Jurnal Perspektif Pembiayaan dan Pembangunan Daerah

(Journal of Perspectives on Financing and Regional Development)

Master Program in Economics
Universitas Jambi

Jurnal
Perspektif Pembiayaan dan Pembangunan Daerah
(Journal of Perspectives of Financing and Regional Development)

Table of Contents

Policy analysis of micro Waqf banks in Indonesia

Muhammad Fikry Aransyah[1*]**; Muhammad Noor**[2]**; Amjad Hamad Abdullah**[3]

[1] Business Administration Department, Faculty of Social Science & Political Science, Universitas Mulawarman, Indonesia
[2] Government Science Department, Faculty of Social Science & Political Science, Universitas Mulawarman, Indonesia
[3] Department of Accounting, Erbil Technical Administration Institute, Erbil Polytechnic University, Iraq

To whom correspondence should be addressed: email: fikryaransyah@fisip.unmul.ac.id

Abstract
This article aims to understand the Indonesian Government's efforts in making policies to handle the development of micro Waqf banks in Indonesia. The handling strategy can be assessed by understanding the policies formulated and implemented by the Indonesian Government. This study used a deliberative policy analysis approach, and data were collected through a literature study. The results of this study conclude 1) management for groups that can avoid misuse of loan funds and disbursement of funds not on target; 2) training and mentoring can build management commitment and customer enthusiasm to build a more advanced business; 3) with the financing method without collateral, the Islamic financial system does not collect deposits, low yields, and fast and easy administrative processes such as Islamic banking. Combining these three factors optimizes the performance of the micro Waqf bank in economic empowerment and community productivity. It helps increase the income and welfare of the community around the *pesantren* (Islamic boarding school).

INTRODUCTION

Islamic boarding schools are one element of society with a strategic function in mentoring to encourage the community's economy. Mentoring can be provided by teaching staff, students, and *pesantren* (Islamic boarding school) alumni by collaborating with the local government, technical assistants, and regional leaders who have influence and are classified as opinion leaders. With the potential of 27,722 *pesantren* and 4.175.555 *santri* (student) (ditpdpontren.kemenag.go.id, 2021), *pesantren* as a religion-based educational institution has excellent potential to empower people and play a role in eroding economic disparities and alleviating poverty, especially the

communities around Islamic boarding schools. Islamic boarding schools are capable of transforming into the forefront of the development of the Islamic economy.

The role of the Islamic economy in answering all social problems in society is an important matter. Property in Islam fulfills commercial needs and has a social function that must be fulfilled. Therefore, in Islam, transactions are divided into business transactions (*mu'awadhah* contracts) and social transactions (*tabarru* contracts), including Waqf (Sulistyaningsih et al., 2019).

Waqf comes from Arabic, namely Waqafa, which means holding, stopping, staying in place, or remaining standing. According to Islamic law, Waqf can also mean giving up a durable property in substance to someone or a nazir (guardian of Waqf). Waqf custodians can be either individuals or in the form of a management body, provided that the results or benefits are used for things that are by Islamic law.

Waqf played a significant economic and social role in Islamic history. Waqf institutions have been considered non-profit organizations that do not concentrate on profit-oriented and only on worship issues, and their development only stops at constructing places of worship. Many developments in the Islamic economic sector or sharia banking are associated with Waqf. In 2017, the Government and the Financial Services Authority (Otoritas Jasa Keuangan (OJK) in Indonesia) initiated the micro Waqf bank to address poverty problems (sikapiuangmu.ojk, 2018).

Micro Waqf banks is a Sharia Microfinance Institution that focuses on financing small communities (lkmsbmf.id 2021). In this case, the Financial Services Authority works with the National Amil Zakat Institution (Laznas) in forming a Sharia Microfinance Institution. The capital scheme of the micro Waqf bank is also unique. Each Sharia Microfinance Institution will receive around Rp. Three billion to Rp. 4 billion from donors. Donors can come from all groups or companies with an initial fee of Rp. 1 million per person. However, the funds received by the Islamic Microfinance Institution will not all be channeled into financing because some will be placed in the form of deposits in Islamic commercial banks.

The micro Waqf bank characteristic differs from other sharia banks (Assegaf & Mursyid, 2020). It lies in the process of customer surveys into mentoring them. micro Waqf banks will first hold a selection for prospective customers, then training and mentoring will be carried out, and financing schemes made per group or "joint responsibility." The financing scheme is a community empowerment program through the micro Waqf bank through unsecured, group-based financing with low yields, equivalent to 3% per year.

