DPK in the short term affects financing, ROA and NPF in the long run affect financing, FDR in the short and long term affects financing.

Table 1. shows the development of the total funding given to customers, deposits, ROA, NPF and FDR.

Table 1. The Growth of Islamic Bank Financing, Third Party Fund, ROA, NPF and FDR

Year	Financing (million rupiah)	Third Party Funds (million rupiah)	ROA (%)	NPF (%)	FDR (%)
2009	46,886,000	52,271,000	1.48	4.01	89.7
2010	68,181,000	76,036,000	1.67	3.02	89.67
2011	102,655,000	115,415,000	1.79	2.52	88.94
2012	147,505,000	147,512,000	2.14	2.22	100
2013	184,210,000	183,534,000	2	2.62	100.32
2014	199,300,000	217,858,000	0.80	4.33	91.50
2015	212,996,000	231,175,000	0.49	4.64	88.03
2016	248,000,000	279,335,000	0.63	4.42	85.99
2017	285,690,000	334,719,000	0.63	4.77	79.65

Source: Otoritas Jasa Keuangan (OJK)

The aim of the study

Based on the information given above, the purpose of this study is to analyze the effect of short-term and long-term deposits, ROA, NPF and FDR on financing in Islamic banking in Indonesia in the period 2009-2017. Islamic banking intended in this study includes Islamic banks and sharia business units in Indonesia.

2. Literature Review and Similar Research Studies

Literature Review

According to the provisions set forth in the regulation of Bank Indonesia No. 2/8/PBI/2000, article 1, Islamic banks are commercial banks, Act No. 7 (1992) regarding banking has been amended by Act No. 10 (1998). This state that those who conduct business activities based on the principles of the Islamic Sharia, including sharia business unit and branch offices of foreign banks, should conduct business activities based on the principles of Islamic jurisprudence.

According to Karim (2010), in general, Islamic finance products are divided into four categories according to their intended use, namely: (1) financing with the principle of buying and selling; (2) financing under the lease principle; (3) financing under the profit sharing principle and (4) financing with supplementary contracts. According to Sharia Banking Statistics (Bank Indonesia, 2017), Islamic bank financing is the main choice of placement of Islamic banking funds compared to other placements such as placement in securities. According to Bank Indonesia Regulation No. 10/19 / PBI / 2008, third-party funds, hereinafter referred to as DPK are bank obligations to residents in rupiah and foreign exchange. Third party funds in Islamic banks are sources of funds originating from the community collected through wadiah demand deposits, mudharabah savings, and mudharabah deposits. Deposits are then channeled to various types of financing.

Similar Research Studies

Soedarto (2004) found that interest rates, the level of capital adequacy of rural banks, the amount of public deposits, and the amount of non-current loans affect BPR lending. Donna, Duddy Roesmara and Nurul Chotimah (2008) found that profit sharing, DPK, capital per asset and income affected financing, while NPF did not affect the financing of Islamic banks in Indonesia. Hasanudin, Mohammad and Prihatiningsih (2010) observed that deposits affect the lending of BPR. Firaldi, Mufqi (2013) noted that TPF has a short-term effect on total financing, NPF has a short-term effect on total financing and the inflation rate does not have an influence on the total financing provided by BPRS in Indonesia. Putro (2013) in his study indicated that deposits, NPF, labor, and GDP of MSMEs affected total financing. Nugroho (2013) found that TPF affects financing in the short term, FDR influences financing in the short and long term, while ROA and NPF affect financing in the long run. Husnaeni (2016) shows that DPK, CAR, FDR, and ROA affect Murabaha financing. Based on the theoretical description and previous research studies, it can be the hypothesized that:

H1: Third party funds, ROA, NPF, and FDR affect the financing of Islamic banks in Indonesia

3. Research Method

In this study, we used Islamic bank financing (PBS) as the dependent variable, and Return on Assets (ROA), Non-Performing Financing (NPF) and Financing to Deposit Ratio (FDR) as independent variables. The data in this study are from 2009 to 2017 taken monthly. This study uses the Error Correction Model (ECM) approach to see short-term relationships and cointegration tests to see indications of long-term relationships. ECM testing is done if there are indications of a long-term relationship using cointegration. Variables are said to be cointegrated, when stationary in the same order. To test the stationarity of data, this study used the Phillips-Platform (PP) test. In the Phillips-Peron test, it is necessary to determine the number of truncation lags for Newey-West correction, by using the formula N1 / 3 = 60 1/3 = 3.91 which is then rounded off to the closest unit value, namely 4 (Yahya Hamja, 2008).

Normality test is a test that is conducted to see whether the residual value is normally distributed or not (Widarjono, 2007). A good regression model is to have a residual value that is normally distributed. The normality test uses the Jarque-Bera coefficient and its probability value because both numbers support each other (Winarno, 2011). Linearity test is a test developed by J.B Ramsey known as Ramsey RESET Test. This test is to find out whether an explanatory variable is right or not included in an estimation model (Gujarati, 2003). The test developed by J. B Ramsey is used to test whether the function forms of a model are linear or not.

Data from a random process is said to be stationary if it satisfies the criteria, that is if the average and constant variants throughout the ovarian time between the two-time series data depend only on the lag between two specific time periods (Widarjono, 2007). In conducting stationarity tests, unit root tests and integration degree tests are carried out. The procedure for determining, whether the data is stationary or not, is to compare the Philips-Perron statistical value with its critical value, namely the MacKinnon statistical distribution. If the absolute value of the PP statistic is greater than the critical value, the observed data is displayed as stationary. On the other hand, if the absolute statistic PP value is smaller than the critical value, the data is not stationary. In the root of the unit PP, if it concludes that the data is not stationary, a process of data differentiation is needed. Stationary test data through this differentiation process is called the integration degree test. If the absolute value of the statistical PP is greater than the critical value at the first level of differentiation, then the data is said to be stationary at first degree. If the value is smaller, then the degree of integration test needs to be continued at a higher differentiation so that the stationary data is obtained. In this study, the ECM model is used primarily to overcome problems in time series data that are not stationary. The ECM model is used after the data normality test, linearity, stationarity, cointegration integration degree and classical assumption test, and is free from all problems from the test so that the ECM model used is feasible to use and analyze. The ECM models used in this study are as follows:

$$PBS_t = \beta0 + \beta1DPK_t + \beta2\ ROA_t + \beta3\ NPF_t + \beta4\ FDR_t + e$$

Model in this research:

$$D(PBS)_t = \beta0 + \beta1\ D(DPK)_t + \beta2\ D(ROA)_t + \beta3\ D(NPF)_t + \beta4\ D(FDR)_t + \beta5\ DPK_{t-1} + \beta6\ ROA_{t-1} + \beta7\ NPF_{t-1} + \beta8\ FDR_{t-1} + \beta9\ ECT$$

Description:

D	*= Difference, Xt – Xt-1*	*β0*	*= constants*
PBS	*= Sharia Bank Financing*	*β1.. βt*	*= independent variable regression coefficient*
DPK	*= Third Party Funds*	*e*	*= Error Term*
ROA	*= Return on Asset*	*ECT*	*= Error Correction Term*
NPF	*= Non Performing Financing*	*t*	*= Time period*
FDR	*= Financing to Deposit Ratio*	*t-1*	*= previous time period*

The next stage, after the ECM model is formed, is testing the ECT. Error Correction Term is part of ECM. This ECT value is obtained from the sum of the independent variables of the previous month reduced by the dependent variable in the previous month, and the resulting value is the adjustment value of the imbalance of the dependent and independent variables in the short and long term. The ECT Model in this study:

$$ECT = DPK_t\ (-1) + ROA_t\ (-1) + NPF_t\ (-1) + FDR_t\ (-1) - PBS_t\ (-1)$$

The result of the ECT probability value will determine whether the model can be analyzed in both the short and long term. If the ECT variable is positive and significant at $\alpha = 5\%$, then the model specification is valid and can explain the dependent variable.

4. Results and Discussion

The Growth of PBS, Third Party Funds, ROA NPF and FDR

This section begins with a discussion of the development of variables during the study period, namely the growth of the total Islamic bank financing, the growth of Third Party Funds (DPK), the growth of ROA, FDR, and NPF. Financing is funding provided by a party to another party to support the investment that has been planned, both individually and by an institution. The performance of Islamic banks in financing during the study period has increased. The grwoth of financing funds can be seen in Figure 1.

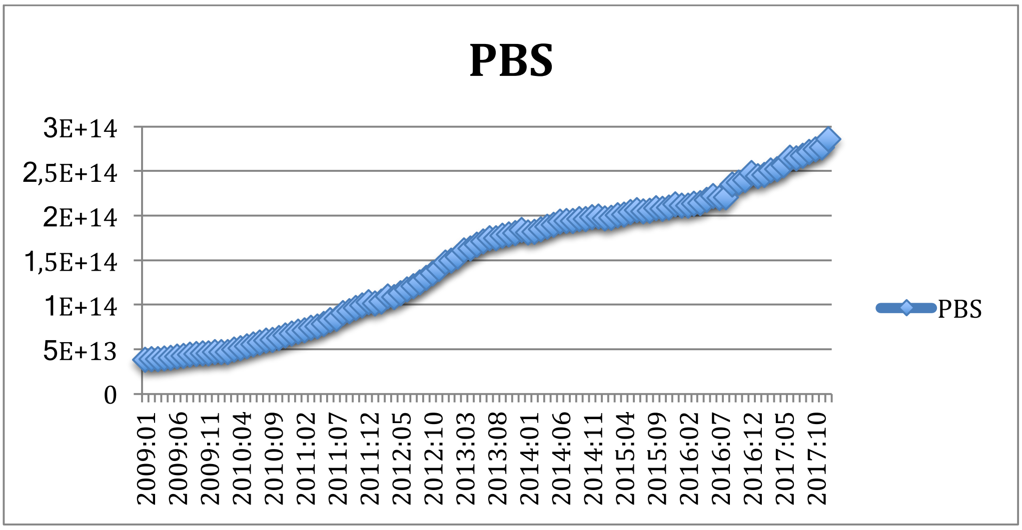

Figure 1. The Growth of Sharia Financing

Fig. 1. shows the development of total financing provided by Islamic banks in Indonesia in 2009 and has reached Rp. 46,886 billion, in the following years it continued to increase, in 2010 it reached Rp. 68,181 billion, and in 2017 it reached Rp. 28,569 billion. In general, Fig.1 shows, that the total financing is disbursed by Islamic banks to all Indonesian people. It shows a significant increase in the amount from 2009 to 2017 for both individuals and institutions. The increase in total financing shows that the large number of financing requests for business capital and funding provided to the community are mostly consumptive. According to Bank Indonesia, the composition that plays the greatest role in financing provided by Sharia Banks is the murabahah contract, which is almost 80% of the total financing of Islamic banks.

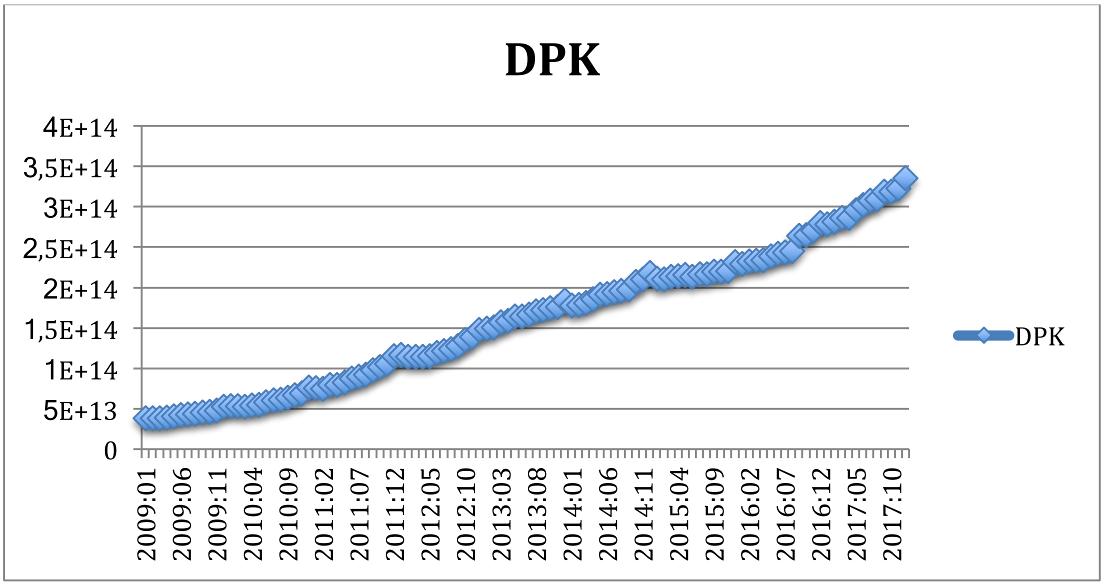

Figure 2. The Growth of Third Party Fund in the period 2009-2017

Third party funds (DPK) are funds obtained from the public or customers, both individuals and institutions or business entities, that are obtained by banks using various instruments of savings products owned by banks, namely savings, current accounts and deposits. This is the most important component of funds because the amount of profit generated depends largely on how much is the bank's ability to raise public funds and channel them back to the community in the form of financing or investments that can increase value and assets. An increase in deposits is usually followed by an increase in the amount of funding provided by banks to the public. The growth in the number of deposits collected by Islamic banks in the period 2009-2017 is shown in Fig. 2. In 2009 the number of deposits was Rp. 52,271 billion, and in 2017 it had reached Rp. 334,719 billion. In February 2012 the number of deposits had declined from the previous year to Rp. 114,616 billion. However, at the end of the year total deposits returned have increased, reaching Rp. 147,512 billion.

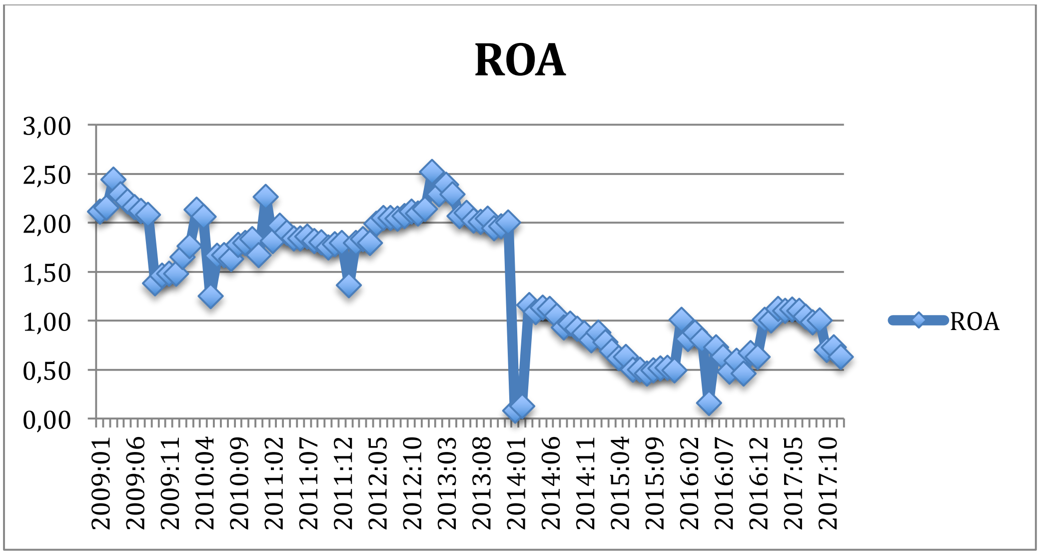

Figure 3. The Growth of Return on Asset (ROA) period 2009-2017

Return on Assets is used to measure the ability of a bank's management to obtain overall profits. The greater is the ROA of a bank, greater is the level of profit achieved by the bank, and in turn, the better is the bank's position in terms of asset use. During the study period, ROA tended to fluctuate. The lowest number occurred in May 2016, which was 0.16%, whereas the highest number occurred in March 2009, which was 2.44% (see Fig. 3). Profit-based Sharia financing, such as mudharabah and musyarakah, cannot be separated from the conditions of the real sector. In 2016, when Indonesia's economic growth was weakening at around 5 percent, in the world industry in general, was sluggish. This has an impact on profits earned by Islamic Banks. The profits in May 2016 were only 0.16%.

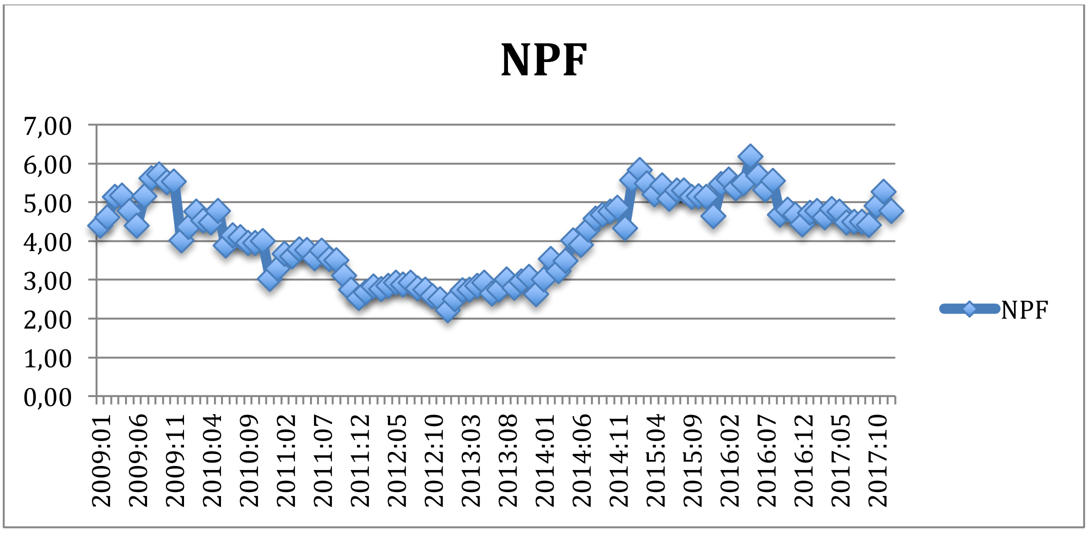

Figure 4. The Growth of Non-Perfoming Financing (NPF) Period 2009-2017

Based on Fig. 4. it can be seen that the NPF level was fluctuating. In May of 2016, the NPF was 6.17%, which was the highest throughout the study period (2009-2017). The lowest NPF level occurred in December 2012, which was at 2.22%. It can be observed, that up to 2014, the NPF value for Islamic banks in Indonesia has been below 5%. This figure is regarded as quite good because it is under the rules set by Bank Indonesia. But in 2015 to August 2016, the NPF value increased to above 5%. After August 2016, the NPF again fell below 5%. In every activity of a financial institution, there will be problems with financing. NPF in a bank is not something that should not happen because basically, every economic activity has obstacles, which generally lead to the return of troubled loans. This is due to the varied financial conditions of bank customers. However, the condition of the NPF will force banks to form a number of reserves to maintain bank liquidity and solvency in order to protect customers. The greater the NPF, the greater is the opportunity cost that must be borne by the bank. Thus, NPF should be sought as low as possible (Hasanudin and Prihatiningsih, 2010).

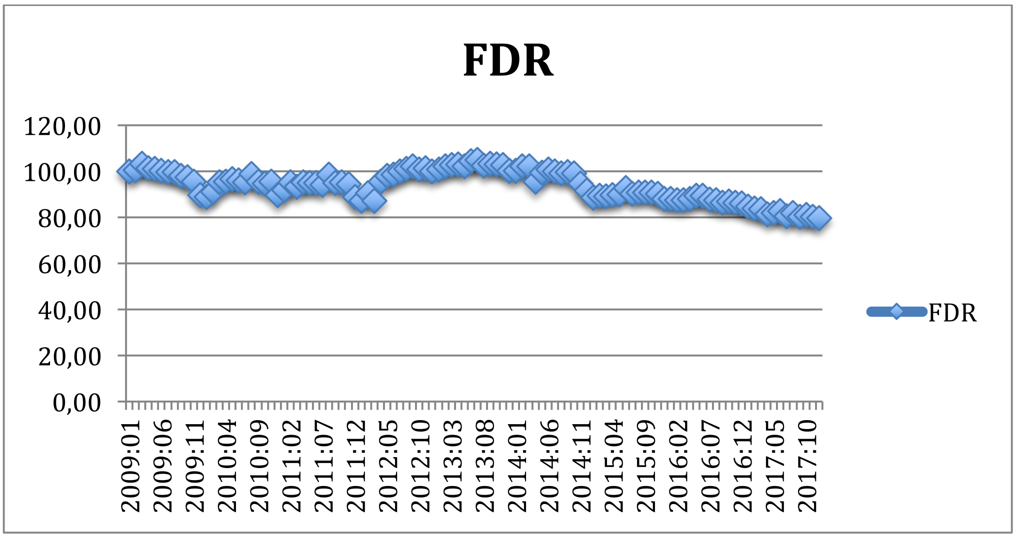

Figure 5. The Growth of Financing to Deposit Ratio in the period 2009-2017

Based on Fig. 5. it can be seen that FDR also experienced fluctuating changes. In December 2017, the FDR rate was the lowest at 79.05%, while the highest FDR rate was observed in July 2013. In a conventional bank, a term more commonly known is the Loan to Deposit Ratio (LDR) stating the level of a bank's ability to pay back withdrawals made by depositors by controlling credit given as source liquidity. A higher ratio gives an indication that the chances for the concerned bank to be liquidated are low (Dendawijaya, 2009). The increase in FDR can mean that the distribution of funds to financing is getting bigger so that profits will increase. If the FDR value of a bank is above or below 85% -110%, it can be said that the bank does not function as a financial intermediary or can also be called disintermediary.

The next discussion is testing the data. This includes the classic assumption test, which consists of a normality test, linearity test, autocorrelation test, and heteroscedasticity. The next process is the stationarity test (unit root test) and cointegration test. The normality test used in this study uses the Jarque-Berra (J-B) method. Results show that the J-B value is 5.9388 with a probability of 0.07089, thus it can be concluded that the data is normally distributed. Next is the linearity test to determine whether or not an explanatory variable is suitable to be included in an estimation model (Gujarati, 2003). The probability value obtained is 0.7891 greater than $\alpha = 5\%$, which means there are no linearity problems. Autocorrelation and heteroscedasticity tests were also carried out using LM-test of 0.5976 and the value of heteroscedasticity test with a White test of 0.2197, both of which were greater than $\alpha = 5\%$. This indicates that the data is free from the problem of autocorrelation and heteroscedasticity.

After fulfilling normality and linearity, the next test is the unit root test to see whether the data is stationary or not. Data is said to be stationary if the absolute value of Philips-Platform test (PPtest) is greater than the critical value of 5%, whereas if the absolute value of PPtest is smaller than the critical value, then the data is not stationary. The results of unit root tests can be seen in table 2. The following:

Table 2. Unit Root Test Result (Zero Level)

No.	Variable	Zero Degree of Integration		Description
		PPtest	Critical Value=5%	
1	PBS	0.427636	-2.888932	Not stationary
2	DPK	0.383567	-2.888932	Not stationary
3	ROA	-2.396745	-2.888932	Not stationary
4	NPF	-10.41878	-2.888932	Stationary
5	FDR	-0.142256	-2.888932	Not stationary

The results of unit root tests show that the NPF variable does not have a root unit problem because the absolute value of PPtest is greater than the critical value of 5%. Other variables that experience unit root problem need to be continued with the first integration test (first level difference). The following are the results of first level integration degree testing:

Table 3. Unit Root Test Result (First Difference)

No.	Variable	First Difference		Description
		PPtest	Critical Value=5%	
1	D(PBS)	-3.144350	-2.889474	Stationary
2	D(DPK)	-4.977857	-2.889474	Stationary
3	D(ROA)	-10.20410	-2.889474	Stationary
4	D(NPF)	-10.00581	-2.889474	Stationary
5	D(FDR)	-10.35751	-2.889474	Stationary

Based on table 3, it can be seen that all variables in this study have been stationary at the first integration (first difference). The next step is the cointegration test. If the variables in this study are cointegrated, then there will be a stable relationship in the long run. Phillips-Perron method is used to find out whether there is cointegration or not, while the Error Correction Model (ECM) is used to derive the long-term equation. The following are the results of the Phillips-Perron cointegration test:

Table 4. Cointegration Test Result

	Trace Statistic	Critival Value	Description
$PBS_t = f(DPK_t, ROA_t, NPF_t, FDR_t)$	-7.324013	-2.888932	Stationary Residuals

Based on Table. 4 it can be seen that the t-statistic value is greater than the critical value of Phillips-Perron, meaning the residual of the equation has been stationary at zero or I(0) integration degrees. It can indicate long-term or cointegrated relationships. The indication of a long-term balance relationship cannot be used as evidence to say that there is a relationship in the short term. To determine which variable causes changes in other variables and to determine the effect in the short term, ECM calculation is performed. Error correction model (ECM) is used to see if there is or whether the relationships exist between variables in the short term. This model is one approach to analyze time series model in order to determine the consistency of short-term relationships with long-term relationships from the variables tested. The following is the model equation of ECM and the p-value:

$$D(PBS)_t = C + \beta 1\ D(DPK)_t + \beta 2\ D(ROA)_t + \beta 3\ D(NPF)_t + \beta 4\ D(FDR)_t + \beta 5\ DPK_{t-1} + \beta 6\ ROA_{t-1}$$

p-value 0.000 0.0002 0.000 0.5999 0.000 0.0103 0.0320

$$\beta 7\ NPF_{t-1} + \beta 8\ FDR_{t-1} + \beta 9\ ECT \quad \text{(eq. 1)}$$

0.0586 0.1826 0.000

The regression results show that the coefficients of the error correction variable (ECT) are positive and statistically significant, meaning that the ECM specification model of Islamic Bank financing used in this study is valid. To examine see the long-term effects, a calculation is made by summing up the long-term coefficients of LDPK (-1), ROA (-1), NPF (-1) and FDR (-1), and the ECT coefficient, then it is divided by the ECT coefficient. The long-term coefficient formula is as follows:

LDPK (-1) = (C5 + C9)/C9

NPF(-1) = (C7+C9)/C9

ROA(-1) = (C6 + C9)/C9 FDR(-1) = (C8+C9)/C9

Table. 5 Short term and Long Term Coefficient

Variable	Description	Coefficient	
		Short Term	Long Term
C	Constants	0.9575	0.9575
D(LDPK)	Third Party Fund	0.0070	1.00707
D(ROA)	Return On Asset	0.1770	1.1789
D(NPF)	Non Performing Financing	-0.3632	0.6328
D(FDR)	Financing to Deposit Ratio	0.5545	1.5605

As shown in Table 5, the results of ECM regression in the short and long term are:

$$D(PBS) = 0.957 + 0.0070\ D(DPK)_t + 0.1770\ D(ROA)_t - 0.3632\ D(NPF)_t + 0.5545\ D(FDR)_t + 1.00707\ DPK_{t-1} + 1.1789\ (ROA)_{t-1} - 0.6328(NPF)_{t-1} + 1.5605\ FDR_{t-1} + 0.9892\ ECT \quad \text{(eq. 2)}$$

The above results show that deposits and ROA, in the short and long term affect the financing of Islamic banks in Indonesia. This is evident from equation (1), which shows that the probability value of the DPK variable is 0,000 smaller than the significance level used which is 5%. This result is in line with the study of Pratami and Harjum Muharam (2011) and Firaldi (2013) that TPF affects financing. FDR affects short-term financing, but in the long run, it does not. This result is in line with Nugroho's (2013) research that FDR influences financing in the short term. Variables that do not affect financing, both in the short and long term are the NPF variables. This result is different from Sri, et al. ‘s (2013) study where they found that NPF influences financing.

5. Conclusion

The regression results of the ECM model show that all the independent variables in this study are DPK, FDR, and short-term ROA that affect financing. Banking requires a source of funds that can be channeled to carry out business financing. Short-term financing is generally sourced from third-party funds, namely funds from customers. Any increase in third-party funds in Islamic banks will increase the amount of financing provided. NPF does not affect financing both short and long term, meaning that the problematic credit conditions do not affect banks in channeling financing as long as there is an increase in the number of third-party funds. An increase in the amount of third-party funds reflects public confidence, which tends to increase to saving money in Islamic banks.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 147-162
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.75

The Effects of Bankruptcy Probability, Auditor Switching and Company Size Toward Audit Delay

Gitta Destalya Adrian Nova[1], Azwardi[2], Tertiarto Wahyudi[3]

[1] Postgraduate, Faculty of Economic, Sriwijaya University, Palembang. Indonesia
[2] Lecturer, Faculty of Economic, Sriwijaya University, Palembang. Indonesia
[3] Lecturer, Faculty of Economic, Sriwijaya University, Palembang. Indonesia

Corresponding Author: Gitta Destalya Adrian Nova. E-mail: gitta.destalya@gmail.com

Abstract
The purpose of this study was to find out the effects of the probability of bankruptcy and auditor switching toward audit delay, with the size of the company on manufacturing companies listed in Indonesia Stock Exchange (IDX) in 2014-2016 as moderating variable. Data analysis method used was Moderated Regression Analysis (MRA). This method was chosen because of the compatibility between analytical tools and the variables under study. The purposive sampling method was used in this study. The number of samples of 97 companies that meet the criteria of the sample with the observation of 3 years and reduced outlier test 93 companies made the final sample were 198 companies. The results showed that the probability of bankruptcy and auditor switching had significant effects on audit delay. In addition, company size weakens not only the effect of bankruptcy probability on the audit delay but also the effect of effect auditor switching to audit delay.

Keywords: Bankruptcy Probability, Auditor Switching, Company Size, Audit Delay

1. Introduction

Audit delay is the length or time period of audit completion measured from the closing date of the financial year to the date of the issuance of the audit report. Audit delay is what can affect the accuracy of information published so that it will affect the level of uncertainty of decisions based on published information (Kartika, 2009).

One measure of timeliness of financial reporting accuracy is audit delay. Research related to the timeliness of financial statements presentation has been conducted so far focuses on the factors that cause audit delay. There are several factors that cause audit delay, such as company size, type of industry, type of audit opinion, size of the Public Accountant Firm (KAP), the disclosure of company profits or losses, the complexity of company operations, internal quality control, extraordinary items (Lucyanda and Sabrina, 2013).

One of the factors that can cause delays in the submission of financial statements is the probability of bankruptcy that the company indicated to experience financial difficulties. This indicates that the company is likely to experience bankruptcy so that auditors need more time to find out what is happening in the company and the auditors also need more data to produce opinions in accordance with the actual condition of the company (Setyahadi, 2012).

Bankruptcy is usually interpreted as a failure of a company to run a company's operations to generate bankruptcy profits, also called company liquidation or company closure or insolvency. According to Law Number 4 of 1998 concerning bankruptcy where an institution is declared by a court decision if the debtor has two or more creditors and does not pay at least one debt that is due and can be billed (Almilia & Herdinigtyas, 2005).

As one of the countries requiring auditor change with a specified time limit, the government has regulated the obligation of auditor rotation through the Financial Services Authority Decree Number 13/POJK.03/2017 concerning the Use of Public Accountant Services and Public Accounting Firms in Financial Service Activities. This regulation regulates the use of audit services for three consecutive years by the same public accountant. Public accountants and accounting firms may reuse audit services after two years of books not using audit services from the same public accountant. The company is expected to be able to choose a competent auditor who is competent in their field according to the needs of their respective companies so that the process of completing an audit of financial statements can be carried out on time (Giri, 2010).

Auditor Switching is a behavior carried out by companies to move auditors either due to existing or voluntary rules. Mandatory or voluntary auditor change can be distinguished on the basis of which party is the focus of attention on the issue of auditor independence. Mandatory switching (Auditor) whose main concern is to turn to the auditor. The rules regarding mandatory auditor change (switching auditors) have been determined by many countries. This was pioneered by American government regulators who made The Sarbanes Oxley Act (SOX) which contained rules regarding the obligation of companies to make auditor changes (switching auditors). If auditor switching is due to voluntary, then the main concern is on the client side. When a client changes his auditor when there are no rules that require it (voluntary), what happens is one of two things, the auditor resigns or the auditor is fired by the client. Because of the auditor's resignation or auditor's dismissal, the focus of the problem is on the client's side which causes voluntary auditor switching. If the switching reason is due to disagreement over certain accounting practices, it is expected that the client will move to the auditor who agrees with the client (Febrianto, 2009).

Dyer and McHugh (1975) study of company size, large companies are more consistent in being on time than small companies in informing their financial statements. This influence is indicated by the greater the asset value of the company, the shorter the audit delay and vice versa. According to Gosal (2016) research if independent auditors do not use big four companies, the length of time for audits increases. The size of the company can be interpreted as a scale which can be classified as the small size of the company in various ways including expressed in total assets, stock market values, etc. (Setiawan, 2013). In the study of Modugu et al. (2012), explained that total assets reflect how much wealth a company has and reflects the size of the company.

Company size is a function of the speed of financial reporting because the larger a company, the company will report the results of audited financial statements faster because the company has many sources of information and has a good internal control system so that it can reduce the level of financial statements that make it easier auditor in conducting financial statement audits. Thus it can be concluded that the possibility of Company Size can influence the timing of audit completion (Armansyah, 2015).

In achieving the goals, the effective probability of bankruptcy and auditor switching on audit delay with company size. However, in this study experienced delays in financial statements, financial pressures so that future financial statement resolutions can be timely and larger companies settle audits faster than smaller companies

2. LITERATURE REVIEW

1.1 Agency Theory

Relationships are contracts between agents and principals. Principals are parties that give authority to agents (managers) to act on behalf of principals, while agents are parties authorized by the principal to run the company (Jensen and Meckling, 1976).

Managers and principals are two parties who are rational and wish that each of their interests can be maintained. The manager as the party who knows the real condition of the company seeks to obtain maximum benefits for his party. Meanwhile, the principal also wants the manager to take action in accordance with what the principal wants.

Agency theory begins with two main problems that occur between agents and principles (Eisenhardt, 1989). First, the relationship between agents (managers) and principals (shareholders) that end in information asymmetry between the two parties. Second, there is a conflict of interest experienced by agents and principals because there are differences in objectives between the two.
Thus, conflicts between managers and principals arise because of the information asymmetry of both parties, which in turn results in deviant behavior and managers by conducting earnings management (smoothing or increasing income) in the presentation of financial statements. The existence of this condition raises unhealthy corporate governance due to the absence of openness from management to disclose its performance results to principals as company owners (Arifin, 2005) in (Prawibowo,2014).

1.2 Signaling Theory

Cues or signals are actions taken by company management where management knows more complete and accurate information about the company's internal and future company prospects than the investor. Therefore, managers are obliged to give signals about the condition of the company to stakeholders. The signal provided can be done through the disclosure of accounting information such as the publication of financial statements. Managers publish financial statements to provide information to the market. Generally, the market will respond to this information as a signal of good or bad news.

1.3 Audit Delay

In the Public Accountants Professional Standard (SPAP) it is explained that the standard field work, namely work must be planned as well as possible and if used by assistants must be supervised properly; adequate understanding of internal control must be obtained to plan the audit and determine the nature, timing, and scope of the tests to be carried out; sufficient competent audit evidence must be obtained through inspection, observation, security requests, and confirmation as an adequate basis for expressing opinions on the financial statements audited by the Indonesian Institute of Certified Public Accountants (2007).

The reduced value of information conveyed to principals creates asymmetrical information. Asymmetrical information is one element of agency theory, in this case, the agent knows more about the company's internal information in detail than the principal who only knows the company's information externally through the performance results made by management. Therefore, this requires timeliness to reduce the existence of asymmetrical information between the agent or management and the principal or shareholders, so that financial statements can be delivered transparently to the principal.

1.4 Bankruptcy

Bankruptcy is very severe financial difficulties so the company is no longer able to operate properly. While financial distress is a financial difficulty that might initiate bankruptcy. Bankruptcy is also often called corporate liquidation or company closure or insolvency. According to Adnan (2000), bankruptcy as failure is defined in several meanings:

1.4.1. Economic Failure

Failure in the economic sense usually means that the company loses money or the company's income cannot cover its own costs. This means the profit rate is smaller than the capital cost or the present value of the company's cash flow is smaller than the liability.

1.4.2. Financial Failure

Financial failure can be interpreted as insolvency that distinguishes between the basis of cash flows and the stock base. Insolvency on the basis of cash flows are of two forms, namely: 1) Technical Insolvency, the company is considered a failure if the company cannot fulfill its obligations at maturity. Technical insolvency occurs when cash flows are insufficient to meet interest payments or principal repayments on a certain date. 2) Insolvency in terms of bankruptcy, in this sense bankruptcy, is defined in terms of negative net worth in a conventional balance sheet or the present value of expected cash flows is smaller than liabilities.

1.5 Auditor Switching

Pratini (2013) research result described that financial difficulties (financial distress) experienced by companies occur when the company cannot fulfill its financial obligations and is threatened with bankruptcy. Auditor switching can also be caused by the companies that have to maintain financial stability, so the company takes a subjective policy in choosing a Public Accounting Firm.

An auditor switching has a derivative application of agency theory. Switching in the client contract environment and managers usually look for new auditors who are good if their reputation is polluted or if a failure occurs. In the understanding of new auditors of the industry, environment, and operations of the company, of course, it will take additional time. In addition, the risk of errors due to the auditor being unfamiliar with his new client is also a matter that has just been considered.

The size of the company can be interpreted as a scale which can be classified as the small size of the company in various ways including expressed in total assets, stock market value, etc. (Setiawan, 2013). According to Carslaw & Kaplan (1991) research, the duration of audit delay has a positive relationship with companies that suffer losses, companies that have extraordinary items, companies that obtain audit opinions other than unqualified opinions, companies that have smaller total assets, and companies controlled by the manager.

Agents as those who produce their financial statements have the desire to optimize their interests so that agents can manipulate the condition of the company. Large companies have better management in managing the company and are capable of producing quality financial reports when compared to small companies. It may be that the auditor believes that a larger company can solve the financial difficulties it faces than a smaller company, arguing that large companies will more easily overcome financial problems because they have better management so creditors will be more able to give credit to large companies.

1.6 Framework and Hypotheses

This study consists of two independent variables (X) which are bankruptcy probability and auditor switching, the dependent variable (Y) in the form of Audit Delay, Company Size moderating variable (Z). The flow of thought in this study is as follows:

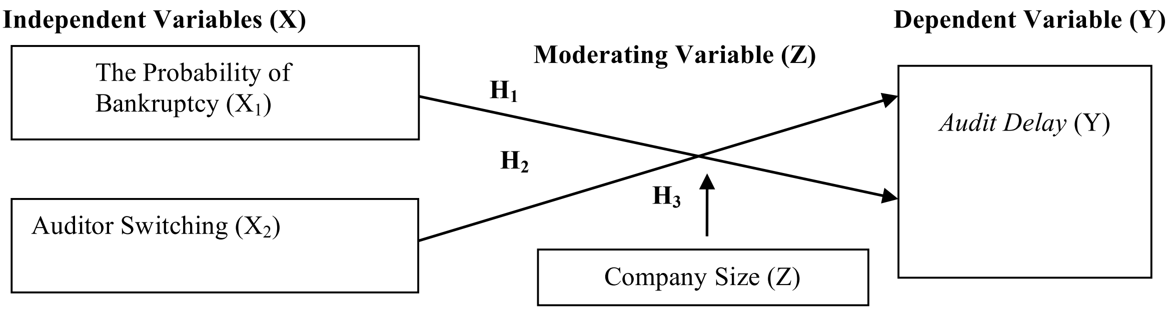


Figure 1: Framework

3. Research Method

3.1 *Research Design*

Based on the topics discussed, the variables used in this are the probability of bankruptcy (X_1) as an independent variable, Auditor Switching (X_2) as an independent variable, audit delay (Y) as the dependent variable and company size (Z) as a moderating variable. These variables are obtained through theoretical studies and empirical studies. Through this study research problems were formulated and the research hypothesis was made. Before testing statistically it is necessary to determine the research sample, the data source, and the data collection method. The data processing is done using the moderated regression analysis model.

3.2 Population and Sample

The company that is the object of this research is manufacturing companies that are listed on the Indonesia Stock Exchange (IDX) from 2014 until 2016. The period of 2014 to 2016 was used as a sample in this study because it was considered to have representation toward the company's final financial condition before the research was conducted. The manufacturing sector was chosen because companies in this sector had a wide range of businesses. The criteria used in determining the sample of this study are mentioned as follows:

Table 1: Sampling criteria

No	Sample Criteria	Number of Companies
1	Number of Companies Registered in Observations for 2014-2016	**147**
2	Companies that publish financial statements in foreign currencies	(26)
3	The company does not provide incomplete data and information	(24)
4	Total Manufacturing Companies registered consecutively on the IDX for 2014-2016	**97**
5	Number of Final Samples 97 companies x 3 Years of Observation	291
6	Handled outliers	(93)
7	Number of Study Samples	**198**
3 Year Observation		

Table 2: Operational Variables and Measurement Variables

Variable Name	Variable Type	Definition	Indicator	Measurement Scale
Audit Delay (Y)	Dependent	The time period for completing an annual financial statement audit	The researcher is measured using the length of days needed to obtain an independent auditor's report on the company's annual financial statement audit, from the date the company's book closes, December 31 to the date stated on the independent auditor's report.	Ratio
The Probability of Bankruptcy (PROB) (X_1)	Independent	The possibility that happened to the company due to financial difficulties which if very severe will commit bankruptcy.	The probability of bankruptcy (PROB) is measured using the Altman bankruptcy prediction model.	Ratio
Auditor Switching (X_2)	Independent	Auditor Switching in a company is carried out with the aim of maintaining the independence of the auditor in order to remain objective in carrying out his duties as an auditor.	Variables dummy 1 if AP from different KAPs and 0 if APs from the same KAP.	Nominal
Company Size (Z)	Moderation	The size of the company is measured	Ln (Total Assets)	Ratio

		by using the Natural Total Asset Log in order to reduce the increase (fluctuation) of excess data. By using natural logs, the number of assets with a nominal value of hundreds of billions or even trillions will be simplified, without changing the proportion of the actual assets.		

3.3 Analysis Method

In this study used data analysis methods, namely: (1) descriptive statistics, (2) classic assumption test, and (3) hypothesis test, with multiple regression. While the classic assumption test is done by testing the possibility of Multicollinearity Test, Autocorrelation Test, Heteroscedasticity Test, normality. Research data are analyzed and tested with several statistical tests consisting of descriptive tests, classic assumption tests, and regression analysis equipped with independent t-test different tests.

3.3.1 Moderated Regression Analysis model

One method that can be used to test whether a variable is a moderating variable is by conducting an interaction test. Regression by conducting interaction tests between variables is called the Main Moderated Regression Analysis (2009, p.123). Thus the Moderated Regression Analysis model in this study is as follows:

$$AD = \alpha_0 + \beta_1 PROB + \beta_2 PA + \beta_3 FS + \beta_4 PROB*FS + \beta_5 PA*FS + e \text{ ... . (1)}$$

Information:

AD is Audit Delay
$\alpha 0$ is a constant
$\beta 1$, $\beta 2$, $\beta 3$, $\beta 4$, $\beta 5$ are the Regression Coefficients
PROB is the Probability of Bankruptcy
PA is the Auditor Switching
FS is Company Size
e is an Error

3.3.2 Descriptive Statistics

Descriptive statistics are used to give a description or description of a data that is seem seen from the average value (mean), standard deviation, variance, maximum value, minimum value Ghozali (2006) in Liana (2009). The probability of bankruptcy (PROB) is measured using the Altman bankruptcy prediction model.

3.3.2 Hypothesis Test

Hypothesis testing uses regression tests to test the hypothesis which states that the probability of bankruptcy influences audit delay. The level of significance (α) used is five percent (0.05). If the level of significance is t greater than $\alpha = 0.05$ then the hypothesis is rejected which states there is no partial influence. Conversely, if the significance level t is smaller or equal to $\alpha = 0.05$ then the hypothesis is accepted. Thus according to the hypothesis formulated the effect of bankruptcy probability on audit delay. Parametric statistics as follows:- If the probability is> 0.05, then Ho is accepted- If the probability is <0.05, then Ho is rejected

4. ANALYSIS AND RESULTS

4.1 Overview of Companies Listed on the Indonesia Stock Exchange in 2016

Companies listed as of the end of the year as many as 151 manufacturing companies listed on the Indonesia Stock Exchange (IDX) this number increased by 5 companies from the previous year namely in 2015 were of the end of 2015 there were 146 companies listed on the Indonesia Stock Exchange.

There are 5 companies conducting IPOs in Q3 and Q4 in 2016, the companies that conducted IPOs in Q3 of 2016 were Waskita Beton Precast Tbk. who conducted an IPO on September 20, 2016, with an offering price of 10,544, and an IPO offer at the end of Q3 of 2016 was Aneka Gas Industri Tbk. who conducted an IPO on September 28, 2016, at offer price 767.

4.2 Description of Research Objects

This study is intended to determine the effect of bankruptcy and auditor switching probability on audit delay with company size as a moderating variable in manufacturing companies listed on the Indonesia Stock Exchange (IDX) in the period of 2016. This study uses secondary data, namely analyzing annual audit financial statements so that ratios can be calculated from the variables of this study. The population of this study is a manufacturing company listed on the Indonesia Stock Exchange in 2016 which has published annual audit financial reports and has data on the research variables used. The annual audit financial report data obtained from the website idx.co.id, while the sample in this study amounted to 97 companies.

4.3 Descriptive statistics

Descriptive statistics are a description of the condition of each research variable which consists of minimum, maximum, mean and standard deviation values so that a general description of the condition of the variables studied is obtained. The research variables consisted of audit delay (AD), bankruptcy probability (PROB), auditor switching (PA), company size (FS), bankruptcy probability*company size (PROB*FS) and auditor switching*company size (PA*FS).

Descriptive statistics on research variables can be seen in Table 3:

Table 3: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AD	198	65.00	90.00	82.5202	4.87479
PROB	198	-3.32	11.60	2.4125	1.76195
PA	198	.00	1.00	.3737	.48502
FS	198	24.86	32.15	28.0176	1.49508
PROB.FS	198	-87.32	309.02	67.6090	48.48194
PA.FS	198	.00	30.45	10.2582	13.32491
Valid N (listwise)	198				

Based on the variables in Audit Delay (AD) research, Bankruptcy Probability (PROB), Auditor Switching (PA) and Company Size (FS), data regarding variables in this study are interpreted into minimum values, maximum values, mean, and standard deviations processed with the SPSS program. Based on the attachment to the results of the research regarding descriptive analysis, it can be explained as follows:

4.3.1 Audit Delay (AD)

Based on table 3 the results of descriptive statistical analysis in the Appendix can be seen the value of Audit Delay (AD) is between 65.00 and 90.00. The mean value is 82.5202 and the standard deviation is 4.87479. The lowest company with Audit Delay (AD) in 2016 was HM Sampoerna Tbk. with a value of 65, while the highest Audit Delay (AD) in 2015 was Duta Pertiwi Nusantara Tbk. with spread value 90.

4.3.2 The Probability of Bankruptcy (PROB)

Based on table 3 in the appendix, it can be seen the magnitude of the Probability of Bankruptcy (PROB) is between -3.32 and 11.60. The mean value is 2.4125 and the standard deviation is 1.76195. The lowest company with Probability of Bankruptcy (PROB), namely in 2016 is Intikeramik Alamasri Industri Tbk. with a value of -3.32, while the highest Probability of Bankruptcy (PROB) in 2014 was Jaya Pari Steel Tbk. with a value of 11.60.