Micro Waqf bank provides access to capital or financing for people who have not been connected to formal financial institutions, especially in the boarding school environment or *pesantren* (Anwar, 2021). One of micro Waqf Bank's benefits is eradicating moneylenders troubling the community by collecting and making troublesome debt schemes. Therefore, the Financial Services Authority facilitates creating a micro Waqf bank business model with a Sharia Microfinance Institution platform to bring together parties with excess funds (donors) to donate to people who need business financing with meager yields.

The explanation above is a policy in dealing with micro Waqf banks. Existing policies need to be analyzed through deliberative policy analysis, a method that can be used to discuss the role of argument, rhetoric, and narrative in the policy analysis

process (Fischer, 2007). Deliberative policy analysis can be interpreted to analyze policy through a complex combined structure of policy arguments between interpretations, opinions, evaluations, and facts. The essence of this approach places ideas as policy material in a specific institutional or situational setting.

Meanwhile, there is minimal discussion of micro Waqf banks in Indonesia, especially regarding policy. Therefore, this paper seeks to fill this gap. Although there are still few studies and articles on micro Waqf banks, they are still there, and the descriptions are primarily directed at the context of legality and business models, including those written by Disemadi & Roisah (2019), Sulistiani et al. (2020) Attamimi, et al. (2019). The three of them discussed micro Waqf bank from a legal research perspective. Meanwhile, in other contexts, such as customer handling (Nugrahana & Zaki. 2020), micro Waqf banks' existence and implications for community welfare (Arinta et al., 2020). However, the description of this article is different from the writings above. The difference lies in the policy narrative conveyed through group management and training and mentoring of managers and customers. This article focuses on the deliberative policy analysis method for analyzing policies and how their implementation impacts micro Waqf banks in Indonesia.

METHODS

This article uses a qualitative approach with a descriptive analysis method. The qualitative approach was chosen because of its ability to gain a deep, authentic, and basic understanding of the observed phenomenon. The descriptive analysis method is used because the collected data focus on the actual phenomenon or problem through data collection, preparation, processing, and conclusion. This method describes an objective empirical state of the studied phenomenon or problem. While the data collection technique used is a literature study.

The literature study referred to in the context of this article is an effort to find and collect. The study was material in books, journal articles, online and conventional news, and traditional institutions' websites (such as ojk.go.id, lkmsbwm.id) related to the phenomena and problems studied. Finally, the data analysis technique in writing this article departs from the explanation by Creswell (2014), which focuses on organizing data, reading, and monitoring (making notes), as well as describing, clarifying, and interpreting data into codes and themes. To analyze the micro Waqf bank policy, Marsh & Smith's (2000) approach combines it with the Edward III implementation approach in Agustino (2020).

RESULTS AND DISCUSSION

Micro Waqf banks

Micro Waqf banks is a Sharia Micro Financial Institution (LKMS) that focuses on small community financing (sikapiuangmu.ojk, 2018). In the teachings of Islam, Waqf serves to realize the potential and economic benefits of Waqf property for the sake of worship and to promote public welfare. In this case, Financial Services Authority (OJK) cooperates with the National Amil Zakat Institution (Laznas) in forming LKMS. The capital scheme from micro Waqf banks is also unique. Each LKMS will receive about Rp 3 billion to Rp 4 billion from donors, where donors can come from all circles or companies with an initial cost of Rp 1 million per person. However, the funds received

by LKMS will not be channeled all into financing because some will be placed in the form of deposits in public sharia banks.

It is in line with the goal of the establishment of micro Waqf banks, namely as a significant commitment of OJK with the Government to continue to expand the provision of public financial access, especially for middle and small communities, by providing access to capital or financing for communities not yet connected with formal financial institutions, especially in the environment boarding school.

The characteristic of micro Waqf banks lies in their assistance process. Micro Waqf banks will first hold a selection for prospective customers; then, there will be training and assistance and financing patterns made per group or "chain responsibility." The financing scheme through micro Waqf banks is unsecured financing with a maximum value of Rp3 million and a revenue margin of 3%. Financing through micro Waqf banks is also interest-free. Several assessment procedures must be passed before a *pesantren* can be declared eligible to establish a Waqf Bank. The OJK special team, assisted by Nahdlatul Ulama (NU), will first see if there is a need from the *pesantren* to help the community in its environment and its productivity commitment and readiness of *pesantren* (Assegaf & Mursyid, 2020).