4.3.3 Auditor Switching (PA)

Based on table 3 in the attachment, it can be seen that the amount of auditor switching is between 0 and 1. The average value is 0.3737 and the standard deviation is 0.48502. Judging from the average value of 0.3737, it can mean that most companies are audited by the same KAP.

4.3.4 Company Size (FS)

Based on table 3, it is known that the size of the Company (FS) is between 24.86 and 32.15. The mean value is 28.0176 and the standard deviation is 1.49508. The company with the lowest Company Size (FS), namely in 2014 was Siwani Makmur Tbk. with a value of 24.86, while the highest Company Size (FS) is in 2015 is Indofood Sukses Makmur Tbk. with a value of 32.15.

4.4 Normality Test

Statistical testing for data normality was also carried out using the Kolmogorov-Smirnov test, said regression had met the assumption of normality if the significance values of the Kolmogorov-Smirnov test was greater than alpha 5% (0.05). The results of the normality test with Kolmogorov-Smirnov can be seen in Table 4 below:

Table 4: Normality Test *Kolmogorov-Smirnov Test*

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		198
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	4.26685865
Most Extreme Differences	Absolute	.062
	Positive	.056
	Negative	-.062
Test Statistic		.062
Asymp. Sig. (2-tailed)		.065[c]

Based on Table 4 above, it can be seen that the Kolmogorov-Smirnov test has a significance value of 0.065 greater than 0.05, then the regression model used has a normal standard error, so it can be concluded that the regression model can be further tested to determine the effect each independent variable on the dependent variable.

4.5 Multicollinearity Test

Table 5: Multicollinearity Test Results

Model		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	PROB	.859	1.163
	PA	.785	1.275
	FS	.901	1.109

a. Dependent Variable: AD

Table 5 of the multicollinearity test above, it is known that all independent variables of the regression model have VIF values smaller than 10 and tolerance values greater than 0.10. So that the independent variables used in the regression equation model have no multicollinearity problems (there is no very strong relationship between the independent variables).

4.6 Autocorrelation Test

Table 6: Autocorrelation Test Results

Model Summary^{b}	
Model	Durbin-Watson
1	2.030

Based on Table 6 the results of the autocorrelation test of multiple regression models above, it is known that the model studied has a number of observations of 198, with the number of independent variables of 5. The lower limit value (dl) is based on the number of observations and the number of independent variables is 1.718 with the upper limit (du) of 1,820. The statistical results of the Durbin Watson test obtained from the test amounted to 2,030, the value of the Durbin Watson was in the area of dU <dw <4-dU, or in the area, there was no autocorrelation. It can be concluded that there is no autocorrelation in the regression model used. The autocorrelation test results can be illustrated in Figure 2 of the Durbin-Watson test results as below:

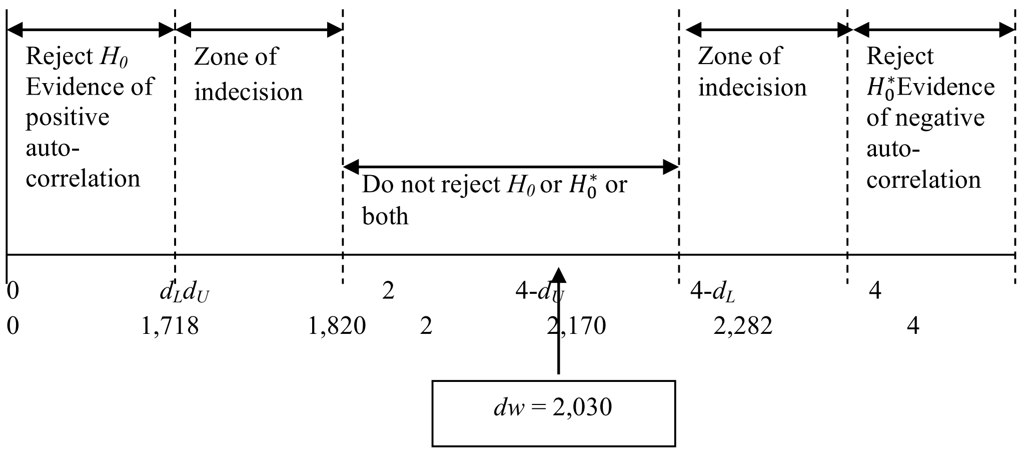


Figure 2: Testing of Autocorrelation

4.7 Heteroscedasticity Test

Detecting the presence or absence of heteroscedasticity can be done by seeing the presence or absence of a certain pattern on the scatterplot chart between ZPRED and SRESID where the Y-axis is Y predicted, and the X axis is the residual (Y predicted – Y actually) located in Studentized.

- If there are points that form a certain pattern that is regular then identifying heteroscedasticity has occurred.
- If there is no clear pattern, and the points spread above and below the number 0 on the Y-axis, there is no heteroscedasticity.

Following are the results of heteroscedasticity test in Figure 3:

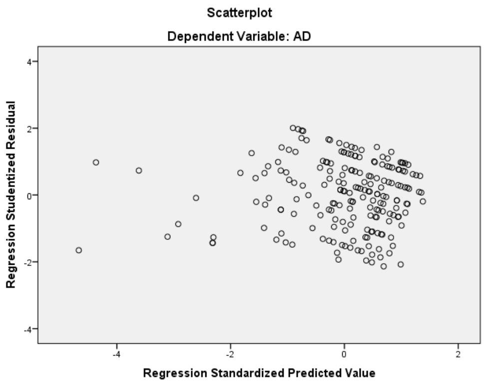


Figure 3: Heteroscedasticity Test Results

Based on the results shown in the figure, it can be seen that there is no particular pattern, the points spread above and below the number 0 on the Y-axis, it can be concluded that there is no heteroscedasticity.

4.8 F Statistic Test (ANOVA)

The F statistical test or ANOVA is basically to test whether all the independent or free variables included in the model can influence together or not on the dependent variable.

Table 7: F Test Results

ANOVAb

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1094.821	5	218.964	11.722	.000a
	Residual	3586.598	192	18.680		
	Total	4681.419	197			

a. Predictors: (Constant), PA.FS, FS, PROB, PROB.FS, PA

b. Dependent Variable: AD

Based on the results of the F test Table 7 above, it is known that F-count is 11,722 with a significance value of 0,000 <α0,05, then H0 is rejected which means there is an influence between PROB, PA, FS, PROB * FS and PA * FS towards AD.

4.9 Test t Statistic (Hypothesis Testing)

Basic decision making:

1. If ρ-value <alpha 0.05 then H0 is rejected
2. If ρ-value> alpha 0.05 then H0 fails to be rejected.

Based on the output partially the influence of the five independent variables namely PROB, PA, PROB * FS and PA * FS against AD. The results of the calculation of this t-test can be seen in Table 8 below:

Table 8: t-Test Results

Variable	*coefficient*	*T*	*Sig.*	*Sig. (1-Tailed)*	*Decision*
(Constant)	76,573	6,264	0,000		
PROB	11,679	3,523	0,001	0,000	H1 diterima
PA	29,387	1,720	0,087	0,043	H2 diterima
FS	0,328	0,753	0,452	0,226	
PROB.FS	-0,455	-3,779	0,000	0,000	H3 diterima
PA.FS	-1,136	-1,844	0,067	0,033	H4 diterima

The equations formed from the regression testing above are as follows:

AD = 76,573 + 11,679 PROB + 29,387 PA + 0,328 FS - 0,455 PROB * FS - 1,136 PA * FS

4.10 Coefficient of Determination

The determinant coefficient (R^2) is essentially to measure how far the model's ability to explain the variation of the dependent variable. The coefficient of determination is between zero and one. A small R^2 value means that the ability of independent variables to explain variations in the dependent variable is very limited. A value close to one means that the independent variables provide almost all the information needed to predict variations in the dependent variable (Ghozali, 2016).

The results of the calculation of the coefficient of determination of this study can be seen in Table 9 as follows:

Table 9: R2 Test Results and Adjusted R2

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.484a	.234	.214	4.32206

Based on Table 9 of test results, it was obtained the regression adjusted R2 value was 0.214. This means that all independent variables consisting of the probability of bankruptcy, auditor switching, company size, the probability of bankruptcy*Company Size and auditor switching*Company size to explain the variation of the dependent variable, namely Audit Delay by 21.4%, while the remainder is equal to 78.6% can be explained by factors that are not included in the research model.

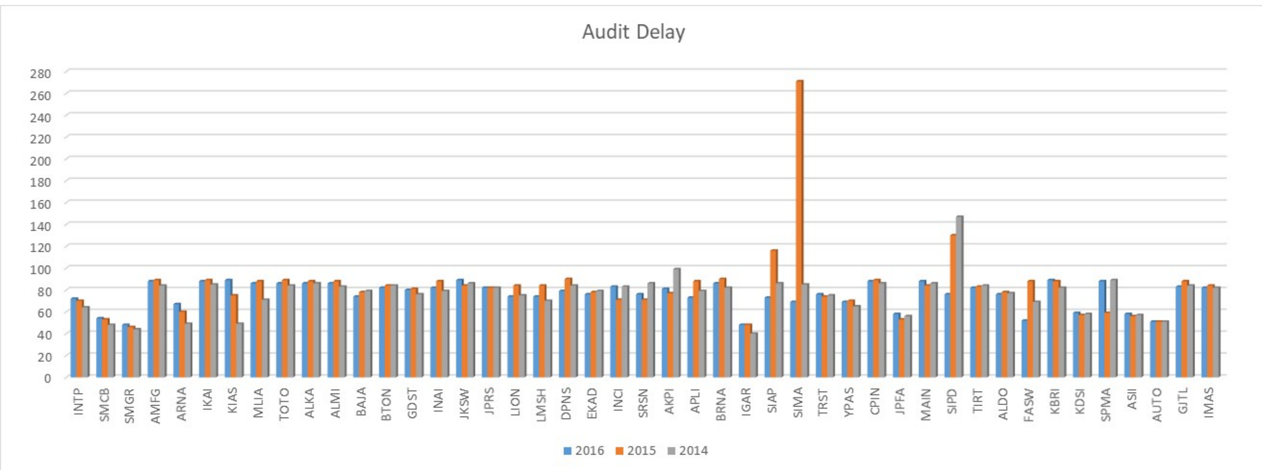
4.11Hypothesis Test

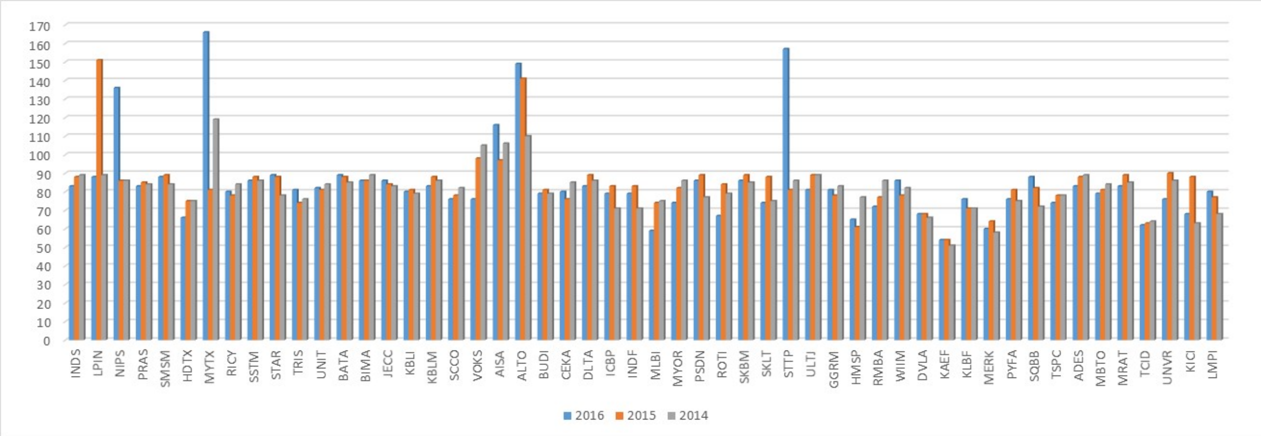
Based on the results of the statistics described earlier, the discussion on Probability of Bankruptcy, auditor switching, Company Size, The Probability of Bankruptcy*Company Size and auditor switching*Company size for Audit Delay can be explained as follows:

Hypothesis 1: Testing of hypothesis 1 is used to test whether bankruptcy probability has a positive effect on audit delay. From Table 8 it is known that the Bankruptcy Probability is 11,679 with the probability of One-tailed 0,000. This figure states that the Probability of Bankruptcy has a positive influence on Audit Delay. A probability value of fewer than 0.05 means that bankruptcy probability has a significant effect on audit delay. Bankruptcy Probability hypothesis has a positive effect on audit delay can be supported.

The bar chart below shows how the probability of bankruptcy and audit delay for each company between 2014-2016:

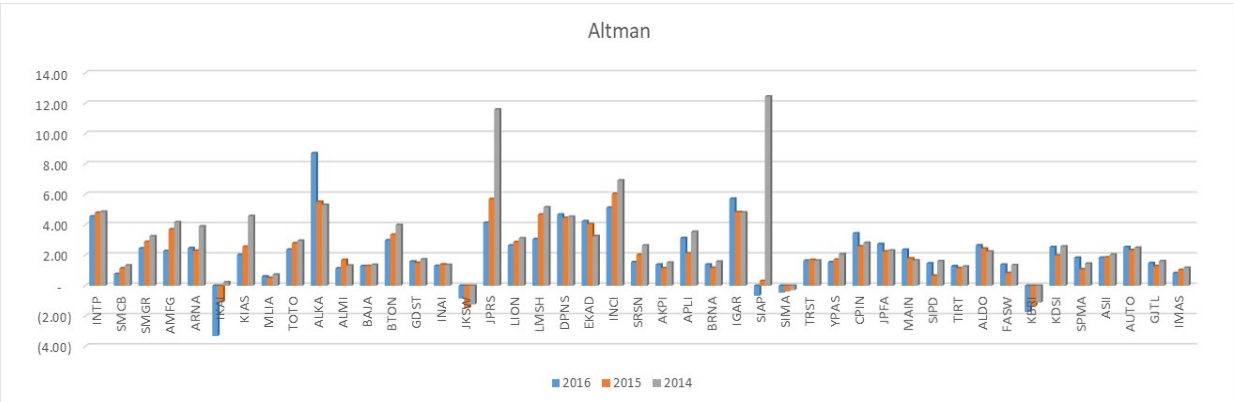
Figure 4: *Audit Delay* 2014-2016

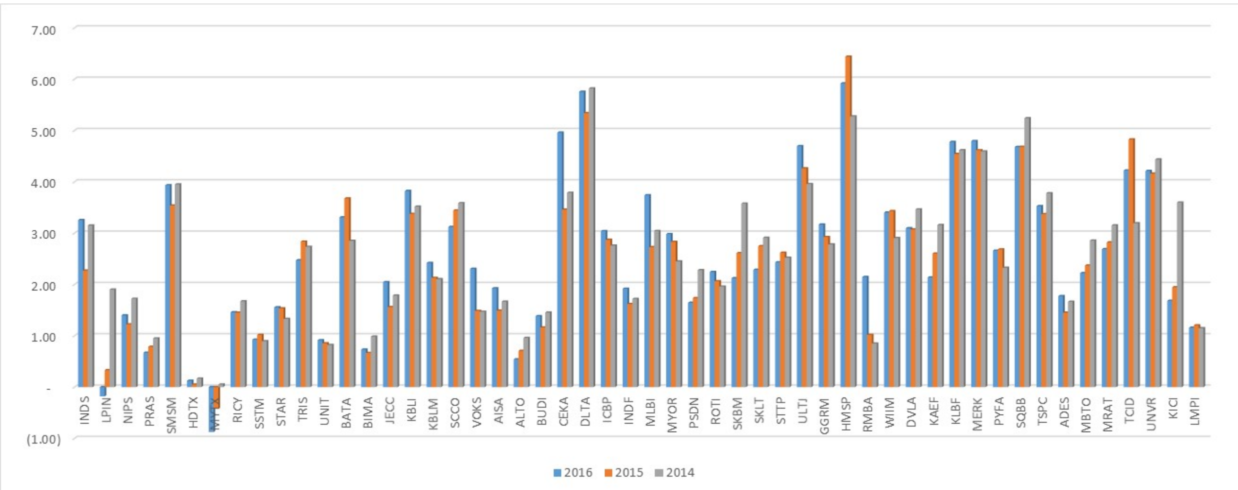




Based on Figure 4, it is explained that in every careful company between 2014-2016 the audit delay tends to increase and also tends to decrease every year. For example, INTP, SMCB, SMGR, ARNA, KIAS, STAR, JECC, KBLI, DVLA, KAEF, SQBB and LMPI companies have an audit delay trend that increases every year. Other companies have a trend that tends to go up and down every year.

Figure 5: Altman Z-Score 2014-2016





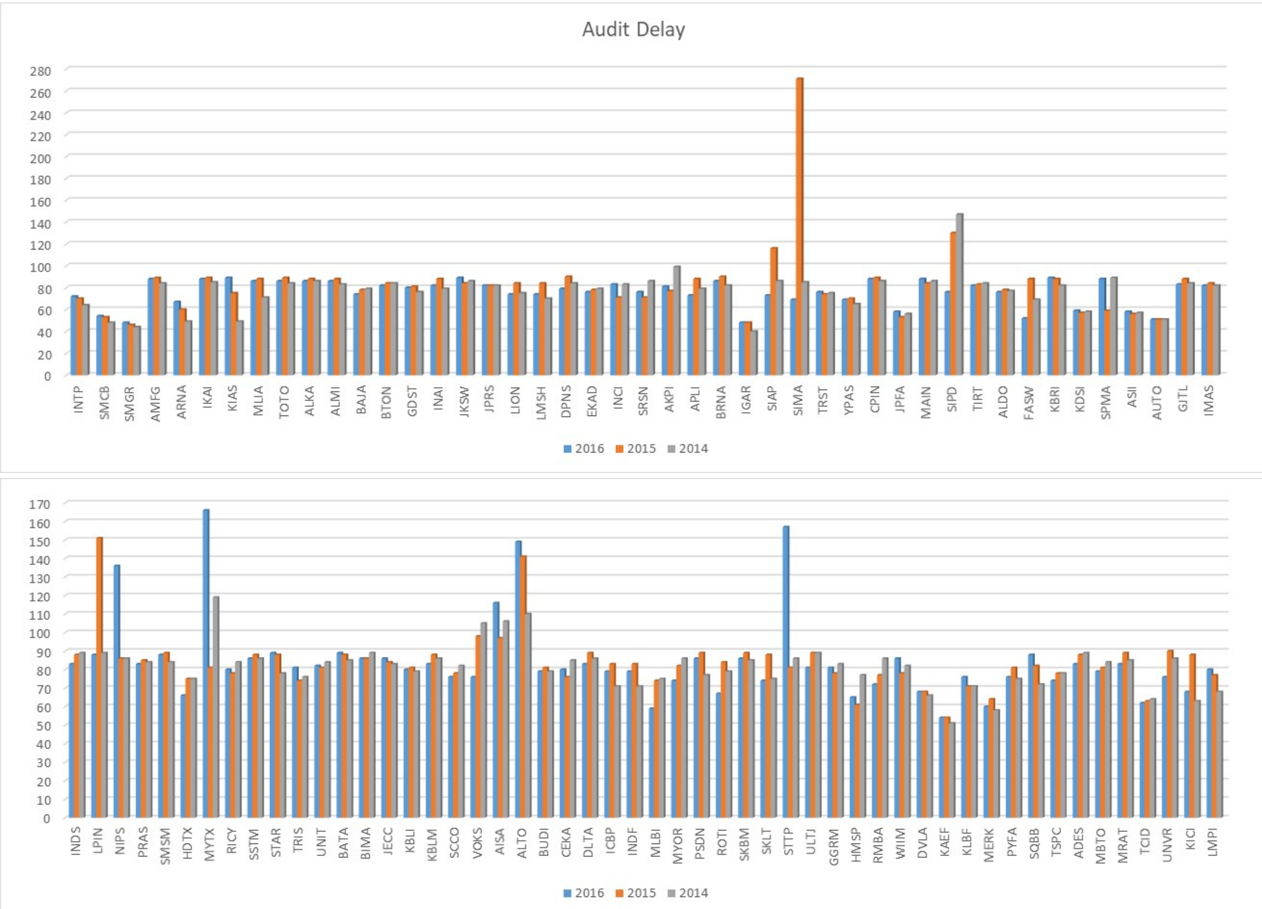
Based on Figure 5, it is explained that in each company that is careful between 2014-2016, the Altman Z-Score tends to decrease every year. Examples of INTP, SMCB, SMGR, AMFG, KIAS, TOTO, BTON, JPRS, LION, LMSH, INCI, SRSN, YPAS, ASII, IMAS, and so on have the trend of Altman Z-Score which falls every year. Other companies have a trend that tends to go up and down every year.

The results of Figures 4 and 5 can be seen that the trend of Audit Delay trend increases every year while Altman Z-Score looks to have a downward trend every year. INTP, SMCB, and SMGR is one example of a manufacturing company that experienced a decrease in the Altman Z-Scorecard ratio in 2014-2016 from 4.87 to 4.56 at INTP, at 1.34 to 0.77 at SMCB, and by 3, 26 to 2.46 for SMGR, this is directly proportional to Audit Delay which continued to increase in 2014-2016 from 64 days to 70 days in INTP, 48 days to 54 days in SMCB and 44 days to 48 days in SMGR. Decreasing the Altman Z-Score ratio in line with the increase in Audit Delay, or it can be said that bankruptcy predictions can have a positive effect on Corporate Delay Audit.

The probability of bankruptcy is the possibility that occurs in the company by analyzing the condition of the company, this condition begins with financial difficulties which if not addressed will further worsen the condition of the company and even tend to lead to bankruptcy. Companies that are suspected of having a greater probability of bankruptcy are likely to experience a longer audit delay. This is because when the company experiences financial difficulties, it tends to delay financial reporting because the auditor requires a longer time in the audit process and also the auditor requires additional data needed to be able to produce an opinion that is in accordance with the condition of the company.

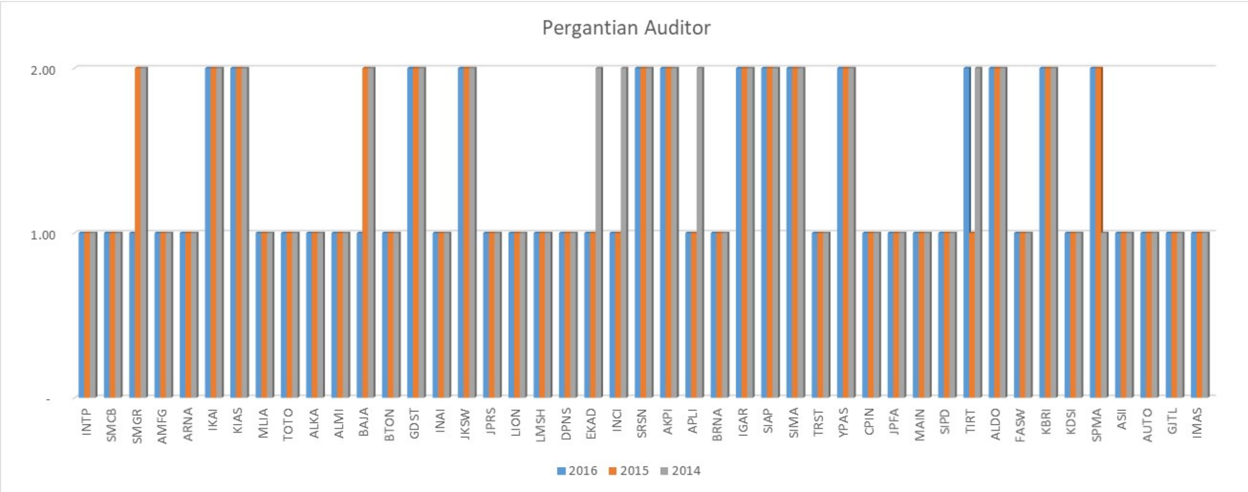
Hypothesis 2: Testing of hypothesis 2 is used to test whether auditor switching has a positive effect on audit delay. From Table 8 it is known that auditor switching is worth 29,387 with a One-tailed probability of 0.043. This figure states that auditor switching has a positive influence on Audit Delay. A probability value of fewer than 0.05 means that auditor switching has a significant influence on audit delay. The auditor switching hypothesis has a positive effect on audit delay can be supported.

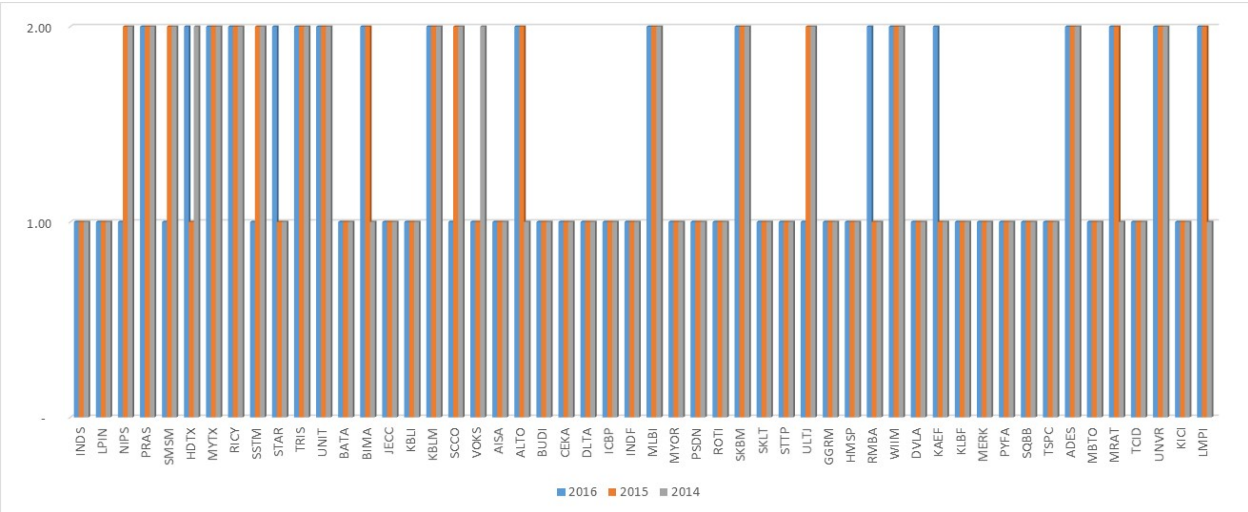
Figure 4: *Audit Delay* 2014-2016



Based on Figure 4, it is explained that in every careful company between 2014-2016 the audit delay tends to increase and also tends to decrease every year (stable). For example, INTP, SMCB, SMGR, ARNA, KIAS, STAR, JECC, KBLI, DVLA, KAEF, SQBB and LMPI companies have an audit delay trend that increases every year. Other companies have a trend that tends to go up and down every year.

Figure 6: Auditor Switching 2014-2016





Based on Figure 6, it is explained that in every company that is careful between 2014-2016, it shows that most experienced auditor changes. Examples of SMGR, IKAI, KIAS, BAJA, GDST, JKSW, EKAD, INCI, SRSN, AKPI, IGAR, SIAP, SIMA, and so on experienced auditor changes. In other companies, there is no auditor change.

The results of Figures 4 and 6 can be seen that there is a relationship between auditor switching and increased audit delay. SMGR, IKAI, and KIAS is one example of a manufacturing company that experiences auditor switching, this is directly proportional to Audit Delay which continued to increase in 2014-2016 from 44 days to 48 days at SMGR, 85 days to 88 days at IKAI and 49 days to 89 days at KIAS. auditor switching is in line with the increase in Audit Delay, or it can be said that auditor switching can have a positive effect on Corporate Delay Audit.

The causes of auditor switching are such as the end of the employment contract without an extension of the new assignment. In addition, management changes and auditor switching are made in order to cooperate and get opinions in accordance with management's wishes to be accountable in the GMS (Srimindarti, 2008). If the company experiences auditor change, of course, the new auditor needs a long enough time to recognize the client's business characteristics and the system that is in it so that this takes the auditor's time to carry out the audit process.

Hypothesis 3: Testing of hypothesis 3 is used to test whether bankruptcy probability*firm size has a positive effect on audit delay. From Table 8 it is known that the Probability of Bankruptcy*Company Size is -0.455 with the probability of One-tailed 0,000. This figure states that the Probability of Bankruptcy*Company Size has a negative

influence on Audit Delay. A probability value of fewer than 0.05 means that the probability of bankruptcy*Company size has a significant effect on audit delay. Hypothesis The size of the company weakens the influence of the probability of bankruptcy of audit delay can be supported.
In companies that are large because they have better capital, the company will spend extra funds to pay for their audit process. This has the effect of proving that the size of the company as a moderating variable makes the effect of bankruptcy probability after being moderated by the size of the company can reduce the company's audit delay.

Hypothesis 4: Testing of hypothesis 4 is used to test whether Auditor Switching*Company Size has a positive effect on audit delay. From Table 8 it is known that Auditor Switching*Company Size is worth -1.136 with One-tailed probability of 0.033. This number states that Auditor Switching*Company Size has a negative influence on Audit Delay. A probability value of fewer than 0.05 means that Auditor Switching*Company Size has a significant influence on audit delay. Hypothesis The size of the company weakens the effect of auditor switching on audit delay can be supported.

In large companies, the auditor switching process may be carried out with earlier planning at the beginning of the audit process to be carried out, so that auditor changes do not require adjustment for a long time in carrying out their audit process at the company concerned. In addition, companies that have greater auditor switching may have budgeted their financial position, so that it will simplify and accelerate the audit process for large companies and the impact of audit delay companies can be suppressed even though they are undergoing auditor changes.

Table 10: Hypothesis Testing Results Summary

No.	Test Result	Decision
1	H_1: The probability of bankruptcy has a positive influence on Audit Delay.	Be accepted
2	H_2: Auditor Switching has a positive influence on Audit Delay.	Be accepted
3	H_3: Company Size weakens Bankruptcy Probability Influence on the Audit Delay.	Be accepted
4	H_4: Company size weakens Auditor Switching Influence on the Audit Delay.	Be accepted

5. CONCLUSION AND INTERPRETATION

This study was conducted to determine the effect of probability of bankruptcy, Change of Auditor, Auditor*Probability of company size, and Auditor Switching*Company Size to *audit Delay*, Bankruptcy probability positive effect on audit delay. Auditor switching had a positive effect on audit delay. Size companies weaken the influence of the probability of bankruptcy audit delay. Size companies weaken the influence of auditor switching to audit delay.

Based on the research results, it can be concluded that managerial implications based on the results of the independent variables that can affect the dependent variable are as follows: 1) The probability of bankruptcy and auditor switching had positive effect on audit delay, this showed that the company is experiencing delays in the completion of their financial statements when confronted conditions of companies experiencing financial pressure on them, as well as the conditions of entering the turn of the auditor. It is expected that in the future the company can anticipate the phenomenon so that the completion of the financial statements can be timely. 2) The size of the company as a moderating variable proven to reduce the probability of bankruptcy and auditor switching on audit delay the company.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 163-171
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.76

The Effect of Family Ownership to Tax Aggressiveness with Good Corporate Governance and Transparency as Moderating Variable

Retnaningtyas Widuri[1], Yo'elin Anugrah[2], Yumico[3], Celine Laurentia[4]

[1] Accounting Department, Petra Christian University. Email: widuri@petra.ac.id, yoelinanugrah@gmail.com, yumico08@yahoo.com, laurentiaceline@yahoo.com
[2,3,4] Accounting Department, Petra Christian University

Abstract
This research was conducted to determine the effect of family ownership structure on aggressive tax aggressiveness and to determine the effect of good corporate governance and transparency on family ownership that conduct tax aggressiveness. This study uses family ownership as an independent variable measured by the proportion of shares held by family members from the total number of shares outstanding. Good Corporate Governance variable uses several sub-variables, namely: (1) executive compensation, (2) executive character, (3) size, (4), institutional ownership, (5) proportion of BOC, and (6) audit committee. The results showed that there was no effect of family ownership structure on aggressive tax aggressiveness, with a significant value of less than 0.05. The existence of good corporate governance can reduce the likelihood of family companies conducting tax aggressiveness through executive compensation and executive character, while the audit committee, institutional ownership, and proportion of BOC may not necessarily reduce the possibility of family companies conducting tax aggressiveness. Similarly, transparency which also does not necessarily reduce the likelihood of family companies conducting tax aggressiveness.

Keywords: Family Ownership, Good Corporate Governance, Transparency, Tax Aggressiveness

1. Introduction

The involvement of companies in advancing a country also has consequences, namely payment of taxes. Every company or taxpayer will carry out tax management to reduce the tax burden borne by the company and strive to optimize profits in accordance with the expectations of shareholders. Family company is a company whose control and control is held by the family and aims to shape and achieve the family's vision and mission (Chua et al., 1999). The company will try to minimize the tax costs owed by tax evasion. Tax aggressiveness can result in aggressive tax actions.

Tax aggressive is an action designed to reduce taxable income with an appropriate tax plan, which is classified or not classified as tax aggressiveness (Frank et al., 2009). Family ownership companies differ from non-family ownership companies in conducting aggressive tax actions, and these differences are in the characteristics of the benefits and costs of aggressive tax actions. There are different views regarding the effect of family ownership on tax aggressiveness measures. Chen et al. (2010) suggest that family companies have a smaller level of tax aggressiveness than non-family companies. In contrast to the research conducted by Chen et al. (2010), Sari and

Martani (2010) show that family ownership is more likely to act more aggressively in taxation than non-family companies.

This study discusses the effect of family ownership on tax aggressiveness efforts which still lack concentration from academics. Differences of opinion between Chen et al. (2010) and Sari and Martani (2010) make the study want to investigate further the effect of family ownership on tax aggressiveness efforts.

2. Literature Review

According to Jensen and Meckling (1976), agency theory is a relationship that arises because of a contract between the principal and other parties referred to as the agent where the principal delegates the work to the agent. This theory further explains that the company provides resources for the management to run the company, on the contrary, the management conducts a service for the company in accordance with the company's interests.

According to Arifin (2003) in Sari and Martani (2010) states that family ownership is all companies and individuals whose shares are listed (ownership > 5% must be recorded). There are exceptions for public companies, financial institutions and the public (individuals whose ownership is not required to be recorded).

According to Frank et al. (2009), aggressive tax action is management aimed at reducing taxable income through good tax planning using methods that include tax aggressiveness or not. Hanlon and Heitzman (2010) stated that tax aggressiveness as an aggressive tax action does not always start from the behavior of non-compliance with tax regulations, but also from tax savings carried out in accordance with regulations. The more companies take advantage of regulatory loopholes to save the tax burden, and the company is considered to have carried out tax aggressiveness even though these actions do not violate existing regulations.

The Indonesian Institute for Corporate Governance (IICG) in Winarsih et al (2014) defines good corporate governance as a structure, system, and process used by corporate organs as an effort to provide sustainable value added to the company in the long run by emphasizing the interests of other shareholders based on norms, culture, ethics and rules. Good corporate governance is good governance in business based on professional ethics in business.

According to Armstrong et al. (2010) transparency is defined as the availability of information about companies for public users, it can also function as effective corporate governance to reduce conflicts of interest between shareholders. Corporate transparency according to Wang (2010) is the availability of all company information to external parties who have an interest in allocating company resources efficiently.

2.1. Hypothesis Development

Chen et al. (2010) state that the costs and benefits of aggressive tax actions will be higher felt by companies with family ownership. In addition, Arifin (2003) states that conflicts that occur within companies with family ownership are usually smaller than those of non-family ownership companies. This is because decisions taken and granted by majority shareholders cannot be changed by minority shareholders and minority shareholders do not have rights to decisions made by majority shareholders. In contrast to the research conducted by Chen, Dewi and Martani (2010) found that based on the results of research in Indonesia, companies with family ownership are more aggressive than non-family ownership companies. This is because companies in Indonesia have the possibility of loss due to a decrease in company shares, damage to company names or sanctions or penalties from tax officials considered to be smaller than the profits derived from saving corporate taxes and rent extraction. By comparing the research conducted by Chen et al. (2010) and Dewi and Martani (2010), the research hypothesis can be formulated as follows:

H_1. Family ownership affects the tax aggressiveness actions

The larger the company the accounts contained in the company's financial statements becomes more complex so that independent auditors who are eligible to audit are needed (Watts dan Zimmerman, 1983). Audit quality can be measured by proxy size for the Public Accounting Firm. The Big Four Public Accountant Firm is more reliable

in showing the true value of the company and can control corporate tax aggressiveness. Transparency in the presentation of financial statements is an important element of good corporate governance related to taxation that is accountable to shareholders. The hypotheses made in this study are as follows:
H_{a1}: Executive compensation has an influence on proxy tax aggressiveness with the current ETR
H_{a2}: Character executives have an influence on proxy tax aggressiveness with the current ETR
H_{a3}: Firm size has an influence on proxy tax aggressiveness with the current ETR
H_{a4}: Institutional ownership has an influence on proxy tax aggressiveness with the current ETR
H_{a5}: Proportion of independent commissioners has an influence on proxy tax aggressiveness with the current ETR
H_{a6}: Audit committee has an influence on proxy tax aggressiveness with the current ETR
H_{a7}: Audit quality has an influence on proxy tax aggressiveness with the current ETR

Transparency is referred to as information for outsiders. Companies that have higher transparency generally get higher valuations from investors. Wang and Zhang (2009) found that information disclosure can improve the efficiency of contracts from managers. They argue that information disclosure is a double-edged sword where transparency can increase company value because more information is presented, or on the other hand transparency can reduce a company's ability to conduct tax aggressiveness behavior. Basically, tax aggressiveness behavior by managers will result in lowering the value of the company, but managers use the transparency of financial statements to prevent the decline in the value of the company. By increasing the transparency of financial statements of companies that practice tax aggressiveness, investors, will assume that the company is a good company because it has revealed most of the information they have, so that it is expected that investors will provide more value in increasing the transparency of the company's financial statements that practice tax aggressiveness.
H_2: Transparency strengthens the relationship between tax aggressiveness behavior and company value

Zeller and Stanko (1994) found that ratio operating cash flows provide a unique insight, relative to traditional accrual-based financial ratios, regarding the ability of retail companies to pay. Due to the fact that family companies have fewer agency conflicts between managers and shareholders we expect that family companies have higher company liquidity than non-family companies. Our research study is outside the ownership of cash by examining company liquidity by including cash, short-term investments, cash ratios, net operating cash flows, fast ratios, current ratios, capital, and free working cash flows:
H_1: If there is a less severe agency conflict between managers and shareholders, family firms are more likely to have higher liquidity than non-family companies

Dass et al. (2011) found that companies that have higher stock liquidity then take various actions (stock split and issue revenue guidelines) aiming to keep their stock more liquid. Stock liquidity needs are minimized when companies have other financing sources, such as debt. Theories regarding agency problems between managers and shareholders and between controlling and non-controlling shareholders produce competing and alternative predictions in empirical studies related to stock liquidity of family companies. Therefore, we estimate the following hypotheses in alternative forms:
H_{2a}: If there are less severe institutions between conflict managers and shareholders, family companies are more likely to have liquidity that shares are higher than non-family companies.
H_{2b}: If there is a less severe agency conflict between the majority shareholders and minority shareholders, non-family companies are more likely to have higher stock liquidity than family companies

The limitations of independent boards make transparency needed by management because they usually want extensive disclosure by management. Usually, voluntary disclosure by management is enhanced by the existence of an independent council. Then the hypothesis is formulated as follows:
H_{1a}: Proportion of independent board influences on the extent of voluntary disclosure

The stewardship theory says that the board is a person who is directly involved in the company's operations. The composition of the board in this theory prioritizes more insiders in the company because insiders know the company in detail.
H_{1b}: There is an influence between the proportion of insider and the extent of voluntary disclosure

The large size from the perspective of agency theory will increase supervision so that they need and decide to accept management to make wider disclosures so that the hypothesis can be developed as follows:
H_{2a}: There is an influence between board size and the extent of voluntary disclosure
H_{2b}: There is an influence between the size of the board and the extent of voluntary disclosure

Usually, board meetings are used to discuss and exchange ideas between the boards in overseeing management. If from the agency theory perspective the frequency of meetings can be seen as a proxy for the time the council uses to carry out the task.
H_{3a}: There is an influence between the frequency of board meetings and the extent of voluntary disclosure.

From the perspective of the theory of stewardship, with frequent board meetings held the information obtained is broader and more varied.
H_{3b}: There is a negative relationship between the frequency of board meetings and the extent of voluntary disclosure

In carrying out its duties, the Board is assisted by a board committee. The audit committee is tasked with carrying out checks or research on the implementation of the functions of directors.
H_4: There is a positive relationship between the board committee (audit committee) and the extent of voluntary disclosure

3. Research Method

3.1. Samples

Samples in this study are manufacturing, trading and service companies listed on the Indonesia Stock Exchange for the period 2015-2017. Sampling in this study was carried out by using purposive sampling method, namely the determination of samples on the basis of suitability of characteristics and based on certain criteria presented in the form of Table 3.1 below:

Table 3.1 Sample Selection Output

Sample Requirement	The amount of observation
Manufacturing, Services, Trade Companies listed on the Indonesia Stock Exchange in 2013 - 2017	293
Manufacturing, Service, Trade Companies that do not issue complete annual reports listed on the Indonesia Stock Exchange in 2013 – 2017	(84)
Consumer goods manufacturing companies with negative income tax	(102)
Total company	107
Total years of observation	3
Total Observations	**321**

3.2 Variables Operationalization

This study uses Family Ownership as an independent variable. Family ownership is measured based on the proportion of shares held by family members from the total number of shares outstanding.

This variable of Good Corporate Governance uses several sub-variables, namely: (1) executive compensation is measured by the amount of salary and benefits received by the executive during the year, (2) executive character is a dummy variable which will be given number 1 if the company has a standard deviation value that exceeds the average standard deviation of the entire company and will be given the number 0 if the opposite, (3) size is measured using the natural logarithm of total assets, (4), institutional ownership is proxied by the percentage of independent directors on the board of commissioners of the total amount contained in the composition of the board of commissioners, (5) the proportion of BOC is proxied by the percentage of independent directors on the board of commissioners of the total composition of the board of commissioners listed in the company, and (6) audit committee is a dummy variable, that is, if the company is audited by the Big Four, it will be given a value of 1 and given a value of 0 if it is not audited by the Big Four.

Transparency used in this study is company transparency which is the sum between two proxies, namely the extent of voluntary disclosure and timeliness of financial reporting divided by the total items of voluntary disclosure and timeliness. The extent of voluntary disclosure used in this study uses the index calculation in the Nuryaman study (2009) which amounts to 68 items which have referred to Bapepam regulations. To calculate the level of transparency, the following formula is used:

$$Transparency = \frac{Total\ items\ disclosed\ by\ the\ company}{total\ number\ of\ index\ items}$$

The dependent variable in this study is tax aggressiveness. Wahab et al. (2017) added that tax aggressiveness refers to various tax planning strategies used to minimize tax liabilities. Tax aggressiveness in this study can be measured by Effective Tax Rates (ETR). This tax aggressiveness can be measured by Effective tax rates (ETR).

$$ETR = \frac{Payment\ of\ taxes\ (income\ tax\ expense)}{Profit\ before\ tax}$$

The control variable in this study consisted of firm size. Firm size is a measurement scale used to classify the size of a company. Measurement of size is measured using natural logarithms of total assets.

SIZE = Ln (Total Assets)

Another control variable is leverage is a ratio that describes the company's capital structure and describes the company's financing decisions. Leverage can be calculated using the proportion of total debt divided by the total assets owned by the company.

$$DEBT = \frac{Total\ debt}{Total\ Equity}$$

The next control variable in this study is the market-to-book ratio is the ratio or ratio between market value and book value.

$$MTBV = \frac{Market\ capitalization}{Total\ Book\ value}$$

The last control variable in this study is Return on Asset is the profitability ratio that shows the percentage of profit (net income) obtained by the company in relation to the overall average number of assets.

$$ROA = \frac{Net\ profit\ after\ tax}{Total\ assets}$$

3.3 The Model of Analysis

Data analysis techniques in this study are multiple linear regressions. Multiple linear regression analysis is used to make predictions, how changes in the value of independent variables are increased or decreased in value (manipulated).

4. Results and Discussion

The results of the analysis show several things related to the influence of family ownership structure on aggressive tax aggressiveness and the influence of good corporate governance and transparency on family ownership that do tax aggressiveness.

To test the hypothesis used the t test which shows the effect partially of each independent variable on the dependent variable. At this stage, testing the effect of the independent variables contained in the model formed to determine whether the independent variable (X) in the model partially has a significant effect on the dependent variable (Y).

Table 4.1. Summary of Significance Test (t test)

Model	Unstandardized Coefficients		t_{count}	Sig
	B	Std. Error		
Constant	0.091	0.082		
Family Ownership (FOWN)	-0.047	0.074	-0.631	0.529
Audit Committee (BIG4)	0.016	0.011	1.458	0.146
Size	0.001	0.003	0.228	0.820
Leverage (LEV)	0.004	0.004	1.140	0.255
Profitability (ROA)	0.197	0.042	4.689	0.000
Market to book ratio (MKTB)	0.0000146	0.000	1.092	0.276
Transparency (TRANS)	-0.031	0.075	-0.415	0.678
Executive compensation (KOMP)	0.0000197	0.000	3.340	0.001
Executive character (RES)	-0.429	0.116	-3.703	0.000
Institusional ownership (INST)	0.024	0.019	1.242	0.215
Proportion of BOC (INDP)	0.016	0.036	0.439	0.661

Based on calculations using SPSS obtained a significant level of 0.529, where a significant level of the alpha level is more than 0.05, so it can be concluded that family ownership partially does not have a significant effect on the tax aggressiveness (Y). The relationship between Family Ownership and Tax Aggressiveness is negative. Companies with large family ownership are better able to monitor management performance. Family Ownership can encourage companies to increase Tax Aggressiveness. Large share ownership has an incentive to monitor corporate decision making. The absence of Family Ownership influence on Tax Aggressiveness is not consistent with the results of Chen et al. (2010) which states that the costs and benefits of aggressive tax actions will be higher felt by companies with family ownership. Based on calculations using SPSS, the value of a significant level is 0.146, where a significant level of the alpha level is more than 0.05, so the conclusion is that partially the audit committee does not have a significant effect on the tax aggressiveness (Y).

Based on calculations using SPSS, the value of a significant level is 0.820, where the level of significance is more than the alpha level of 0.05, so it can be concluded that partially the firm size does not have a significant effect on the tax aggressiveness (Y). The size of the company is not able to moderate the influence of family ownership on tax aggressiveness in the manufacturing, trading and service industries of both BUMN and the private sector. This is because most manufacturing, trading, and service industries, both state-owned and private, have large company sizes. This explains that the greater the company cannot increase or decrease the influence of family ownership on tax aggressiveness in manufacturing, trading, and services of both BUMN and private.