Management policy for micro Waqf bank

One characteristic that distinguishes micro Waqf bank from other banks is its management of groups. This management system aims to avoid misuse of loan funds and disbursement of funds not on target. Each customer can remind others about their obligation to pay back the loan in installments with a group. Micro Waqf banks are managed explicitly by Islamic boarding schools that have received permission from the Financial Services Authority to carry out Islamic Microfinance Institutions' business activities.

The micro Waqf bank organization's management consists of supervisors, Sharia supervisory board, administrators, and managers. The management team comprises the chairman, secretary, treasurer, supervisors, and administrators. The maximum number of customers is 2000, with an optimal capital of IDR 8 billion. The selection of *pesantren* as the basis for developing micro Waqf bank in the early stage was based on considering the strategic potential of 28,194 Islamic boarding schools in Indonesia to create business ecosystems for students and communities *pesantren* environment so that they can help alleviate economic inequality.

The *pesantren* was chosen as the micro Waqf bank manager because the pesantren was the basis of the public economy in rural or remote areas. *Pesantren* are considered to have noble values that the community trusts and respects in their surroundings. The socialization and distribution of loan funds will be easier to do. However, even though Islamic boarding schools manage it, micro Waqf banks are intended for Muslims and are open to groups of customers from various religions.

Not all Islamic boarding schools can establish a Waqf bank, and several assessment procedures must be passed before a *pesantren* can be declared eligible to establish a Waqf Bank. The Financial Services Authority special team, assisted by Nahdlatul Ulama (NU), will first see if there is a need for Islamic boarding schools to help the community in their environment and whether it requires financing in the micro-segment and productivity. The commitment and readiness of the *pesantren* will also be assessed.

The continuity and development of management can the micro Waqf bank not be separated from public donations. Anyone can become a micro Waqf bank donor, private individuals, and companies concerned with empowerment programs for the poor and alleviating inequality in Indonesia. By donating one million rupiahs, the public can help finance the business capital of one MSME for a year. The way to become a donor of micro Waqf bank is effortless. Prospective donors can contact the Amil Zakat Institution (LAZ) in partnership with the micro Waqf bank. Recently, the micro Waqf banks mobile application that can be downloaded on a cellphone has been launched.

This application contains various information related to the micro Waqf bank program's development, the channel for publishing the micro Waqf bank customers' superior products, and ways the community can make donations. It can be downloaded on a cellphone. This application contains various information related to the micro Waqf bank program's development, the channel for publishing micro Waqf bank customers' superior products, and ways the community can donate.

The rapid development of the number of micro Waqf banks is a positive signal that the small community's economy is growing to reduce levels of inequality and poverty. In the future, it is hoped that the number of micro Waqf banks will increase so that more and more people can benefit from it. The synergy of various parties is encouraged to develop micro Waqf banks, including the Financial Services Authority, the Ministry of Cooperatives and MSMEs, Islamic boarding schools, LAZ, and community leaders such as Kyai Ulama *pesantren*, as well as donors/companies who care.

Micro Waqf bank training and assistance policy

The training and mentoring policy is key to the micro Waqf bank program's success and uniqueness. The management and customers of micro Waqf bank receive training from the National Amil Zakat Institute. Managers receive training and operational assistance for business activities for at least six months and customers for five consecutive days and weeks. This Training and Assistance Policy establishes a legal entity and a business license for the Sharia Micro Financial Institution of Bank Waqf Micro. Training and mentoring for micro Waqf bank management is to build a comprehensive understanding of establishing and implementing the micro Waqf bank business model.

Micro Waqf banks' customer groups also received training and mentoring through the Socialization of the Empowerment Concept of Islamic Microfinance Institutions. The profile of the micro Waqf bank customer group is the Productive Poor. These poor people have met basic survival needs, have productive businesses, have the will and enthusiasm to work, and are committed to participating in empowerment programs. The micro Waqf bank business model is an incubator to prepare customers for formal financial institutions such as Islamic banking, Sharia Financing Institutions, Sharia Ventures, and financial institutions with similar complex structures. A group of customers who have been approved for a loan is given guidance in managing their business. This coaching also aims to monitor the use of loan funds so that they are not misused for purposes other than business capital.

Prospective customers are surveyed around the *pesantren*. Selection of prospective customers will be through Compulsory Group Training (PWK) for 5 (five) days with materials on discipline, solidarity, solidarity, and courage to do business. This

first training is the initial stage of the mentoring process. Until later, 1 (one) group of customers who have passed the PWK will be selected under the Community Business Group's name around the Indonesian Islamic Boarding School (KUMPI), consisting of 5 people. Then continued to form a group named Halaqoh Weekly (HALMI), consisting of 3 - 5 KUMPI. The first HALMI meeting will be the disbursement of financing. Furthermore, a weekly HALMI meeting was held with weekly installment payment activities and materials delivery, including religious Tausiyah, Business Development, and Home Economics.

The micro Waqf bank is expected to provide easy and cheap financing, especially for MSME players, without burdening them in building their business. However, not all Islamic boarding schools can establish micro Waqf banks. Several assessment procedures must be passed before a *pesantren* can be declared eligible to establish a micro Waqf bank. A special team of the Financial Services Authority, assisted by the Nahdlatul Ulama (NU) Executive Board, will first see if there is a need from the *pesantren* to help the community in their environment. It is also assessed whether it requires financing in the micro-segment and how its productivity is. Then, the *pesantren*'s commitment and readiness will also be assessed. People who can apply to the micro Waqf bank are productive people who deserve to be given capital for their business. The people in question have started their business but have not developed yet but have the commitment and enthusiasm to build their business to be more advanced.

Sharia financial system policy for micro Waqf bank

Micro Waqf bank's rapid growth is inseparable from its uniqueness and advantages, including interest-free because it uses the Islamic financial system. Unsecured financing does not collect deposits (non-deposit taking), has low yields of up to 3% per year, and has a fast and effortless administration process.

Micro Waqf bank uses the Sharia financial system, which means that the distribution of loans or financing and management of deposits is conventionally or based on sharia principles. Business activities based on Sharia principles are carried out according to sharia fatwas issued by the National Sharia Council, Majelis Ulama Indonesia. Sharia Microfinance Institutions must establish a Sharia supervisory board to carry out business activities based on sharia principles. The sharia supervisory board provides advice and suggestions to the board of directors or management and supervises Islamic Microfinance Institutions' activities by sharia principles.

Micro Waqf bank is prohibited: 1) accepting deposits in the form of demand deposits and participating in payment traffic; 2) carrying out business activities in foreign currency; 3) carrying out an insurance business as an underwriter; 3) acting as a guarantor; providing loans or financing to other MFIs, except to overcome liquidity difficulties for other MFIs in the same district/city.

Micro Waqf bank offers low yields. Micro Waqf bank's business activities are based on sharia principles, so loan funds distributed to customer groups are not burdened with interest. Financing through the micro Waqf bank applies a non-collateralized financing scheme with a maximum value of IDR 3 million and a profit-sharing margin of 3 percent per year. The loan amount disbursed starts from Rp. 1 million with a weekly installment payment system for 52 weeks or one year. However, if a customer requests deemed appropriate, they are entitled to receive a capital of IDR 3 million. The following is a table of Products and Contracts at micro Waqf banks:

Table 1. Table of products and contracts at micro Waqf banks

No	Product		Agreement	Yield	Rules	Information
1	Loan	1	Qard	-	National Sharia Board No.19 / DSN-MUI / IV / 2001	Tabarru '(help each other)
2	Investment and working capital financing	2	Murabahah	Margin	of the National Sharia Council No.04 / DSNMUI / IV / 2000 and POJK 13/2014 STDD 62/2015 Article 13 Paragraph-2b	Tijari - Sale and Purchase of Goods, equivalent to 3% pa
		3	Salam	Margin	of the National Sharia Council No.07 / DSNMUI / IV / 2000 and POJK 13/2014 STDD 62/2015 Article 13 Paragraph-2b	Tijari- Sale and Purchase of Goods, equivalent to 3% pa
3	Working capital financing	4	Mudharabah	Nisbah	National Sharia Council No. 07 / DSNMUI / IV / 2000 and POJK 13 / 2014 STDD 62/2015 Article 13 Paragraph-2b	Capital Cooperation, Maximum 95: 5
4	Business Development Consultation	5	Ijarah	Lease	National Sharia Board No. 09 / DSNMUI / IV / 2000 and POJK 13/2014 STDD 62/2015 Article 13 Paragraph-2c	Business consulting fees
		6	Joalah	Ujrah	National Sharia Council No.62 / DSNMU I / IV / 2007 and POJK 13/2014 STDD 62/2015 Article 13 Paragraph-2c	Business consulting fees
5	Transfer of Debt	7	Hiwalah	Ujrah	National Sharia Council No.12 / DSN-MUI / IV / 2000	Tabarru '(help each other), a Special program against moneylenders