Based on calculations using SPSS obtained a significant level of 0.255, where the level of significance is more than the alpha level of 0.05, so it can be concluded that partially leverage does not have a significant effect on the tax aggressiveness (Y). According to Kurniasih and Ratna Sari (2013), the higher the value of the leverage ratio, the higher the amount of funding from the third party debt used by the company and the higher the interest cost arising from the debt. Higher interest costs also result in reduced corporate tax burden.

Based on calculations using SPSS obtained a significant level of 0.000, where the level of significance is less than the alpha level of 0.05, so it can be concluded that partially profitability has a significant effect on the tax aggressiveness (Y). The higher the value of ROA, means the higher the value of the company's net profit and the higher the profitability. Companies that have high profitability have the opportunity to position themselves in tax planning that reduces the amount of tax liability burden.

Based on calculations using SPSS obtained a significant level of 0.276, where the level of significance is more than the alpha level of 0.05, so the conclusion is obtained that partially Market to Book Ratio does not have a significant effect on the tax aggressiveness (Y).

Based on calculations using SPSS obtained a significant level of 0.678, where the level of significance is more than the alpha level of 0.05, so it can be concluded that partial transparency does not have a significant effect on the tax aggressiveness (Y). Wang and Zhang (2009) found that information disclosure can improve the efficiency of contracts from managers. Wang and Zhang (2009) argue that information disclosure is a double-edged sword where transparency can increase company value because more information is presented, or on the other hand transparency can reduce a company's ability to conduct tax aggressiveness behavior.

Based on calculations using SPSS obtained a significant level of 0.001, where the level of significance is less than the alpha level of 0.05, so the conclusion is obtained that partially executive compensation has a significant effect on tax aggressiveness (Y). Executive compensation is not able to moderate the influence of family ownership on tax aggressiveness in the manufacturing, trading and service industries of both BUMN and the private sector. This explains that higher executive compensation cannot reduce/increase the influence of family ownership on tax aggressiveness.

Based on calculations using SPSS obtained a significant level of 0.000, where the level of significance is less than the alpha level of 0.05, so it can be concluded that partially the executive character has a significant effect on the tax aggressiveness (Y). The executive character is not able to moderate the influence of family ownership on tax aggressiveness in the manufacturing, trading and service industries of both BUMN and the private sector. This explains that the stronger the executive character cannot reduce/increase the influence of family ownership on tax aggressiveness.

Based on calculations using SPSS obtained a significant level of 0.215, where the level of significance is more than the alpha level of 0.05, so it can be concluded that partially institutional ownership does not have a significant effect on the tax aggressiveness (Y). Companies with large institutional ownership are unable to monitor management performance, so the tax aggressiveness is higher. Institutional ownership can encourage companies to reduce Tax Aggressiveness. Large share ownership has incentives to monitor company decision making.

Based on calculations using SPSS obtained a significant level of 0.661, where the level of significance is more than the alpha level of 0.05, so it can be concluded that partially Proportion of BOC does not have a significant effect on the tax efficiency (Y). Effective corporate governance coupled with a proportion of the Board of Commission can make companies comply with tax regulations and avoid tax aggressiveness practices. The more proportion of the Board of Commission with the total composition of the board of commissioners listed in the company can reduce the level of tax aggressiveness because it does not provide an opportunity for politically connected agencies to take tax aggressiveness actions.

This study uses interaction tests. Interaction Test (Moderated Regression Analysis) is the application of multiple linear regressions where the equation contains an interaction element (multiplying two / more independent variables).

Table 4.2 Moderate Regression Test Summary

Variable	Regression coefficient	Adjusted R^2	Sig.	Results	Interaction
Without moderation		0.156			
FOWN*BIG4	-11.636	0.193	0.000	Moderate	Strengthens negatively
FOWN*SIZE	0.007	0.153	0.862	Not Moderating	Not strengthen/weaken
FOWN*KOMP	0.000	0.157	0.263	Not Moderating	Not strengthen/weaken
FOWN*RES	6.991	0.159	0.156	Not Moderating	Not strengthen/weaken
FOWN*INST	-0.453	0.158	0.197	Not Moderating	Not strengthen/weaken
FOWN*INDP	-3.210	0.177	0.003	Moderate	Strengthens negatively

Based on Table 2 can be explained as follows:

1. Significance value for the FOWN * BIG4 variable is 0,000 ($p < 0.05$) indicating that the audit committee moderates the effect of family ownership on tax aggressiveness. The interaction between family ownership and the audit committee is a positive reinforcement of the influence of family ownership on tax aggressiveness. This can be known by the value of the coefficient of determination or adjusted R2 in the first test (not using the moderating variable) of 0.156 or 15.6%. This value is smaller than the adjusted R2 value in the second test (using the Audit committee variable as moderation) which is equal to 0.193 or 19.3%, so it can be concluded that the use of an audit committee is able to strengthen the influence of family ownership on tax aggressiveness.
2. Significance value for the FOWN * SIZE variable is 0.862 ($p > 0.05$) indicating that firm size does not moderate the influence of family ownership on tax aggressiveness. The interaction of the moderating variable is not able to moderate the influence of family ownership on tax aggressiveness. This can be known by the value of the coefficient of determination or adjusted R2 in the first test (not using the moderating variable) of 0.156 or 15.6%. This value is greater than the adjusted R2 value in the third test (using firm size variables as moderation) which is equal to 0.153 or 15.3%, so it can be concluded that the use of firm size is not able to moderate the influence of family ownership on tax aggressiveness.
3. The significance value for the FOWN * KOMP variable is 0.263 ($p > 0.05$) indicating that executive compensation does not moderate the influence of family ownership on tax aggressiveness. The interaction of the moderating variable is not able to moderate the influence of family ownership on tax aggressiveness. This can be known by the value of the coefficient of determination or adjusted R2 in the first test (not using the moderating variable) of 0.156 or 15.6%. This value is not too large compared to the adjusted R2 value in the fourth test (using executive compensation variables as moderation) which is equal to 0.157 or 15.7%, so it can be concluded that the use of executive compensation is not able to moderate the influence of family ownership on tax aggressiveness.
4. The significance value for the FOWN * RES variable is 0.156 ($p > 0.05$) indicating that character executives do not moderate the influence of family ownership on tax aggressiveness. The interaction of the moderating variable is not able to moderate the influence of family ownership on tax aggressiveness. This can be known by the value of the coefficient of determination or adjusted R2 in the first test (not using the moderating variable) of 0.156 or 15.6%. This value is not too large compared to the adjusted R2 value in the fifth test (using executive character variables as moderation) which is equal to 0.159 or 15.9%, so it can be concluded that the use of executive characters is not able to moderate the influence of family ownership on tax aggressiveness.
5. The significance value for the FOWN * INST variable is 0.197 ($p > 0.05$) indicating that institutional ownership does not moderate the influence of family ownership on tax aggressiveness. The interaction of the moderating variable is not able to moderate the influence of family ownership on tax aggressiveness. This can be known by the value of the coefficient of determination or adjusted R2 in the first test (not using the moderating variable) of 0.156 or 15.6%. This value is not too large compared to the adjusted R2 value in the sixth test (using institutional ownership variables as moderation) that is equal to 0.158 or 15.8%, so it can be concluded that the use of institutional ownership is not able to moderate the influence of family ownership on tax aggressiveness.
6. The significance value for the FOWN * INDP variable is 0.003 ($p < 0.05$) indicating that the proportion of independent commissioners moderates the effect of family ownership on tax aggressiveness. The interaction between family ownership and the proportion of independent commissioners has a negative effect on the influence of family ownership on tax aggressiveness. This can be known by the value of the coefficient of determination or adjusted R2 in the first test (not using the moderating variable) of 0.156 or 15.6%. This value is smaller than the adjusted R2 value in the seventh test (using the variable proportion of independent commissioners as moderation) that is equal to 0.177 or 17.7%, so it can be concluded that the use of the proportion of independent commissioners is able to strengthen the influence of family ownership on tax aggressiveness.

5. Conclusion

Based on the discussion in the previous chapters, some conclusions can be drawn, including the following:

1. There is no effect of the structure of family ownership on aggressive tax aggressiveness, with a significant value of less than 0.05.
2. The existence of good corporate governance can reduce the likelihood of family companies conducting tax aggressiveness through executive compensation and executive character, while the audit committee, institutional ownership, and proportion of BOC may not necessarily reduce the possibility of family companies conducting tax aggressiveness. Similarly, transparency which also does not necessarily reduce the likelihood of family companies conducting tax aggressiveness.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 172-181
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.77

Personal Values and Organizational Commitment of Employees and Ethical Climate of Medium Enterprises in Eastern Visayas, Philippines

Analyn M. Banagbanag[1*]

[1] University of Eastern Philippines

Abstract
This descriptive-correlational study determined the personal values, an organizational commitment of employees and ethical climate of medium enterprises in Eastern Visayas. Respondents were 21 managers and 182 rank-and-file employees of 16 medium enterprises, determined using purposive sampling technique. Personal Values Scales, Organizational Commitment Questionnaire and Ethical Climate Questionnaire were used. Results were analyzed using Pearson-Product Moment Correlation Coefficient, Point-Biserial Correlation Coefficient, Eta Correlation, and t-test. The twelve Personal Values were "dominant" for both respondents. The managers had an average level of Organizational Commitment, and the rank-and-file had high commitment. Both groups perceived their organization to be highly ethical. Being manager was significantly related to ethical climate while for the rank-and-file employees, household size, monthly salary, highest degree, and employment status were significantly related to ethical climate. Physical development, honesty, religiousness, self-control, creativity, and independence were significantly related to ethical climate for managers, and all 12 variables were significantly related to ethical climate for rank-and-file.

Keywords: Personal Values, Organizational Commitment, Ethical Climate, Medium Enterprise

Introduction

Values contribute to a person's behavior and choice, including values that involve ethical decision making. Researchers have found that people's values tend to be congruent with the values that are upheld in their work environments (Holland, 1996). Organizations that have an ethical culture, coupled with systems that are also congruent, can influence the likelihood that employees will behave in ethical ways (Trevino, Weaver, & Reynolds, 2006). However, the critical issue of whether employees will choose to take the correct path is a matter of an individual's choice, and such a choice will be shaped by the individual's environment.

* **Dr. Analyn M. Banagbanag** is the Chair of the Department of Management, College of Business Administration, University of Eastern Philippines. She teaches subjects in business management. She earned her Doctor of Management major in Business Management degree from the Eastern Visayas State University, Tacloban City.

Organisational commitment, as its name denotes, has been regarded as having work behavioral impacts that are instrumental in organisational success (Meyer & Herscovitch, 2001). Highly committed employees are found to exhibit better job performance and higher levels of attendance (Stephens, Dawley, & Stephens, 2004). The potential of commitment for facilitating employee's intention to participate in a professional activity is also confirmed (Snape & Redman, 2003). In addition, the commitment has been considered influential in the employee's willingness to do more than is required by organisations.

It is presupposed that these personal values and organizational commitment of employees make up the ethical climate of the work environment of these employees. Ethical climate refers to the shared perceptions of organisational members regarding what is considered correct behaviour in the organisation and how the organisation deals with ethical issues (Cullen, Parbooteah, & Victor, 2003). These personal values have a significant influence on decision-making, and they propel people in their commitment to the organization and to behave in an ethical or unethical manner. Personal values, although individualistic in nature, are largely influenced by societal and cultural factors. They influence an individual's behaviour and attitude, and this can at times conflict with the values held by colleagues or organisations within which they work. The approach to resolving ethical issues can become critical to the longevity of an organization, the individual's commitment to his/her organization and therefore determine the individual's future with the organisation.

In the world of business, the profit motive is singularly the biggest stumbling block to ethical behavior and practices. Business is business, and the drive for profit very often undermines ethical behavior, regardless of the political or economic environment. But what constitutes unethical behavior in the business world? Clearly, that which is prohibited by law is unethical. In the conduct of business and trade, there is often a large gray area wherein the distinctions between right and wrong are not so clear. What may be perceived to be unethical by a firm's competitors may well be justified as simply aggressive marketing methods. Thus self-regulation or self-policing comes into play, and personal values are a great factor.

The focus of this study are the medium enterprises in Eastern Visayas. It looked into the personal values and organizational commitment of the managers and the rank-and-file employees of medium enterprises in Eastern Visayas and how these factors relate to the ethical climate of their work environment.

Therefore, exploring how values are influential at both the personal and the organizational levels would be a valuable contribution to understanding the organizational commitment of rank and file employees and managers and the ethical climate in medium enterprises in Eastern Visayas.

This study determined the personal values and organizational commitment of the employees and the ethical climate of medium enterprises in Eastern Visayas. Specifically, this study tried to answer the following questions: What is the profile of managers and rank and file employees of medium enterprises in terms of the following: age, sex, civil status, highest educational attainment, household size, position, number of years in present employment, employment status, and monthly salary; What are the dominant personal values of managers and rank and file employees of medium enterprises in terms of intellectualism, kindness, social skills, loyalty, academic achievement, physical development, leadership, honesty, religiousness, self-control, creativity, and independence; What is the level of organizational commitment of managers and rank and file employees of medium enterprises along: affective commitment, continuance commitment, and normative commitment; What is the ethical climate of the medium enterprises as perceived by the managers and rank and file employees of medium enterprises along the following domains: ethical environment, employee-focused, community-focused, obedience to authority, code implementation, self-interest, efficiency, rules and procedures, personal ethics, law and professional codes; Is the ethical climate of the medium enterprises related to profile, personal values, and organizational commitment; and Is there a difference in the ethical climate of medium enterprises as perceived by two groups?

Methodology

The study used the descriptive-correlational design that enabled the researcher to describe the occurrence of variables and/or determine a relationship between or among the variables.

The respondents of the study were 21 managers and the 182 rank-and-file employees of 16 medium enterprises in Eastern Visayas who were determined using the purposive sampling technique.

To get the necessary data, standardized instruments were used like Personal Values Scales of Scott (1965), Organizational Commitment Questionnaire (Allen and Meyer 190), and Ethical Climate Questionnaire (Victor and Cullen 1988). Results were analyzed using Pearson Product Moment Correlation Coefficient, Point-Biserial Coefficient, Eta Correlation, and t-test.

Results and Discussion

Based on the data gathered, the following findings are established.

Profile of the Respondents

Age. Out of the 21 respondents occupying the managerial positions, nine (9) or 42.9 percent were aged 36 – 55, seven or 33.3 percent belonged to the age bracket of 35 and below, and five (5) or 23.8 percent belonged to the age bracket 56 and above. Out of the 182 respondents who were part of the rank-and-file, 133 or 73.1 percent belonged to the age bracket of 35, and below, 45 or 24.7 percent of them were aged 36 – 55 years old and only four (4) or 2.2 percent belonged to the age bracket of 56 and above.

Sex. There were 11 or 52.4 percent female managers and 10 or 47.6 percent male managers. A majority of the rank-and-file employees or 113 or 62.1 percent were females, and only 69 or 37.9 percent were males.

Civil Status. Seventeen (17) or 81 percent of the managers were married, three (3) or 14.3 percent were single, and only one (1) or 4.8 percent was a widow/widower. The rank-and-file employees were dominated by single individuals who comprised 95 or 52 percent, 82 or 45.1 percent of them were married, four (4) or 2.2 percent were separated, and only 1 or .5 percent was a widow/widower.

Highest Degree Earned. Fourteen (14) or 66.7 percent of the managers were bachelor's degree holders, three (3) or 14.3 percent were high school graduates, two (2) or 9.5 percent were high school level and one (1) each or 4.8 percent took the vocational course and a college level. There were 82 or 45.1 percent of the rank-and-file employees who were high school graduates, 67 or 36.8 percent were holders of a bachelor's degree, 12, or 6.6 percent were high school level, nine (9) or 4.9 percent had taken a vocational course, eight (8) or 4.4 percent were college level and only four (4) of them were elementary graduates.

Household Size. There were 11 or 52. 4 percent of the managers who had 5 and below members in their household, 10 or 47.6 percent had 6-9 members in their household. On the rank-and-file employees, 106 or 58.2 percent had a household size of 5, and below, 68 or 37.4 percent had 6-9 household size, and only 8 or 4.4 percent had 10 and above the size of household.

Position. Eleven (11) of the manager-respondents or 52.4 percent were holding the position of manager, and 10 or 47.6 percent were supervisors while 108 of the respondents were part of the rank-and-file.

Number of Years in Present Employment. On the number of years in their present employment, seven (7) or 33.3 percent of the managers had been in their present employment for 1 – 3 years, six (6) or 28. 6 percent were in their present position for 10 years and above, five (5) or 23.8 percent for 4 – 6 years and three for 7 – 9 years. Ninety-six (96) or 52.7 percent of the rank-and-file employees had been employed in the medium enterprise for 1 – 3 years, 32 or 17.6 percent of them had been in their present employment for 4 – 6 years and another 32 or 17.6 percent for less than a year, 14 or 7.7 percent for 10 years and above and eight (8) or 4.4 percent for 7 – 9 years of employment.

Employment Status. There was 20 or 95.2 percent of the managers who were on permanent status, and only 1 or 4.8 percent was on contractual status. There were 86, or 47.3 percent of the rank-and-file employees were on permanent status, 81 or 44.5 percent contractual employees, and 15 or 8.2 percent part-time employees.

Monthly Salary. Fifteen (15) or 71.4 percent of the managers were receiving Php 11,000.00 – 15,000.00 per month, five (5) or 23.8 percent were receiving 5,000.00 – 10,000.00 per month and only one (1) was receiving a monthly salary of Php 16,000.00 – 20,000.00. There were 138 or 75.8 percent rank-and-file employees who were receiving a monthly salary of Php 5,001.00 – 10,000.00, 26 or 14.3 percent were receiving Php 5,000.00 and below, 15 or 8.2 percent were receiving Php 11,000.00 – 15,000.00 per month and only three (3) or 1.6 percent were receiving Php 16,000.00 – 20,000.00. Figure 1 presents the profile of the respondents.

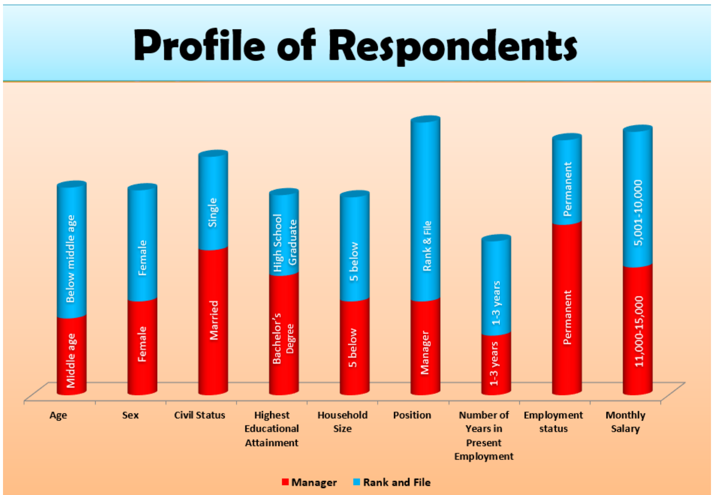

Figure 1: Profile of the Respondents

Personal Values of Managers and Rank-and-file Employees of Medium Enterprises in Eastern Visayas

To measure the personal values of both managers and rank-and-file employees, Scott's (1965) Personal Values Scale was used. There were 12 subscales with four to six items per scale. The subscales are the following: intellectualism, kindness, social skills, loyalty, academic achievement, physical development, leadership, honesty, religiousness, self-control, creativity, and independence.

As presented in Table 1, the study revealed that all the 12 values are "dominant" for both the managers and the rank-and-file employees.

For the managers, although all these personal values were "dominant," academic achievement had the highest mean of 4.28 and the lowest mean is creativity with 3.71. This data means that for the managers, academic achievement is very important especially in running a business. This result is justified by their personal data as a majority of them were bachelor's degree holders.

For the rank-and-file employees, all these values were also "dominant" but the personal value that received the highest mean was intellectualism with 4.32, and the lowest is creativity with a mean of 3.79. This data means that intellectualism is important for rank-and-file employees. Creativity is the least prioritized for both the managers and the rank-and-file employees.

Personal Values	Manager		Rank-and-File	
	Mean	Interpretation	Mean	Interpretation
Intellectualism	4.11	Dominant	4.32	Dominant
Kindness	4.00	Dominant	4.29	Dominant
Social skills	4.08	Dominant	4.24	Dominant

Loyalty	3.81	Dominant	4.03	Dominant
Academic achievement	4.28	Dominant	4.11	Dominant
Physical development	4.06	Dominant	4.11	Dominant
Leadership	4.11	Dominant	4.15	Dominant
Honesty	3.91	Dominant	4.14	Dominant
Religiousness	3.94	Dominant	4.21	Dominant
Self-control	3.75	Dominant	3.96	Dominant
Creativity	3.71	Dominant	3.79	Dominant
Independence	3.92	Dominant	4.05	Dominant

Table 1: Personal Values of Managers and Rank-and-file Employees of Medium Enterprises in Eastern Visayas

Level of Organizational Commitment of Managers and Rank-and-File Employees of Medium Enterprises in Eastern Visayas

The data on the Level of Organizational Commitment of Managers and Rank-and-file employees of medium enterprises in Eastern Visayas data revealed that the managers have an average commitment as reflected in the grand mean of 3.47 while the rank-and-file employees have a high commitment to their present work with a grand mean of 3.58. This data is presented in Table 2.

The affective commitment or the emotional attachment of the managers to their organization or the work they are in now have an average commitment with a mean of 3.31. The rank-and-file employees, on the other hand, have a high affective commitment with the mean score of 3.57. This could mean that managers of medium enterprises in Eastern Visayas do not have a very strong cohesive commitment or attachment to their present organization. This could further mean that the managers with the majority of them being graduates of bachelor's degrees, do not want to be attached to their present organization. For the rank-and-file employees, they have a high commitment, and they feel that this is their organization, this is family for them.

In continuance commitment which according to Meyer and Allen (1991) is an individual's willingness to remain in the organization based upon an acute recognition of the costs associated with leaving the organization. For the managers, they have high continuance commitment with a mean of 3.58, and the same is also true for the rank-and-file employees which mean score is 3.54. This result could mean that both the managers and the rank-and-file employees of medium enterprises in Eastern Visayas would want to remain in their present organization because they feel that it would give them greater potential benefits than if they would look for work someplace else.

For normative commitment which focuses on the individual's sense of obligation to remain in the organization. Both the managers and the rank-and-file employees have a high normative commitment to their organization with a mean of 3.54 and 3.63, respectively. This means that both the managers and the rank-and-file employees of the medium enterprises in Eastern Visayas feel that they have a moral obligation to stay with their present organization.

Organizational Commitment	**Manager**		**Rank-and-File**	
	Mean	**Interpretation**	**Mean**	**Interpretation**
Affective Commitment	3.31	Average Commitment	3.57	High Commitment
Continuance Commitment	3.58	High Commitment	3.54	High Commitment
Normative Commitment	3.54	High Commitment	3.63	High Commitment
Grand Mean	**3.47**	**Average Commitment**	**3.58**	**High Commitment**

Table 2: Level of Organizational Commitment of Managers and Rank-and-File Employees of Medium Enterprises in Eastern Visayas

Ethical Climate of Medium Enterprises in Eastern Visayas as Perceived by Managers and Rank-and-file Employees

The perceptions of the managers and the rank-and-file employees on the ethical climate of the medium enterprises in Eastern Visayas showed that both the managers and rank-and-file employees perceived that their organization was highly ethical with a grand mean of 3.83 and 3.89, respectively. This data is presented in Table 3.

For the managers, all the domains in their organization except one were perceived to be practicing ethical standards as all these were scored "highly ethical." Observance of the "rules and procedures," and "law and professional codes" had the highest mean of 4.04 while "obedience to authority" with a mean of 3.49. "Obedience to authority" was only perceived by the managers to be "ethical" with a mean of 3.49. This means that for the managers the implementation of the rules and procedures, and laws and professional codes are properly observed in the medium enterprises in Eastern Visayas.