Source: OJK, 2019

The micro Waqf bank business model requires low-cost capital to obtain a low-profit sharing scheme. To achieve this goal, the source of funds for micro Waqf bank comes from social funds, corporate CSR, and personal donations. Donations from donors are vital in implementing the micro Waqf bank business model. A donor is a person or group who has more attention to empowering the inadequate and productive efforts to alleviate poverty in Indonesia. The National Amil Zakat Institute will manage the Donor Fund for assistance, training, and micro Waqf bank's establishment and working capital.

Thanks to managers' training and mentoring, the micro Waqf bank's administrative process runs quickly and easily. In serving consumers, officers are expected to do it according to the procedure. The services provided are according to schedule and work. They do not make mistakes because the services provided follow the consumer's wishes so that managers can receive customer complaints and help customer needs.

Micro Waqf banks also have an exceptional service ethic that can support customer growth rates. This service must be maintained so those old customers can survive and invite new prospective customers to make transactions at micro Waqf

banks. The specific service ethics in question is always to explain the transactions allowed in Islam.

Policy impacts on micro Waqf banks in Indonesia

One of the government's policies to encourage community empowerment is the promulgation of the Law on MFIs in 2013. Empowerment will increase one's ability to be more potent than before to provide better results than before to grow the level of people's welfare (Disemadi & Roisah, 2019). Development and progress in the financial sector must be maintained, especially in the Islamic Microfinance Institution sector. Development and progress in the financial sector, especially in the Islamic Microfinance Institution sector, must be maintained by the institution, organization, policy regulation, and human resources.

Policies related to micro Waqf banks in Indonesia, in general, can be seen in the Financial Services Authority Law, the MFI Law, POJK No.61/POJK.05/2015 (Business Licensing and Microfinance Institutions), POJK No. 62/POJK.05/2015 (Implementation of Micro Financial Institutions Business), and POJK No.14/POJK.05/2014 (Development and Supervision of Micro Financial Institutions). The policies above are intended to provide a robust legal basis for micro Waqf banks' operation to help develop the development of Islamic Microfinance Institutions in Indonesia (Disemadi & Rosiah, 2019). Policies related to micro Waqf banks are expected to increase access to micro-scale funding for the community, economic empowerment, community productivity, and community income and welfare, especially for poor or low-income people.

In October 2017, President Joko Widodo and the Financial Services Authority jointly inaugurated the micro Waqf bank program. Then in March 2018, the Financial Services Authority has granted business permits to 20 micro Waqf banks in Islamic boarding schools in Cirebon, Bandung, Ciamis, Serang, Lebak, Purwokerto, Cilacap, Kudus, Klaten, Yogyakarta, Surabaya, Jombang, and Kediri. As of March 2021, the Financial Services Authority has recorded that 60 micro Waqf banks have been established with a cumulative beneficiary of 41,436 customers and total financing of IDR 60.6 billion (Anwar, 2021).

Micro Waqf bank acts as an institution that connects the community with excess funds and cares for Indonesia's underprivileged effective empowerment programs. The cash Waqf managed by the micro Waqf bank is one of the Islamic economic instruments to prosper the people. The micro Waqf bank's growth potential in Indonesia is enormous because most of Indonesia's population is Muslim. Through the micro Waqf bank, the Financial Services Authority's target market is the underprivileged people willing to work and are trustworthy and educated (Tunisa, 2015).

The capital aspect, which is the first problem MSMEs face, can be a solution (Adam, Safitri & Wahyudi, 2018). For Islamic Microfinance Institutions that apply sharia principles and financial institutions, especially micro Waqf banks, this policy encourages fund providers to open their fund distribution taps more widely (Wowoho, 2014). In Indonesia, the micro Waqf bank is the channeling party of funds included in the IKNB group (Muhtaron, 2016).