On the perception of the rank-and-file employees, all these domains were being observed with the highly ethical standard. The "laws and professional codes" had the highest mean of 4.17, while "obedience to authority" had the lowest mean of 3.63. This means that for the rank-and-file employees, the medium enterprises in Eastern Visayas are observing ethical standards particularly on the implementation of laws and professional codes. It is worth noting, however that obedience to authority received the lowest mean both for the managers and the rank-and-file employees.

Domains	Managers		Rank-and-File	
	Mean	Interpretation	Mean	Interpretation
Ethical environment	3.54	Highly Ethical	3.67	Highly Ethical
Employee-focused	3.85	Highly Ethical	3.89	Highly Ethical
Community-focused	3.97	Highly Ethical	4.00	Highly Ethical
Obedience to authority	3.49	Ethical	3.63	Highly Ethical
Code implementation	3.70	Highly Ethical	3.70	Highly Ethical
Self-interest	3.83	Highly Ethical	3.88	Highly Ethical
Efficiency	3.94	Highly Ethical	3.96	Highly Ethical
Rules and procedures	4.04	Highly Ethical	4.03	Highly Ethical
Personal ethics	3.93	Highly Ethical	4.01	Highly Ethical
Law and professional codes	4.04	Highly Ethical	4.17	Highly Ethical
Grand Mean	**3.83**	**Highly Ethical**	**3.89**	**Highly Ethical**

Table 3: Ethical Climate of Medium Enterprises in Eastern Visayas as Perceived by Managers and Rank-and-file Employees

The relationship between the Ethical Climate and the Respondents' Profile, Personal Values and Organization Commitment

Relationship of the Ethical Climate and the Profile of the Respondents. For the managers, the variables like age, sex, household size, number of years in present employment, monthly salary, civil status, and highest degree earned, were found to be not significantly related to ethical climate while their position being manager or supervisor was found to be significant. For the rank-and-file employees, age, number of years in present employment, sex and civil status were found to be not significant while household size, monthly salary, highest degree earned and employment status were found to be significantly related to ethical climate. This data is presented in Table 4.

Profile	Managers			Rank-and-File		
	Correlation Coefficient	p-value	Interpretation	Correlation Coefficient	p-value	Interpretation
Age	0.18	0.20	Not Significant	-0.01	0.41	Not Significant
Sex	0.22	0.14	Not Significant	-0.00	0.44	Not Significant
Civil Status	0.16	0.23	Not Significant	0.04	0.28	Not Significant
Highest Educational Attainment	-0.22	0.16	Not Significant	-0.14	0.02	Significant
Household Size	0.03	0.43	Not Significant	0.16	0.01	Significant
Position	-0.60	0.00	Significant	-	-	-
Number of Years in Present Employment	0.35	0.05	Not Significant	-0.07	0.17	Not Significant
Employment Status	0.17	0.22	Not Significant	-0.12	0.04	Significant
Monthly Salary	-0.25	0.13	Not Significant	-0.13	0.03	Significant

α = 0.05 level of significance

Table 4: Relationship of the Ethical Climate and the Personal Profile of the Respondents

Relationship of the Ethical Climate and the Personal Values of the Respondents. As presented in Table 5, for the managers, physical development, honesty, religiousness, self-control, creativity, and independence were found to be significantly related to ethical climate while intellectualism, kindness, social skills, loyalty, academic achievement, and leadership were found to be not significant. On the part of the rank-and-file employees, all the 12 variables were found to be significantly related to ethical climate.

Personal Values	Managers			Rank-and-File		
	Correlation Coefficient	p-value	Interpretation	Correlation Coefficient	p-value	Interpretation
Intellectualism	0.29	0.09	Not Significant	0.28	0.00	Significant
Kindness	0.12	0.29	Not Significant	0.30	0.00	Significant
Social Skills	0.22	0.15	Not Significant	0.33	0.00	Significant
Loyalty	-0.11	0.31	Not Significant	0.43	0.00	Significant
Academic Achievement	0.16	0.23	Not Significant	0.33	0.00	Significant
Physical Development	0.49	0.01	Significant	0.31	0.00	Significant
Leadership	0.24	0.14	Not Significant	0.46	0.00	Significant
Honesty	0.37	0.04	Significant	0.40	0.00	Significant
Religiousness	0.49	0.01	Significant	0.32	0.00	Significant
Self-control	0.45	0.02	Significant	0.33	0.00	Significant
Creativity	0.60	0.00	Significant	0.40	0.00	Significant
Independence	0.53	0.00	Significant	0.53	0.00	Significant

Table 5: Relationship of the Ethical Climate and the Personal Values of the Respondents

Relationship of the Ethical Climate and the Organizational Commitment of the Respondents. The data presented in Table 6 shows that for both the managers and the rank-and-file employees all the three components of organizational commitment, namely, affective commitment, continuance commitment, and normative commitment were found to be significantly related to ethical climate.

Variables	Managers			Rank-and-File		
	Correlation Coefficient	p-value	Interpretation	Correlation Coefficient	p-value	Interpretation
Affective Commitment	0.51	0.00	Significant	0.54	0.00	Significant
Continuance Commitment	0.75	0.00	Significant	0.64	0.00	Significant
Normative Commitment	0.76	0.00	Significant	0.64	0.00	Significant

Table 6: Relationship of the Ethical Climate and the Organizational Commitment of the Respondents

The difference in the Ethical Climate of Medium Enterprises as Perceived by the Managers and the Rank-and-file Employees

The result of the t-test showed that the perceptions of the managers and the rank-and-file employees towards ethical climate were not significantly different as evidenced by the t-value of 0.59 and p-value of 0.55 which is higher than 0.05 margin of error. This means that the way managers and rank-and-file employees demonstrate respect for key principles is the same. This data is presented in Table 7.

	t-value	p-value	Interpretation
Ethical Climate as Perceived by the Managers and the Rank-and-File Employees	0.59	0.55	No Significant Difference

Table 7: Difference in the Ethical Climate of Medium Enterprises as Perceived by the Managers and the Rank-and-file Employees

Conclusions

In light of the findings of this study, the following conclusions were drawn:

1. Medium enterprises in Eastern Visayas were managed by middle aged individuals, mostly females, married, bachelor's degree holders, with small household size, a novice in their present employment and receiving an average amount of monthly salary. The rank-and-file employees, on the other hand, were below middle age, dominated by female, single, a majority were high school graduates, with small household size, a novice with 1-3 years in present employment, permanent and having a low monthly salary.
2. On the personal values of both managers and rank-and-file employees of medium enterprises in Eastern Visayas, all the 12 moral ideals were found to be "dominant."
3. The level of organizational commitment of managers was found to be average while the rank-and-file employees had a high commitment to their present work.
4. The perceptions of both the managers and the rank-and-file employees on the ethical climate of the medium enterprises in Eastern Visayas were found to be highly ethical.
5. The profile of the managers has no significant relationship on the perceived ethical climate of medium enterprises in Eastern Visayas. Their position as manager or supervisor was the only indicator which was found to be significantly related to ethical climate. For the rank-and-file employees, only the monthly salary, highest degree earned and employment status were found to be significantly related to ethical climate.

6. The personal values of the managers which were found to be significantly related to ethical climate were physical development, honesty, religiousness, self-control, creativity, and independence while all the 12 moral ideals were significantly related to ethical climate for the rank-and-file employees.
7. Organizational commitment of the managers and the rank-and-file employees was found to be significantly related to the ethical climate.
8. The perceptions of the managers and the rank-and-file employees towards ethical climate were not significantly different.

Recommendations

Based on the conclusions drawn from the study, the following recommendations are herein forwarded:

1. To be an effective manager, one should be equipped with both the theoretical knowledge and the right amount of actual practice. Aside from the fact that these managers of medium enterprises in Eastern Visayas were still a novice in their present work, and are bachelor's degree holders, they should also aim to advance their education. It is suggested that these medium enterprises should encourage their employees holding managerial positions to pursue graduate education on business management or undergo training related to business management.
2. The "dominant" result on the personal values can still be improved to "very dominant" if these employees, both the managers and the rank-and-file employees, will try to revisit the things that they value the most.
3. The medium enterprise can seek help from the Department of Trade and Industry (DTI) to conduct a seminar. Or better yet, universities will conduct extension work to conduct this kind of seminar. This can be done as part of their team building activities.
4. Organizational commitment of managers can be improved if the medium enterprise will invest in their personal and professional development of their employees. The management of these enterprises can also encourage best performing rank-and-file employees to seek for personal and professional advancement. This will surely boost their morale as employees and build a strong attachment to the organization this way, and the ordinary employees will feel that they are part of the organization.

Author's Profile

Analyn M. Banagbanag earned her Doctor of Management Technology major in Business Management in 2018 at the Eastern Visayas State University. She is a faculty of the College of Business Administration, University of Eastern Philippines.

Acknowledgment

The author wishes to thank the University of Eastern Philippines for the funding support extended for this research that made its completion possible.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 182-189
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.78

Value Creation in a 'Non-Producing' Enterprise

Uyiosa Omoregie[1]

[1] Corporate Planning Department, Brass LNG, Lagos, Nigeria

Correspondence: Corporate Planning Department, Brass LNG, 2 Kingsway Close, Off Alfred Rewane Road, Ikoyi, Lagos, Nigeria. E-mail: uyiosa.omoregie@brasslng.com

Abstract
A widely-held proposition is that an enterprise does not create value until it commences production of goods or services for external customers for monetary profit. Another related proposition is that employees in a 'non-producing' enterprise if remunerated, are paid 100 percent above the value of their labour – because the enterprise is not creating value. Counter-arguments to these two propositions are presented. To provide justification and support for the counter-arguments, the purpose of a firm or business enterprise is discussed and the nature of 'value' is elaborated with a critique of the dominant marginal productivity theory of value. An example of a non-producing enterprise: A liquefied natural gas (LNG) company at 'pre-operation' stage is presented. LNG companies often lock-in customers with 20-year contracts before commencing production – this is value creation. Value, it seems, is not in the eyes of every beholder but found in the eyes of the shareholders of an enterprise who can use key performance indicators (KPIs) and enterprise risk management (ERM) to track employees' value creation throughout the life cycle of the enterprise.

Keywords: Value, Enterprise, Productivity, Projects, Profit, Ideas, Workers

1. Introduction

This paper attempts to refute two widely-held propositions regarding the nature of value creation in an enterprise – more specifically a business enterprise. Counter-arguments to the two propositions are presented in the introduction. Further sections of the paper try to provide justification and support for the refutation of the propositions stated in the introduction. The purpose of a firm or business enterprise is discussed, the nature of 'value' is elaborated showing that today's dominant theory of value (marginal productivity) has serious shortcomings. The enterprise is shown to exist in different stages of its life cycle with a particular purpose at each stage. This paper concludes with an example of a 'non-producing' enterprise: The pre-operation stage liquefied natural gas company.

1.1 Proposition 1

An enterprise not producing goods or services for external customers in exchange for monetary again is not creating value.

1.1.1 Counter *Argument to Proposition 1*

Value creation in an enterprise is defined by the stated goals of the enterprise, usually articulated by the business owner(s) and or management or stated by legislation (in the case of some public/government-owned enterprises). A non-profit enterprise (e.g., a non-governmental organization) creates value without exchanging goods or services for monetary gain. Therefore, the monetary gain cannot be pre-requisite to value creation in every enterprise.

There are various stages in the life cycle of an enterprise. This is most obvious in the case of a 'startup,' a special type of enterprise (or stage in the lifecycle of an enterprise?). Startups face high risk and uncertainty, notable startup success stories of this generation: Facebook, Google, Amazon, and many similar enterprises did not become 'profitable' until after many years, in some cases remained unprofitable for up to 10 years or more after the commencement of operations.

A high-risk startup usually seeks financing, such as venture capital. The venture capitalist will seek a good return for the investment made, taking into consideration the risky nature of the venture. The financier of a start-up will need to be patient and not expect a financial return on investment immediately. At the earliest stage in the lifecycle of a startup, the 'value' that is created is simply the 'idea' or 'purpose' that the startup has brought to the financier. This idea or purpose can actually be given a monetary value, an estimate of the future stream of income (valuation) that the startup could bring during the life of the enterprise. However, at this stage in the life of the enterprise, almost everything is abstract.

Many enterprises are formed in order to execute a large project. At each phase of a project-based enterprise, there are specific goals. The overarching mission of the enterprise may be connected to monetary gain but have most phases in the life cycle not directly yield a monetary profit. Success for such enterprise (or any enterprise for that matter) can only be fairly judged by the progress it makes towards accomplishing set goals at each phase of its life cycle.

Even in the 'operation' or 'producing' or 'transactional' phase of an enterprise (or project), when there is a direct monetary gain or 'profit,' an enterprise could change strategy to sacrifice short-term monetary profit for longer-term profit and viability. This is frequently the case when an enterprise cuts the price of its goods or services in order to gain more customers – greater market share. The stream of new loyal customers is indeed 'value:' new customers can be charged a higher price in future resulting in more money profit for the enterprise later. This type of strategy could be life-saving for the enterprise, as failure to do this could leave the enterprise irrelevant in the market.

In summary, an enterprise can create value without producing monetary gain. Value is determined by what the owners of the enterprise desire to be accomplished not only when the enterprise is in 'operational' or 'producing' or 'transactional' phase. In addition to the overarching goal of the enterprise (its 'mission'), at every phase in the life cycle of an enterprise, the accomplishment of the goals of a specific phase results in value creation for the owners of the enterprise.

In opposition to Proposition 1: The producing of goods or services for external customers in exchange for money from the customer is not the only value-creating task in the life cycle of an enterprise.

1.2 Proposition 2:

Employees supplying their own labour to a 'non-producing' enterprise, if remunerated, are paid 100 percent above the value of their labour – because the enterprise is not creating value.

1.2.1 Counter Argument to Proposition 2

"People make it happen" is a popular refrain stressing the importance of human resources if the goals of an enterprise will be achieved. Some enterprises have tried to tie employees' remuneration directly to the impact the employees make to the bottom line (profit). This is possible only when the nature of the employee's job description allows for his or her daily or monthly or annual work results to be measured accurately. A salesperson can be remunerated based on a percentage of the sales of goods achieved. However, not all job tasks can be so easily

analyzed to give such a direct quantitative value. Most job tasks are carried out within a team and separating the specific quantitative value created by each team member would be almost impossible. This would imply that the value created by an employee in such a team could be mostly abstract. A particular employee could simply be an 'ideas' woman, known for creative and strategic thinking. Another employee could be known more for being an 'implementer' with valuable project management skills, taking an abstract idea and bringing it to reality.
In opposition to Proposition 2: The remuneration of employee labour in many enterprises is not necessarily tied directly to 'production' by the enterprise for monetary profit. Value creation by employees in many enterprises takes place during interdependent activity with other employees, and it may be impossible to attribute a specific monetary value to a specific employee's work. 'Production' by the enterprise for monetary profit cannot be the only justification for employee remuneration.

2. Why are Business Enterprises Created?

Enterprises exist everywhere. Sometimes the observation of a phenomenon that occurs everywhere can pose the most difficult questions to answer. Why do business enterprises exist? The knee-jerk answer would follow Friedman's declaration that the social responsibility of a business enterprise is the creation of 'profit' (Friedman, 2007). But 'profit' is only one form of 'value.' As argued earlier, it is safer to generally state that the purpose of an enterprise is to create 'value' for its owners (shareholders) and other stakeholders. Different organizations have different value creation processes and those who would benefit from value created differ too:

The value creation process and the beneficiaries of value are different for different organization types. In business and industry, the owners of the business expect to benefit financially from value creation and customer satisfaction with produced products and services. In government, citizens, program recipients and other stakeholders and elements of society benefit from value creation. And in nonprofit organizations, the members and other stakeholders of the association, charity, or foundation benefit (Association for Strategic Planning, 2015, p.41).

2.1 The enterprise as a transaction-cost reducing invention
Business enterprises exit for its owners as an alternative to making transactions directly with the market (Coase, 1937). The creation of an enterprise helps to reduce the transaction costs that result from dealing with the market directly. Without an enterprise, there would be daily or even hourly transactions involving the negotiation of prices, contracts, and hiring of workers. Conducting business would result in the creation of endless short-term contracts. The creation of an enterprise ensures that long-term contracts can be created and administered with the enterprise. This transaction-cost-reducing purpose of a business enterprise reveals that a primary value an employee creates for an enterprise is the reduction of transaction costs. The employee has saved the employer the extra transaction costs of hiring a new worker every time the enterprise has a business activity to carry out. This original value created by the employee is largely unseen, existing mostly in the abstract.

3. The Nature of 'Value'

3.1 Disappearance of Debates about 'Value'
The debate about the nature of 'value' was central to the economic thinking of the founders of economics as a discipline. Since the beginning of the 20th century, the debate about the origin, nature, and theory of value has largely disappeared from economics classrooms and academic journals. This has far-reaching consequences because current economic thinking equates value creation with activities that fetch a price in the market. Mazzucato (2018, p. xviii) wants to "change the state of things and to do so by reinvigorating the debate about the value that used to be – and I argue, should still be – at the core of economic thinking."

If the value is defined by price, – set by the supposed forces of supply and demand – then as long as an activity fetches a price (legally), it is seen as creating value. So, if you earn a lot, you must be a value creator. I will argue that the way that the word 'value' is used in modern economics has made it easier to value-extracting activities to masquerade as value-creating activities. And in the process rents (unearned income) get confused with [genuine] profits (earned income); inequality rises, and investment in the real economy falls (Mazzucato, 2018, pp.xviii-xix)

In her analysis, Mazzucato defines ‘value' as a flow: the process by which wealth is created. This flow could result in the creation of tangible things (e.g., a loaf of bread) or something intangible like an idea or knowledge. Mazzucato then defines ‘wealth’ as a stock: “a cumulative stock of value already created.”

3.2 Marginal Productivity Theory of Value

The theory of value that is dominant in modern economics is the marginal productivity theory of value. This theory links value to prices. The earliest advocate of this theory may have been von Thunen in the early nineteenth century (Leigh, 1946). This theory was made popular by Clark (1901) who initially called the theory "the law of final productivity." Clark describes the theory:

A unit of labor added to a working force adds a certain amount to the product that is created, and under perfect competition, and in the absence of all the changes and disturbances which characterize a dynamic state, it would get, as its pay, the amount of this addition. Every other unit of labor would receive a like amount. In a corresponding way a unit of capital added to a productive fund would add a certain amount to the product, and under the same conditions of perfect competition and the absence of disturbing elements, would get this amount as its share of interest. Every other unit of capital would get a similar amount (Clark, 1901).

Marginal productivity theory states that a factor of production receives a price for its services that is equal to the value it created, under perfect competition. Today's economics textbooks generally teach that an enterprise will hire workers until an additional (marginal) worker no longer increases the profit of the enterprise. The value of the marginal product of labor determines if another worker is hired: This value must be equal or greater than the cost of hiring the extra worker (at the market wage rate) (Acemoglu et *al*., 2019)

Marginal productivity theory has contributed much to factor pricing. But, the theory stands on critical assumptions that are seldom met in a dynamic real-world economy. In the real world, perfect mobility of factors of production is not common, competition is rarely perfect, and factors of production are rarely homogeneous. To measure the marginal productivity of a particular factor of production (e.g., a particular employee), all other factors would have to be kept constant. This would create problems for measurement. This difficulty when trying to segment each person's ‘personal-production' within interdependent production was articulated by Sen (1982):

The personal production view is difficult to sustain in cases of interdependent production, i.e., in almost all the usual cases of production. Production is based on the joint use of different resources, possibly provided by different people, and it is not in general possible to separate out who—or even which resource—produced how much of the total output. There is no obvious way of deciding that "this much" of the output is owing to labor, "that much" to raw materials, "that much" to machinery, and so on. In economic theory, a common method of attribution is according to "marginal product," i.e., the extra output that one incremental unit of one resource will produce given the amounts of other resources. This method of accounting is internally consistent only under some special assumptions, and the actual earning rates of resource owners will equal the corresponding marginal products only under some further special assumptions. But even when all these assumptions have been made—quite a tall order—it is still arbitrary to assert that each resource's earnings reflect the overall contribution made by that resource to the total output.

Piketty (2014) calls marginal productivity theory "limited and naïve," "an illusion" and "not very convincing." He further elaborates:

In practice, a worker's productivity is not an immutable, objective quantity inscribed on his forehead, and the relative power of different social groups often plays a central role in determining what each worker is paid…the vast majority of top earners are senior managers of large firms. It is rather naïve to seek an objective basis for their high salaries in individual "productivity." When a job is replicable, as, in the case of an assembly-line worker or fast-food server, we can give an approximate estimate of "marginal product" that would be realized by adding one additional worker or waiter (albeit with a considerable margin of error in our estimate). But when an individual's job functions are unique or nearly so, then the marginal of error is much greater. Indeed, once we introduce the hypothesis of imperfect information into standard economic models (eminently justifiable in this context), the very notion of "individual marginal productivity" becomes hard to define. In fact, it becomes something close to a purely ideological construct on the basis of which justification for higher status can be elaborated.

In summary, employees are hardly ever remunerated based on the value of their enterprise's production or the individual productivity of each employee within overall enterprise production. This only ever happens under special circumstances. The supply and demand for labor is a more accurate determinant of remuneration in general cases than marginal productivity. For Keynes, the employment level is determined by aggregate demand and wages are then determined the employment level (Wells, 1987).

The most important asset that employees bring to an enterprise is their 'time.' Labour is universally measured in time, and employees are remunerated in relation to the amount of time they give to an enterprise – it is just that the quality of time (value) differs from worker to worker. Generally, a worker is paid according to how valuable the worker's time is to the enterprise. A worker's time makes available her human capital – her skills, experience and knowledge to be put use by the enterprise.

Another difficulty with relying on the marginal productivity theory of value is that it has nothing much to say about the production of ideas. Romer (1992) laments that the economics of ideas has historically been treated "as a footnote to the rest of economic analysis." A business enterprise basically transforms inputs into outputs, and ideas (knowledge) constitute the technological relationship between inputs and outputs (Arrow, 2000). In the 21st century, commerce is increasingly data-driven requiring information technology and new knowledge: Ideas take center stage. Arguably, the greatest value a worker can bring to an enterprise is an idea that transforms the enterprise and ultimately results in profit. Initially, it would be almost impossible to ascribe a monetary (employee's compensation value) to an idea originating from a particular employee. Workers can create value even when the enterprise cannot immediately turn the worker's abstract contribution into profit. Ideas creation could be one of the key reasons why human capital is considered the only factor of production that appreciates with time – depending on how well the employee is treated (Balogun, 2019).

4. Value Creation in Different Business Life Cycle Stages

The International Council on Systems Engineering (2015) defines the life cycle of any man-made system as "the series of stages through which something (a system or manufactured product) passes." The life cycle of a system must be properly defined if the stakeholders' needs will be met, as shown in figure 1 below.

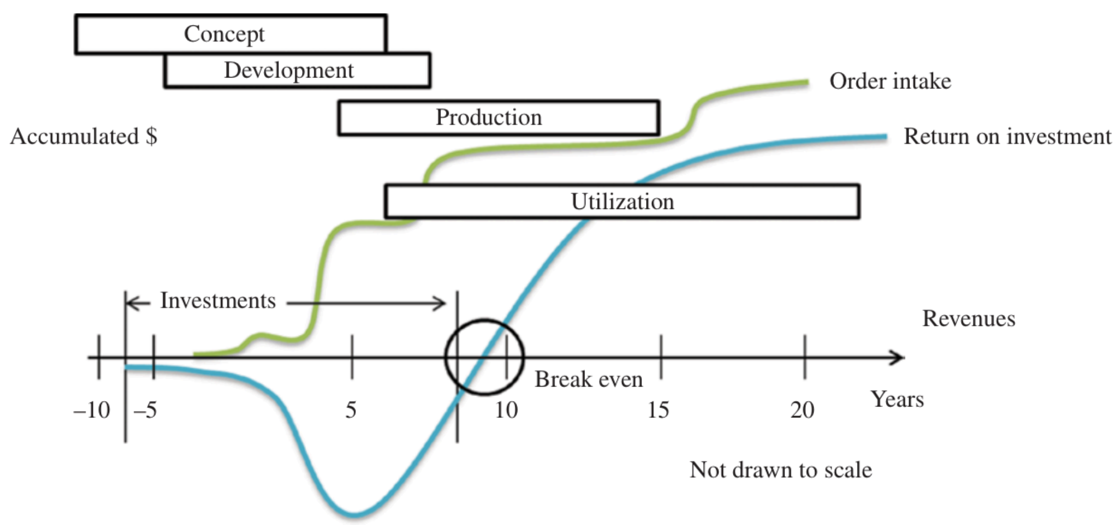

Figure 1: Generic business life cycle (International Council on Systems Engineering, 2015)

Decision gates help to partition one stage of the life cycle from another, ensuring that the enterprise is ready to advance to the next stage of the life cycle. Decision gates also help to manage enterprise risk, as can be seen in table 1 below.

Table 1: Generic life cycle stages, their purpose, and decision gate options (International Council on Systems Engineering, 2015)

Life cycle stages	Purpose	Decision gates
Concept	Define problem space 1. Exploratory research 2. Concept selection Characterize solution space Identify stakeholders' needs Explore ideas and technologies Refine stakeholders' needs Explore feasible concepts Propose viable solutions	Decision options • Proceed with next stage • Proceed and respond to action items • Continue this stage • Return to preceding stage • Put a hold on project activity • Terminate project
Development	Define/refine system requirements Create solution description—architecture and design Implement initial system Integrate, verify, and validate system	
Production	Produce systems Inspect and verify	
Utilization	Operate system to satisfy users' needs	
Support	Provide sustained system capability	
Retirement	Store, archive, or dispose of the system	

4.1 Liquefied Natural Gas Company as Example of 'Non-Producing' Enterprise

A megaproject is a complex industrial undertaking, large and expensive (usually greater than $ 1 billion in capital costs) executed by an enterprise (Omoregie, 2016). A liquefied natural gas (LNG) company is an enterprise created to design, construct and operate an LNG plant. The LNG project stages: Basic/conceptual phase; engineering phase; construction phase; operational phase and decommissioning phase. Each phase has distinct expectations from the business owners. Value creation in such an enterprise is simply the fulfilling of shareholders (and stakeholders) expectations during each phase. A distinguishing feature of an LNG project is long term contracts between the enterprise and its customers (Hartley, 2015). The average length of supply contracts between the LNG company and its customers is between 16-20 years (Ruester, 2009). For the LNG project to obtain external third-party financing, cash flow volatility must be reduced to a minimum through such long-term sales and purchase agreements. For some LNG projects, a commitment for the purchase of 80 percent of the plant's lifetime production must be in place prior to a final investment decision to begin plant construction.

Before the LNG plant is built, customers are already locked in by the LNG company. This is value creation without immediate monetary profit. Employees in the company at this 'non-producing stage' of the enterprise life cycle are already creating value and satisfying the shareholders. This strategy of customer lock-in is in line with Hax's 'Delta Model' for business strategy (Hax and Wilde, 2003). Hax and Wilde believe that customer bonding is at the heart of successful business strategy: "the fundamental strategic objective is to obtain customer bonding – that is to attract, satisfy and retain the customer." Too many enterprises put competitors at the heart of business strategy (to 'outsmart' the enemy): Strategy as continuous war. A "more constructive mindset" is to see business strategy as love: caring for the customers' explicit and implicit needs (see Figure 2 below).

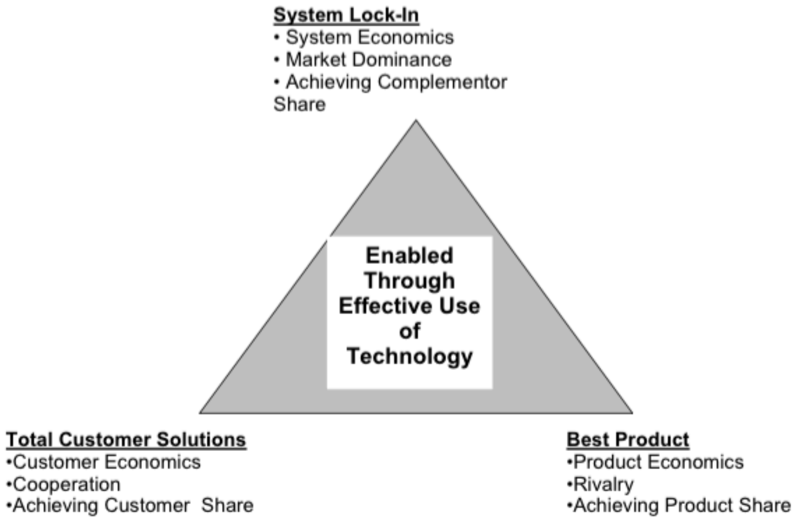

Figure 2: The Delta Model: Three distinct strategic business positions (Hax and Wilde, 2003)

5. Conclusion

Ultimately, the value is not in the eye of every beholder but in the eye of the shareholders: The shareholders state what they want the enterprise to achieve. Value implicitly defined in this paper encompasses more than monetary profit but also encapsulates future potential within an enterprise. Value can be created at every stage in the life cycle of a business enterprise. Work completed at every stage in the life of an enterprise can translate to profit or prevent losses for the enterprise at some time in the future. The two propositions stated at the beginning of this paper are proved to be incorrect or simply not applicable to all enterprises at all stages in their life cycles.
Probably the best and most reliable way to measure employee value creation is through the use of key performance indicators (KPIs). KPIs can be established for each employee during annual business planning sessions. KPIs can also be established for each business unit/department and for the enterprise as a whole. KPIs are developed based on an agreement between management and the entity whose performance will be measured. KPIs established during annual business planning should also be integrated to enterprise risk management (ERM). This integration of KPIs and ERM ensures that during the execution of day-to-day activities, the employee will intentionally manage risks: Minimize threats to accomplishing set targets and maximize every opportunity presented. This will ensure that value is created by the employees at every stage in the life cycle of the enterprise.

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The Asian Institute of Research
Journal of Economics and Business
Vol.2, No.1, 2019: 190-204
ISSN 2615-3726

DOI: 10.31014/aior.1992.02.01.79

Effects of Political Connections and Corporate Governance on Tax Aggressiveness in Indonesian Service and Banking Sectors

Arja Sadjiarto[1], Florencia[2], Olivia Nevanda[3]

[1] Tax Accounting, Petra Christian University, Indonesia. Email: arja@petra.ac.id
[2] Tax Accounting, Petra Christian University, Indonesia. Email: limantoflorencia@yahoo.com
[3] Tax Accounting, Petra Christian University, Indonesia. Email: olivia.nevanda@yahoo.com

Abstract
We investigate whether political connections and corporate governance have any effects on tax aggressiveness in service and banking sector in Indonesia. Corporate governance act as the independent variable on the first model, and as moderating variable on the second model. Tax aggressiveness is measured using effective tax rates. Political connection is measured with the amount of any connection between the company and its board member's political background. While the measurement of corporate governance are among others: board independence, board size, CEO duality, institutional ownership, and external auditor's reputation. We took the samples service companies and banks listed on the Indonesia Stock Exchange for the period 2013-2017. The analysis used in this study is the multiple linear regression analysis. The finding is that political connection does not influence tax aggressiveness in both sectors. In the service sector, corporate governance measured with CEO duality and institutional ownership has a negative effect on tax aggressiveness, while the other measurements have no effect. While in banking sectors, board size has a negative effect, institutional ownership and external auditor's reputation have a positive influence. Corporate governance did not moderate the influence of political connections on tax aggressiveness in both sectors.

Keywords: Corporate Governance, Tax Aggressiveness, Political Connections

1. Introduction

The governmental purpose of maximizing revenue from taxes is not the same as the company purpose as a taxpayer, in which the company attempts to minimize the tax burdens, so it gets higher net income. The actions of tax-saving conducted by a number of companies in Indonesia are aimed not to do tax evasions, but considerably to the purpose of saving many tax expenses paid by the company by way of utilizing gaps available within tax regulations in Indonesia (Suandy, 2014, Pranoto, and Widagdo, 2016).

Wahab, Ariff, Marzuki, Zuraidah, & Sanusi (2017); Wicaksono (2017); Pranoto & Widagdo (2016); Boussaidi & Hamed (2015); Putri (2014); Mulyadi, Anwar, & Krisma (2014); Kim dan Zhang(2013), investigated the influences of political connection and corporate governance towards tax aggressiveness. According to Wahab, Ariff, Marzuki, Zuraidah, & Sanusi (2017), they found that political related positively towards tax aggressiveness. The more who have political connections, so it can enable to do tax aggressiveness. Good governance can prevent the company from practicing company tax aggressiveness policies. Corporate governance not only have an effect on tax aggressiveness but also moderating the effect of political connection toward tax aggressiveness (Wahab et al. 2017) negatively. Whereas according to Pranoto & Widagdo (2016), political connection probably may be used by the taxpayer for helping to reduce the possibilities of tax inspections or reduce any tax sanctions by utilizing the relationship with government officials.

From the researches of Boussaidi & Hamed (2015); Putri (2014); Mulyadi, Anwar, & Krisma (2014), it is known that corporate governance also influences toward tax aggressiveness. The research of Boussaidi & Hamed (2015) found that corporate governance has positive influences toward tax aggressiveness, whereas the research of Putri (2014) found that corporate governance has negative influences toward company tax aggressiveness. Kim and Zhang (2013) stated that a company with a political connection could easily access for getting information about tax regulations or law enforcement in the future, so the company could arrange more complex tax strategies.

The samples taken are from service and banking sectors listed in Indonesian Stock Exchange in the period of 2013 to 2017. Compared with manufacturing sectors, the service sector has a higher percentage of growth, and then its tax aggressiveness tends to be higher. The banking sector is one of the biggest country tax contributors after the manufacturing company.

2. Literature Review

Agency theory explains about the relationship between management and the company owner. In agency theory, there are two parties, i.e., the management who acts as an agent and the stakeholders as principal. Jensen and Meckling (1976) defined agency relationship as contract or agreement conducted by one or more people (principals) for binding other person (agent) in order to manage services in company activities in which the agent parties have the authorities upon the management.

According to Saeed (2013), corporate governance is a system applied in the company for directly controlling operational activities. Sandy and Lukviarman (2015) stated that corporate governance for some company would support operational activities. Implementational of corporate governance mechanism should be company main attention, then it will make agent follow the policy and regulations (Lestari and Putri, 2017).

Gomez (2009) in Wicaksono (2017) explained that the special relationship with the government enables the company getting different treatment from the government compared with the one which did not have. The indicator of this political connection is whether the independent commissioner currently has past experience or currently still being a politician who affiliates to a political party and/or governmental official, and/or military official. Tiaras and Wijaya, (2015) explained that company tax aggressiveness action is some action of engineering incomes charged by taxes conducted by the company. The enforcement from tax aggressiveness is for the purpose of minimizing tax debts, and the ways conducted do not violate the valid determinations.

2.1. Hypothesis Development

Wahab, Ariff, Marzuki, Zuraidah, Sanusi (2017) showed that there are positive influences of political connection towards tax aggressiveness. The company related by political connection has benefits of risk decreases, accesses to information about tax changes, so the company related politically has lower detection risks because of protected by political connection (Kim and Zhang, 2016). The company related to the political connection in paying taxes has effectiveness level far lower than the company unrelated (Adhikari et al., 2006). Based on the explanations, this research assumes that by the company which has a political connection, so it will increase the company tax aggressiveness.

H_1. Political connection influences towards tax aggressiveness

Sandy and Hamed (2015) found that corporate governance has positive influences towards tax aggressiveness. The positive influences can be explained that the higher the corporate governance will lead to the lower the tax aggressiveness. Corporate governance or management has important roles in the company's tax attitudes. It

prevents the company from practices of tax aggressiveness (Wahab *et* al., 2017). The company that applies a good corporate governance will have a lower tax aggressiveness.
H_2: Corporate governance influences towards tax aggressiveness.

According to Wahab et al., corporate governance has roles in preventing or reducing company political involvements, so it decreases its tax aggressiveness. But, in certain conditions, political connection personal dimension can continue giving benefits for the company related politically. The relationship ot the three variables also positions corporate governance as the variable that moderates the influences of political connection towards tax aggressiveness. According to Ward, Brown, and Rodriguez (2009), the company which applied good corporate governance will pursue the principles of openness, honesty, responsibility, so that the political intervention will be more insignificant.
H_3: Corporate governance moderates the influences of political connections toward tax aggressiveness.

3. Research Method

3.1. Samples

The population are 2 sectors listed in Indonesian Stock Exchange in the period of 2013 to 2017, i.e., service and banking sectors.

Table 3.1 Samples in the Service Sector

Sample Criteria	Total	Unit
Service sector companies listed in Indonesian Stock Exchange in 2013 to 2017	221	Company
Service sector companies that do not issue complete annual reports listed in Indonesian Stock Exchange in 2013 to 2017	112	Company
Service sector companies with negative income taxes	48	Company
Companies that meet the requirements	61	Company
Companies affected by outliers	7	Company
Company become the object of research	54	Company
Years observed	5	Year
Data used	270	Data

Companies that meet the criteria for research are 61 companies because there are two main requirements that must be fulfilled, namely: completeness of financial statements published on the Indonesia Stock Exchange from 2013-2017. During that period the company did not experience losses. There were also several companies not publishing on the website. The number of data that meet the criteria for 5 years is 305 company data. But outliers were made so that only 270 data were used.

Table 3.2 Samples in the Banking Sector

Sample Criteria	Total	Unit
Banking sector companies listed on the Indonesia Stock Exchange in 2013-2017	43	Company
Banking sector companies that do not issue complete annual reports listed on the Indonesia Stock Exchange in 2013-2017	1	Company
Banking sector companies with negative income tax	5	Company
Companies that meet the requirements	37	Company
Companies affected by outliers	14	Company
Companies become the object of research	23	Company
Years observed	5	Year
Data used	115	Data

Companies that meet the criteria for research are 37 companies because there are two main requirements that must be fulfilled, namely: completeness of financial statements published on the Indonesia Stock Exchange from 2013 to 2017 and during that period the company did not experience losses, but there were also several companies not publishing on the website. The number of companies that meet the criteria for 5 years is 185 company data. But outliers were made so that only 115 data were used.

3.2 Variables Operationalization

The other independent variable in this study is political connections. Political connections that can be used in this study refer to the research of Pranoto and Widagdo (2016) because they are adjusted to companies in Indonesia, that political connection variables will be measured using numbers, by counting the number of directors of companies, external auditors and board independence who have political connections

Corporate governance measurement refers to research by Wahab et al. (2017), which is categorized into internal and external governance mechanisms. For internal governance mechanisms, including:

1. Board Independence (BINDit), measured by the comparison of the number of independent directors and the overall company director.
2. Board Size (LBSIZEit) is measured from the Ln transformation of the total number of commissioners in the company.
3. CEO Duality (DUALITYit) means that there are multiple positions between the board of commissioners and the board of directors. DUALITYit in its measurement uses a dummy, with a value of "1" when the role of the CEO and chairman is separated and "0" when CEO duality in the company exists.

For external governance mechanisms, including:

1. Institutional Investors (INSTOWNit), Institutional Investors can be seen from the percentage of share ownership by the institution to the total number of shares. The indicator used for the presentation is the percentage of shares held by other companies, the data is represented by the percentage of 5 shareholders of the top institutional investors.
2. External auditor (BIGNit), is an independent company audit of financial statements in Indonesia. Represented by the value "1" when the company uses an audit service by one of the BIG 4; if not the value "0".

The dependent variable in this study is tax aggressiveness. Measurement of tax aggressiveness by using effective tax rate (ETR) with the following formula (Wahab, Ariff, Marzuki, Zuraidah, Sanusi, 2016):

$$\text{ETR} = \frac{\textit{Total Tax Expense}}{\textit{Pretax income}} \tag{1}$$

The control variable in this research adopts the research of Wahab *et al*. (2017), and it is adjusted by the research objects. The following ones are control variables used in this research:

1. Firm Size is a measurement scale used for classifying big or small company. Size measurement is measured by using natural logarithm from the total assets.

$$\text{ASSETS} = \text{Ln (Total Assets)} \tag{2}$$

2. *Leverage,* is a ratio that describes company capital structure and describes company financing decisions. *Leverage* can be calculated by using proportions of the total debts divided by the total assets owned by the company.

$$DEBT = \frac{Total\ Utang}{Total\ Ekuitas} \tag{3}$$

3. *Market-to-book ratio,* is comparison or ratio between market value and book value.

$$MTBV = \frac{Market\ Capitalization}{Total\ Book\ Value} \tag{4}$$

3.3 The Model of Analysis

The analysis models used in this research use the research models available in the research of Wahab et al. (2017). The first model uses two independent variables, i.e., Corporate Governance and political connections and one dependent variable, i.e., tax aggressiveness. Whereas, the second model uses one independent variable, i.e., political connections, one moderation variable, i.e., Corporate Governance and one dependent variable, i.e., tax aggressiveness.

Model 1:

$$TAX\_AGRRit = \beta 0 + \boldsymbol{\beta 1POLCONit} + \boldsymbol{\beta 2CGOVit} + \beta 3ASSETSit + \beta 4DEBTit + B5MTBVit + e \quad (5)$$

Model 2:

$$TAX\_AGRR_{it} = \beta_0 + \boldsymbol{\beta_1 POLCON_{it}} + \boldsymbol{\beta_2 CGOV_{it}} + \boldsymbol{\beta_3 POLCON_{it} * CGOV_{it}} + \beta_4 ASSETS_{it} + \beta_5 DEBT_{it} + \beta_6 MTBV_{it} + e \quad (6)$$

TAX_AGRR_{it}: tax aggressiveness is measured by effective values of tax rates (ETR).
$POLCON_{it}$: political connections, is measured by dummy, the value variable is "1" if the company is related politically and "0" if not
$CGOV_{it}$: corporate governance, this variable can be categorized into internal and external mechanisms
$ASSETS_{it}$: firm size, measured by Ln_Total Asset.
$DEBT_{it}$: leverage, measured by the total debts divided by the total equities.
$MTBV_{it}$: market-to-book ratio, measured by the capitalization market ratio divided by the total book values.

The following ones are the data results of *Descriptive Statistics* for service and banking sectors:

Table 3.3 Service Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
POLCONit	270	,00	1,00	,5111	,50080
BINDit	270	,00	,40	,1251	,12452
LBSIZEit	270	,69	2,30	1,4932	,33822
DUALITYit	270	,00	1,00	,5000	,50093
INSTOWNit	270	,00	,99	,6443	,21905
BIGNit	270	,00	1,00	,4704	,50005
ASSETSit	270	10,77	19,11	14,9601	1,66457
DEBTit	270	-2,59	2,61	-,1574	,93255
MTBVit	270	-1,00	4,95	2,0618	1,48633
TAX_AGGRit	270	,00	,86	,2402	,12898
POLCONit*BINDit	270	,00	,40	,0614	,10068
POLCONit*LBSIZEit	270	,00	2,30	,8407	,85058
POLCONit*DUALITY it	270	,00	1,00	,2667	,44304
POLCONit*INSTOWN it	270	,00	,99	,3133	,35087
POLCONit*BIGNit	270	,00	1,00	,2667	,44304
Valid N (listwise)	270				

Table 3.4 Banking Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BINDit	115	,33333	1,00000	,5865424	,12091016
LBSIZEit	115	3,00000	12,00000	6,5478261	2,39972030
DUALITYit	115	,00000	1,00000	,8695652	,33825505
INSTOWNit	115	,11170	,97100	,6009591	,26251700
BIGNit	115	,00000	1,00000	,5478261	,49988557
POLCONit	115	,00000	8,00000	1,8956522	2,05782168
ETR	115	,06162	,37626	,2433106	,04497240
Asset (Firm Size)	115	27,47413	34,65629	31,0976333	1,73079894
DEBT	115	-150,97095	153,26524	14,2952712	28,31375922

MTBV	115	,00000	3,96521	1,4485821	,87506586
POLCONit_BINDit	115	,00000	4,00000	1,0896687	1,20216641
POLCONit_LBSIZEit	115	,00000	88,00000	14,1826087	18,35066929
POLCONit_DUALITYit	115	,00000	8,00000	1,8260870	2,10371797
POLCONit_INSTOWNit	115	,00000	4,31520	,9863965	1,00163888
POLCONit_BIGNit	115	,00000	8,00000	1,4086957	2,03433532
Valid N (listwise)	115				

Results of Analysis and Discussion

The feasibility test of the model in this study includes: Determination Coefficient Test, Simultaneous Significance Test (F Test) and Individual Parameter Significance Test (t test). The test was conducted with a model without moderation and with moderation of the interaction test (MRA). The following is a summary of the table of test results for each of these analyzes:

Table 2. Regression Test Results in the Service Sector

Variable	Without moderation	MRA1	MRA2	MRA3	MRA4	MRA5
Constants	0,381 (0,000)	0,373 (0,001)	0,358 (0,002)	0,377 (0,000)	0,393 (0,000)	0,381 (0,000)
POLCONit	0,017 (0,357)	0,009 (0,729)	0,059 (0,448)	0,023 (0,323)	-0,042 (0,435)	0,028 (0,229)
BINDit	-0,006 (0,927)	-0,030 (0,711)	-0,009 (0,881)	-0,006 (0,919)	-0,007 (0,915)	-0,006 (0,928)
LBSIZEit	0,019 (0,545)	0,021 (0,515)	0,033 (0,820)	0,020 (0,536)	0,025 (0,434)	0,017 (0,593)
DUALITYit	-0,076 (0,000*)	-0,076 (0,000)	-0,076 (0,000)	-0,070 (0,002)	-0,077 (0,000)	-0,077 (0,000)
INSTOWNit	-0,093 (0,015*)	-0,093 (0,015)	-0,095 (0,013)	-0,093 (0,015)	-0,143 (0,014)	-0,093 (0,015)
BIGNit	-0,007 (0,713)	-0,008 (0,699)	-0,009 (0,656)	-0,008 (0,686)	-0,012 (0,565)	0,006 (0,828)
LnAssetIT	-0,004 (0,592)	-0,003 (0,662)	-0,003 (0,646)	-0,004 (596)	-0,003 (0,713)	-0,004 (0,576)
DEBTit	0,023 (0,006)	0,023 (0,006)	0,023 (0,006)	0,023 (0,006)	0,024 (0,005)	0,023 (0,005)
MTBVit	-0,006 (0,355)	-0,007 (0,316)	-0,006 (0,370)	-0,006 (0,357)	-0,007 (0,245)	-0,006 (0,377)
POLCONit*BINDit		0,060 (0,636)				
POLCONit*LBSIZEit			-0,029 (0,576)			
POLCONit*DUALITYit				-0,012 (0,686)		
POLCONit*INSTOWNit					0,085 (0,245)	
POLCONit*BiIGNit						-0,023 (0,439)
Adjusted R Square	0,105	0,103	0,103	0,103	0,107	0,104
Sig.F	0,000	0,000	0,000	0,000	0,000	0,000

The Determination Coefficient Test (R^2) is a test to see whether the regression model is appropriate or not using the adjusted R^2 value as the Determination Coefficient Value. Based on the results of the analysis of the Service sector in table 2, it shows that the adjusted R^2 value or unmoderated coefficient is 0,105. From these results indicate that the independent variables together affect the dependent variable by 10,5% and the remaining 89,5% is explained by other variables that have not been studied.