The impact of policies that favor Islamic Microfinance Institutions has resulted in the existence or existence of micro Waqf banks as providers of funds in the social constellation of society. Micro Waqf banks have several potentials, including the property for members, the office's location near the members, and the management

knowing the members personally to access customer information is more accessible (Winanto & Rapini, 2014). That is the advantage of micro Waqf bank compared to other financial institutions such as bank financial institutions. For example, bank financial institutions are institutions whose access to funding is difficult to reach by the poor and micro-scale MSMEs. Banks financial institutions are not like micro Waqf banks, which have guidance for their member's customers (Dahmiri, 2020).

With the micro Waqf bank's existence, Waqf evolved from social and religious to economic activities. The micro Waqf bank presence is believed to increase access to micro-scale financing and encourage economic empowerment and productivity in the *pesantren* environment. Empowering a resilient and independent community requires a process that must be carried out by the micro Waqf bank, namely (Baskara, 2013):

a. Management of activities is a process that requires an active role of group members to determine the fields of business that can be worked on according to their potential to increase their quality of life.

b. The process of group formation, in which the ability of the individual is same assessed as an effective form of empowerment if collected for learning, analyzing problems together, and designing solutions in solving problems; and

c. Mentoring, which analyzes problems and designs group activity programs, requires assistance as a driving force to convince its potential. Assistance is expected only to regulate the group to be independent;

From the three processes above, it is hoped that an increase in economic empowerment and productivity of the middle-class community and MSMEs must foster independence, togetherness, and entrepreneurship (Muhtarom, 2014; Octrona & Mariam, 2021). The micro Waqf bank in Indonesia intends to grow access to micro-scale funding for the community, increase economic empowerment and community productivity, and help increase community income and welfare, especially for those less fortunate or low-income (Deti, 2017).

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This article analyzes the Government of Indonesia's efforts in dealing with and policies of micro Waqf banks. In order to obtain data and information, the authors make use of library research collection techniques. The findings obtained from the author's analysis are that the micro Waqf bank policy has been running optimally due to two critical things. First, management for groups that can avoid misuse of loan funds and disbursement of funds not on target. This management group regulation has resulted in economic recovery and economic growth in the area around the *pesantren*. Second, training and mentoring can build management commitment and customer enthusiasm to build a more advanced business. Micro Waqf bank's presence can foster access to micro-scale funding for the community; the Islamic financial system with unsecured financing methods does not collect savings funds, low yields, and fast and easy administrative processes. Micro Waqf bank's presence improves the economic welfare of the customer's family and hopes for an increase in the quality of faith, worship, social care, and friendship among fellow citizens.

Recommendations

A theoretical recommendation in formulating micro Waqf bank policies is that the OJK must focus more on development-oriented towards improving human competency resources' complex skills and soft skills and market them in low-income societies. With the improvement of human resource competency, micro Waqf bank can grow access to micro-scale funding for the community, increase economic empowerment and community productivity, and help increase community income and welfare. Practical recommendations for developing micro Waqf bank policies that are being carried out should also increase the loan from one million to five to ten million Rupiah. A higher loan can improve users' capital and help the community learn to manage the bank so that if this micro Waqf bank improves, the community's economy will be bigger and run well.

ACKNOWLEDGMENT

REFERENCES

Adam, M., Safitri, R., & Wahyudi, T. (2018). Effect of company size, liquidity and operational efficiency on bank profitability with problem credit risk as a moderating variable at commercial banks listed on the Indonesia Stock Exchange. *Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah*, 6(3), 331-344.

Agustino, L. (2020). *Dasar-Dasar Kebijakan Publik*: *Edisi Revisi Ke-2*. Bandung: Alfabeta.

Anwar, M. C. (2021) Mengenal Bank Wakaf Mikro: Definisi, Manfaat, dan Cara Ajukan Pinjaman. Kompas.com Retrieved from https://money.kompas.com/read/2021/03/20/163051826/mengenal-bank-wakaf-mikro-definisi-manfaat-dan-cara-ajukan-pinjaman?page=all.

Arinta, Y.N., Nabila, R., Al Umar, A.U.A., Alviani, A.W., & Inawati, Y. (2020). Eksistensi Bank Wakaf Mikro Dan Implikasinya Terhadap Kesejahteraan Masyarakat Dalam Perspektif Islam. *Jurnal Ilmiah Ekonomi Islam*, 6(2), 372-378.

Assegaf, M., & Mursyid, K. (2020). Pelaksanaan Wakaf Produktif di Bank Wakaf Mikro Syariah Denanyar Jombang. *Management of Zakat and Waqf Journal (MAZAWA)*, 1(1), 66–78.