The moderating results of the BIND variable (board independence), LBSIZE (board size), and DUALITY (CEO duality) are seen in the table that the adjusted R^2 value between moderation and R^2 uses the first test moderation, the second test, and the third test decreases to 0,103 % (10,3%). This explains that independent board, board size, and CEO duality are not moderating variables.

The results of INSTOWN moderation (institutional investors) in the table can be seen that the adjusted R^2 value has increased from R^2 before moderation to 0,017 (17%). This explains that institutional investors as moderating variables strengthen the regression model by 2%.

The moderation results of BIGN (external auditor) in the table can be seen the adjusted R^2 value between without moderation and R^2 using moderation in the fifth test decreased to 0,104 (14%). This explains that the external auditor is not a moderating variable.

Table 3. Regression Test Results in the Banking Sector

Variable	Without moderation	MRA1	MRA2	MRA3	MRA4	MRA5
Constants	0,162 (0,379)	0,159 (0,396)	0,158 (0,393)	0,164 (0,379)	0,168 (0,363)	0,154 (0,424)
POLCONit	-0,001 (0,762)	0,000294 (0,977)	0,004 (0,505)	0,001 (0,960)	0,005 (0,375)	-0,000275 (0,943)
BINDit	-0,001 (0,973)	0,002 (0,963)	-0,004 (0,911)	-0,002 (0,959)	-0,001 (0,983)	-0,002 (0,957)
LBSIZEit	-0,008 (0,046*)	-0,008 (0,047)	-0,006 (0,122)	-0,008 (0,047)	-0,008 (0,047)	-0,008 (0,048)
DUALITYit	0,004 (0,744)	-0,004 (0,740)	0,002 (0,850)	0,005 (0,778)	0,002 (0,852)	0,004 (0,748)
INSTOWNit	0,054 (0,001*)	0,054 (0,001)	0,052 (0,002)	0,054 (0,002)	0,073 (0,002)	0,053 (0,003)
BIGNit	0,027 (0,10)	0,027 (0,013)	0,028 (0,010)	0,028 (0,011)	0,025 (0,025)	0,029 (0,028)
LnAssetIT	0,003 (0,619)	0,003 (0,618)	0,003 (0,616)	0,003 (0,632)	0,003 (0,672)	0,004 (0,605)
DEBTit	0,000119 (0,389)	0,000123 (0,395)	0,0000756 (0,608)	0,000119 (0,390)	0,000130 (0,349)	0,000109 (0,475)
MTBVit	-0,014 (0,002*)	-0,014 (0,002)	-0,015 (0,002)	-0,014 (0,002)	-0,014 (0,002)	-0,015 (0,002)
POLCONit* BINDit		-0,002 (0,919)				
POLCONit* LBSIZEit			-0,001 (0,396)			
POLCONit* DUALITYit				-0,002 (0,933)		
POLCONit* INSTOWNit					-0,012 (0,268)	
POLCONit* BiIGNit						-0,001 (0,879)
Adjusted R Square	0,253	0,246	0,251	0,246	0,255	0,246
Sig.F	0,000	0,000	0,000	0,000	0,000	0,000

The correlation coefficient is a coefficient to explain the two-way relationship between the independent variables studied and the dependent variable. Based on the results of the regression analysis in the Banking sector in Table 3, it shows that the value of the Determination Coefficient or Adjusted R2 before moderation is 0, This shows that the independent variables are Politic Connection, Corporate Governance (Board Independence, Board Size, CEO Duality, Institutional Investors, and External Auditors), Firm Size, Leverage, and Market to Book Ratio jointly affect the dependent variable namely Tax Aggressiveness (ETR) of 25,3% and the remaining 74,7% is influenced by other variables not explained in this study.

The result of BINDit moderation or board independence is adjusted R^2 value of 0,246 (24,6%) which means it has decreased. This shows that board independence is not a moderating variable. Furthermore, LBSIZE moderation results or board size obtained the adjusted R^2 value decreased by 0,251 (25,1%). This shows that board size is not a moderating variable. The results of DUALITY moderation or CEO duality obtained by the adjusted R^2 value decreased by 0,246 (24,6%). This shows that CEO duality is not a moderating variable.

INSTOWN moderation results or institutional investors obtained an adjusted R^2 value of 0,255 (25,5%), which means experiencing an increase before moderation of 0,002%. This shows that Institutional Investors are moderating variables reinforcing the regression model of 0,002%. Furthermore, the results of moderation of BIGN or external auditors obtained adjusted R^2 values decreased by 0,246 (24,6%). This shows that the external auditor is not a moderating variable.

Simultaneous tests were used to determine the compatibility of linear regression models between the dependent variables Tax Aggressiveness, the independent variable Political Connection, the moderating variable of Corporate Governance, and the Firm Size control variable, Leverage, and MTBV. Based on table 4, the results of the regression model test, both those that do not use moderation and those using moderation, have a significant value of 0,000 <0,05. Thus, a decent regression model is used to test the hypothesis, because it has a significance of <0.05.

Individual Parameter Significance Test or also called t test is used to determine the effect or significance of each independent variable and control variable on the dependent variable. The significance of the influence in the results of research in a test can be determined by looking at the significance of the t test if the value is sig. p <0.05 which means that it has a significant influence between the independent variable and the control variable on the dependent variable.

Table 4. Summary of Significance Test, T-Test without Moderation of the Service Sector

Independent Variables / Controls	Regression Coefficient	t-count	Significance	Information
(Constant)	0,381	3,610	0,000	
POLCONit	0,017	0,923	0,357	No influence
BINDit	-0,006	-0,092	0,927	No influence
LBSIZEit	0,019	0,605	0,545	No influence
DUALITYit	-0,076	-4,851	0,000	Negative influence
INSTOWNit	-0,093	-2,449	0,015	Negative influence
BIGNit	-0,007	-0,369	0,713	No influence
ASSETS	-0,004	-0,537	0,592	No influence
DEBT	0,023	2,789	0,006	Positive influence
MTBV	-0,006	-0,927	0,355	No influence

Based on the results of the summary test of significance, the T-test without moderation shows the coefficient value of each research variable so that the regression equation formed is as follows:

TAX_AGRR_{it} = 0,381+0,017 $POLCON_{it}$ – 0,006 $BIND_{it}$ + 0,019 $LBSIZE_{it}$ –0,076 $DUALITY_{it}$ –0,093 $INSTOWN_{it}$ –0,007 $BIGN_{it}$ –0,004 $ASSETS_{it}$ +0,023 $DEBT_{it}$ –0,006 $MTBV_{it}$

Table 5. Summary of Test for Significance, T-Test without Moderation of the Banking Sector

Independent Variables / Controls	Regression Coefficient	t-count	Significance	Information
(Constant)	0,162	0,883	0,379	
POLCONit	-0,001	-0,304	0,762	No influence
BINDit	-0,001	-0,034	0,973	No influence
LBSIZEit	-0,008	-2,018	0,046	Negative influences
DUALITYit	0,004	0,327	0,744	No influence
INSTOWNit	0,054	3,339	0,001	Positive influence
BIGNit	0,027	2,609	0,01	Positive influence
Asset (*Firm Size*)	0,003	0,498	0,619	No influence
DEBT	0,000119	0,865	0,389	No influence
MTBV	-0,014	-3,197	0,002	Negative influences

Based on the estimated regression model in table 5, the regression model is obtained as follows:

TAX_AGRRit = 0,162 – 0,001 POLCONit – 0,0001 BINDit – 0,008 LBSIZEit + 0,004 DUALITYit + 0,054 INSTOWNit + 0,027 BIGNit + 0,003 Firm Size + 0,000119 DEBTit - 0,014 MTBVit

In the first regression model shows the existence of positive and negative coefficients. Positive coefficient shows a unidirectional change between the independent variables on the dependent variable and vice versa if the negative coefficient shows the opposite change between the independent variables on the dependent variable.

1. The t test value of the POLCONit variable in the service sector is 0.357 ($p > 0.05$), and the regression coefficient value is 0.017, and it can be concluded that political connections have a positive and insignificant influence on Tax Aggressiveness. For the t test value of the POLCONit variable in the banking sector at 0.762 ($p > 0.05$) and the regression coefficient value of -0.001 (negative), the political connection has a negative but not significant influence on tax aggressiveness. Political connections are not influential because companies whose shares are mostly owned by the government are defined as low-risk taxpayers, in accordance with Minister of Finance Regulation No. 71 / PMK.03 / 2010. In this regulation, it illustrates the belief that companies whose majority shareholders are the government do not carry out tax avoidance. The closeness of the company makes the company more careful in making any decisions in order to continue to get an award from the government as an obedient taxpayer. Compliant companies often get awards from the government so that they can be said to improve the company's reputation. This encourages companies to always follow various government regulations issued. Utilizing closeness to political parties can indeed be said to provide several benefits for the company, but the company must consider of the long-term impacts. The poor reputation of the company will have an impact in the long term so that it can reduce people's trust and could cause any business's loss.
2. The value of the BINDit variable in the service sector is 0.357 ($p > 0.05$) and the regression coefficient value of -0.006, the board independence has a negative influence but is not significant on tax aggressiveness. The

value of the BINDit variable t test in the banking sector is 0.973 ($p > 0.05$), and the regression coefficient value is -0.001 (negative), the board independence has a negative but not significant influence on tax aggressiveness. The results of this study support the results of research conducted by Ridha and Martani (2014), Pradipta and Supriyadi (2015), Utami and Setyawan (2015). According to Indonesia's Stock Exchange advisory board (BAPEPAM) Regulation Number IA concerning General Provisions for Listing of Equity Securities in the C-1 letter exchange, where in order to implement good corporate governance the listed companies are required to have independent commissioners with a composition of at least 30% of the board of commissioners. The existence of independent commissioners in companies in Indonesia has not been able to meet the composition regulated by the guidelines of good corporate governance, namely 30% (Laily, 2017) so that it could be the reason why the board independence does not have a significant impact on tax effectiveness. Viewed from the average value of BINDit variables in the service sector (12%) and for the banking sector (58%, it) can be said that although small or large the independence of the boards in the company does not affect decision making in tax aggressiveness.

3. The LBSIZEit variable t test value in the service sector is 0.927 ($p > 0.05$), and the regression coefficient value is 0.019, it can be concluded that board size has a positive and insignificant influence on tax aggressiveness. Positive influence can be explained that the more the number of company directors causes higher tax aggressiveness. However, the influence of board size on tax aggressiveness was stated to be insignificant in concluding that it was not significant. The results of this study support the results of research conducted by Budiman, 2012 (in Ni Nyoman and I Ketut, 2014) that the board size of directors does not influence on tax aggressiveness. The reason for the board size of directors does not influence on tax aggressiveness because of the action of tax aggressiveness by the company with its determination through policies taken by the company's leaders themselves.
   For the LBSIZEit variable t value in the banking sector is 0.046 ($p < 0.05$) and the regression coefficient value is -0.008 (negative), the board size has a negative and significant influence on tax aggressiveness. The results of this study are similar to previous studies conducted by Wahab et al. (2017). This negative relationship indicates that the larger size of the board acts as a monitoring mechanism and prevents tax aggressiveness. Hubaid (2016) argues that small councils may look more effective in improving performance and limiting director incentive avoidance because the performance of each member is easier to be monitored and decisions can be made faster.
4. The t test value of the DUALITYit variable in the service sector is 0,000 ($p < 0.05$), and the regression coefficient value is -0,076, CEO duality has a significant negative influence on tax aggressiveness. The results from the data above show that CEO duality has been shown to have a significant influence on tax aggressiveness. Negative influences indicate that when a company owner joins the ranks of management or the board of commissioners will cause tax aggressiveness to decline. Decreasing tax aggressiveness, which means that the higher the tax burden paid compared to pre-tax profits. The explanation can be revealed that when a company owner is actively involved in the composition of the board of directors or the board of commissioners shows a tendency to pay taxes higher than pre-tax profit.
   For the t test value, DUALITYit variable in the banking sector is 0.744 ($p > 0.05$), and the regression coefficient value is 0.004 (positive), the CEO Duality has a positive but not significant influence on Tax Aggressiveness. From the descriptive results show that the average value of CEO Duality is 0.8 or close to 1. That is, the company has a CEO and board of directors separately. In Indonesia rarely there are CEO Duality, because of Indonesia more use of two-tiers board system. In the data the banking sector having CEO Duality no more than 5 company, so is it can be said that CEO Duality does not affect in plan tax aggressiveness company.
5. The t test value of the INSTOWNit variable in the service sector is 0.015 ($p < 0.05$) and the regression coefficient value is -0.093, Institutional Investors have a significant negative influence on Tax Aggressiveness. These results indicate that institutional ownership is proven to have a significant influence on tax aggressiveness. Negative influences indicate that when the higher the percentage of institutional ownership in the company, it can cause tax aggressiveness to decrease. Decreasing tax aggressiveness means the higher the tax burden paid compared to pre-tax profits. These results support research from (Dewi and Jati, 2014) institutional investor ownership of shares whose shares are owned by institutions such as companies, foreign investor insurance companies, except for individual ownership. Institutional owners participate in conducting supervision and management, but institutional owners entrust the board of

commissioners because it is the duty of the board of commissioners who represent institutional owners. Institutional ownership has a high percentage of ownership of the company's shares so that institutional owners have the ability to pressure management to follow the interests of institutional owners. Whereas, the t test value of INSTOWNit variable in the banking sector is 0.001 (p <0.05) and the regression coefficient is 0.054 (positive), Institutional Investment has a positive and significant influence on Tax Aggressiveness. With the presence of institutional ownership or INSTOWNit in a company plays an important role to monitor, discipline and influence managers in tax management (Shafer and Simmons,2006). The greater the institutional ownership held by the institution, the greater the pressure the company management will take to carry out tax avoidance.

6. The t test value of the BIGNit variable in the service sector is 0.713 (p> 0.05), and the regression coefficient value is -0.007, the external auditor is not a significantly negative influence on Tax Aggressiveness. The Big 4 proved not to have a significant influence on tax aggressiveness. The quality of external auditors can be illustrated by the difference between the use of Big Four and non-Big Four auditors. The reason is that the Public Accountants Office in the Big Four has the competence to express errors in reporting in company management, professionalism to maintain that the public accounting. The firm remains an option for the company, as a way to avoid conflicts of interest, and ensure the integrity of the audit process and evidence for demands for transparency on company performance (Boussaidi & Hamed, 2015).
   Whereas, for the banking sector, the t-test value of the BIGNit variable is 0.01 (p <0.05) and the regression coefficient of 0.027 (positive), the Institutional External Auditor has a positive and significant influence on Tax Aggressiveness. External Auditor or BIGNit is a company that uses public accounting firm BIG 4 to conduct an audit. The selection of Big 4 public accounting firm services can be caused by the reputation and international credibility of the auditor. Therefore, the appointment of Big 4 auditors is a sign for the public that the reported financial statements have high credibility. Previous studies showed that auditors in the Big 4 group had higher quality than non Big 4. As in the study by Becker et al. (1998) in Alves 2013 found that Big 4 auditors provided higher audit quality than non Big 4 auditors because Big 4 auditors had greater incentives to provide higher audit quality than non Big 4. According to Maharani (2015) and Fadhilah (2014) which stated that the size of the public accounting firm has a positive influence on tax avoidance. Based on the results of the analysis and testing that has been done shows that the size of a large public accounting firm allows the company to carry out tax aggressiveness. Large public accounting firm (BIG 4) can facilitate companies in conducting tax aggressiveness, considering public accounting firm also offers non-assurance services in the form of tax services where these opportunities can be used by companies to minimize their tax burden in order to achieve their interests.
7. The t test value of the ASSETSit variable in the service sector is 0.592 (p> 0.05), and the regression coefficient value is -0.004, it can be concluded that firm size has no significant negative influence on Tax Aggressiveness. For the multiplication sector banking, the test value t ASSETSit variable is 0.619 (p> 0.05), and the regression coefficient value is 0.003 (positive), it can be concluded that ASSETSit has a positive but not significant influence on Tax Aggressiveness.
8. The t test value of the DEBTit variable on sector services is 0.006 (p <0.05) and the regression coefficient value is 0.023, it can be concluded that leverage has a significant positive influence on Tax Aggressiveness. For the banking sector Test value t DEBTit variable is 0.389 (p> 0.05), and the regression coefficient value is 0.000119 (positive), it can be concluded that DEBTit has a positive but not significant influence on Tax Aggressiveness.
9. The t test value of the MTBVit variable in the service sector is 0.355 (p> 0.05), and the regression coefficient value is -0.006, it can be concluded that the market-to-book ratio has a negative influence but not significant on tax aggressiveness. In the banking sector, the t-test value of the MTBV variable is 0.002 (p <0.05), and the regression coefficient value is -0.014 (negative), it can be concluded that MTBV has a negative and significant influence on tax aggressiveness.

This study uses interaction tests or moderation tests. Interaction Test or moderation test is the application of multiple linear regression where the equation contains an element of interaction (multiplying two / more independent variables).

Table 6 Summary of Moderation Regression Tests in the Service Sector

Feasibility Test R^2	Coef	Adjust R^2	Sig	Results	Interaction
Without moderation		0,105			
POLCONit*BINDit	0,060	0,103	0,636	Not Moderating	Not Strengthening / Weakening
POLCONit*LBSIZEit	-0,029	0,103	0,576	Not Moderating	Not Strengthening / Weakening
POLCONit*DUALITYit	-0,012	0,103	0,686	Not Moderating	Not Strengthening / Weakening
POLCONit*INSTOWNit	0,085	0,107	0,245	Not Moderating	Not Strengthening / Weakening
POLCONit*BiIGNit	-0,023	0,104	0,439	Not Moderating	Not Strengthening / Weakening

Table 7 Summary of Moderation Regression Test in the Banking Sector

Feasibility Test R^2	Coef	Adjust R^2	Sig	Results	Interaction
Without moderation		0,253			
POLCONit*BINDit	-0,002	0,246	0,919	Not Moderating	Not Strengthening / Weakening
POLCONit*LBSIZEit	-0,001	0,251	0,396	Not Moderating	Not Strengthening / Weakening
POLCONit*DUALITYit	-0,002	0,246	0,933	Not Moderating	Not Strengthening / Weakening
POLCONit*INSTOWNit	-0,012	0,255	0,268	Not Moderating	Not Strengthening / Weakening
POLCONit*BiIGNit	-0,001	0,246	0,879	Not Moderating	Not Strengthening / Weakening

Based on table 6 and table 7 above, it can be explained that:

1. Based on the test results, it shows the significance value for the POLCONit * BINDIT variable on the service sector of 0.636 (p> 0.05) and the significance value for the POLCONit * BINDIT variable the banking sector is 0.919 (p> 0.05). This shows that board independence does not moderate the influence of political connection on tax aggressiveness. Board independence does not have a significant influence on tax aggressiveness, meaning that the number of independent boards does not affect the level of tax aggressiveness. The reason can be explained that the task of board independent in the company is to ensure the performance of the company in accordance with good governance in accordance with applicable regulations. But the number of board independent in each company in Indonesia is relatively small, that is, on average only 1 person so that when faced with the scope of company operations with complicated financial reports, the existence of the independent board does not have an impact on the high and low tax efficiency. The supervision carried out by a board independent on financial reporting is relatively limited because the average number is only 1 person and the presence of the board of commissioners in this company still does not have the full power to participate in corporate policy making.
2. Based on the test results, it shows that the significance value for the POLCONit*LBSIZEit variable in the service sector is 0.576 (p> 0.05) and the significance value for the POLCONit*LBSIZEit variable in the banking sector is 0.396 (p> 0.05). This shows that the size of the board does not moderate the influence of political connection on tax aggressiveness. In this study, it was found that the size of the board had no influence on aggressive tax in the service sector seen from the average value in the service sector which has a board of commissioners of more than 5 people. This can explain that the more members of the board of commissioners, the more difficult it will be in making a policy decision that will be made. Because the role of the board of commissioners is to assess and direct the company's strategy, monitor the implementation and make changes if needed, monitor the process of change going forward.
3. Based on the test results that show the significance value for the POLCONit * DUALITYit variable of 0.686 (p> 0.05) and for the significance value for the POLCONit * DUALITYit variable in the banking sector at 0.933 (p> 0.05). This shows that CEO duality is not able to moderate the influence of political connection on tax aggressiveness. The results of testing the data show that CEO duality is not proven to mediate the influence of political connection on tax aggressiveness. The presence or absence of CEO duality does not affect the influence of political connections on tax aggressiveness. This is because the owner who is actively involved in company management does not try to utilize his political connections to influence tax aggressiveness. It is assumed that it relates to transparency that is increasingly strong in financial reporting and because of the flow of information so that all proximity to power holders is very risky when utilized for tax aggressiveness. This condition causes owners who are actively involved in company management (CEO duality) not to try to take advantage of the influence of political counseling on tax aggressiveness.

4. Based on the test results that show the significance value for the POLCONit*INSTOWNit variable in the service sector of 0.245 (p> 0.05) and the significance value for the POLCONit*INSTOWNit variable in the banking sector of 0.268 (p> 0.05). This shows that institutional investors are not able to moderate the influence of political connections on tax aggressiveness. The results of testing the data show that institutional ownership is not proven to mediate the influence of political connection on tax aggressiveness. The presence or absence or high or low of institutional ownership does not affect the influence of political connection on tax aggressiveness. According to Fenny and Winata (2017), institutional ownership does not affect the relationship between political connections to tax aggressiveness, because institutional ownership only pays attention to the company's profits received and does not think of the company's good reputation.
5. Based on the test results, it shows the significance value for the POLCONit * BIGNit variable in the service sector of 0.439 (p> 0.05) and the banking sector shows a significance value for the POLCONit * BIGNit variable of 0.879 (p> 0.05). This shows that external auditors are not able to moderate the influence of political connection on tax aggressiveness. The results of testing the data indicate that audit quality is not proven to mediate the influence of political connection on tax aggressiveness. The auditor's status does not affect the influence of political connection on tax aggressiveness. This is because public accounting firm conducts audits in accordance with the applicable guidelines and regulations and runs them as auditors, namely actions in terms of auditing financial statements so that public accounting firm does not have an influence between political connections on tax aggressiveness.

Conclusion

Based on the results of hypothesis testing and discussion, the conclusions of this study are as follows:

1. Political Connection has a positive and not significant influence directly on tax aggressiveness in the service sector company, while in the Banking sector Political Connection has a direct negative influence on tax aggressiveness.
2. Board independence has a negative and not significant influence directly on tax aggressiveness in the Services and Banking sector companies.
3. Board size has a positive and not significant influence directly on tax aggressiveness in service sector companies, whereas in the banking sector Board size has a direct negative and significant influence on tax aggressiveness.
4. CEO duality has a direct negative influence on tax aggressiveness in the service sector company, while in the banking sector CEO duality has a direct and not significant positive influence on tax aggressiveness.
5. Institutional investment has a negative and significant direct influence on tax aggressiveness in service sector companies, while in the banking sector institutional investment has a direct positive and significant influence on tax aggressiveness.
6. External auditors have a negative and not significant influence directly on tax aggressiveness in service sector companies, while in the banking sector, external auditors have a direct positive and significant influence on tax aggressiveness.
7. Firm size has a negative and not significant influence directly on tax aggressiveness in service sector companies, while in the Banking sector Firm size has a positive and not significant direct influence on tax aggressiveness.
8. Leverage has a positive and significant influence on tax aggressiveness in service sector companies, while in the banking sector leverage has a positive and not significant influence on tax aggressiveness.
9. Market-to-book ratio has a negative and not significant influence on tax aggressiveness in service sector companies, while in the Banking sector Market-to-book ratio has a direct and negative influence on tax aggressiveness.
10. Corporate governance which includes Board Independence, board size, CEO duality, institutional investors, and external auditors does not mediate the influence of political connections on tax aggressiveness in the Services and Banking sector companies.

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