Attamimi, Z. F., Disemadi, H. S., & Santoso, B. (2019) Prinsip Syariah Dalam Penyelenggaraan Bank Wakaf Mikro Sebagai Perlindungan Hak Spiritual Nasabah. *Jurnal Jurisprudence*, 9(2), 117-132

Baskara, I.GK. (2013). Lembaga Keuangan Mikro Di Indonesia. *Buletin Studi Ekonomi*, 18(2), 114-125.

Burhanuddin. (2013). *Koperasi Syariah*. Malang: UIN-Maliki Press.

Creswell, J.W. (2014). *Penelitian Kualitatif & Desain Riset (Edisi 3)*. Terjemahan. Yogyakarta: Pustaka Pelajar.

Dahmiri, D. (2020). Influence of products and principles of sharia bank on customer

decision with perception as intervening variable in Bank Jambi Syariah. *Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah*, 7(4), 393 - 404. https://doi.org/10.22437/ppd.v7i4.7757

Deti, S. (2017). Pemberdayaan Ekonomi Umat Melalui Pembiayaan Mikro Syariah. *Jurnal El Jizya,* 5(1), 142-176.

Disemadi, H. S., & Roisah, K. (2019). Kebijakan Model Bisnis Bank Wakaf Mikro Sebagai Solusi Pemberdayaan Ekonomi Masyarakat. *Law Reform*, 15(2), 177-194. https://doi.org/10.14710/lr.v15i2.26176

Febriadi, S. R. (2017). Aplikasi maqashid syariah dalam bidang perbankan syariah. *Amwaluna: Jurnal Ekonomi dan Keuangan Syariah*, 1(2), 231-245.

Hadikesuma. S.T. (2006). *Koperasi Indonesia*. Jakarta: Raja Grafindo Persada.

lkmsbmf.id (2021). *Apakah Itu Bank Wakaf Mikro?* Retrieved from http://lkmsbwm.id/

Marsh, D., & Smith, M. (2000). Understanding policy networks: towards a dialectical approach. *Political Studies*, 48(1), 4-21.

Muhtarom, M. (2014). Harmonisasi Dan Sinkronisasi Peraturan Hukum Perkoperasian Dan Lembaga Keuangan Mikro, *Jurnal Yustisia*, 3(2), 56-67.

Muhtaron, M. (2016). Reformulasi Peraturan Hukum Lembaga Keuangan Mikro Syariah Di Indonesia. *PROFETIKA: Jurnal Studi Islam*, 17(1), 90-102.

Nugrahana, Y. R. Y., & Zaki, I. (2020). Peran Bank Wakaf Mikro Di Masa Pandemi Covid-19. *Jurnal Ekonomi Syariah Teori dan Terapan*, 7(9), 1731-1742.

Nuryadin, H. (2004) *BMT & Bank Islam: Instrumen Lembaga Keuangan Syariah*. Bandung: Pustaka Bani Quraisy.

Octrina, F., & Mariam, A.G.S. (2021). Productivity of Islamic Banking in Indonesia. *Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah*, 9(1), 19 - 28. https://doi.org/10.22437/ppd.v9i1.11041

Otoritas Jasa Keuangan (OJK). (2019), *Buku Pelatihan Lembaga Keuangan Mikro Syariah-Bank Wakaf Mikro*. Jakarta: Otoritas Jasa Keuangan

PDPPKEMENAG (2021) Statistik Pesantren, Retrieved from https://ditpdpontren.kemenag.go.id/pdpp

Sholihin, A. I. (2010) *Pedoman Umum Lembaga Keuangan Syariah*. Jakarta: PT Gramedia Pustaka Utama.

Sikapiuangmu.OJK (2018) *Mewujudkan Kesejahteraan Masyarakat Dengan Bank Wakaf Mikro,* Retrieved from https://sikapiuangmu.ojk.go.id/FrontEnd/CMS/Article/10435

Sulistiani, S.L., Yunus, M.., & Bayuni, E.M. (2019). Aspek hukum Bank Wakaf Mikro dalam pengentasan kemiskinan berbasis pesantren di Indonesia. *Jurnal Bimas Islam*, 12(1), 1–26. https://doi.org/10.37302/jbi.v12i1.86

Sulistyaningsih, P., Heniyatun, H., Praja, C., & Nurjaman, D. (2019). Pelaksanaan Hak Kekayaan Intelektual Sebagai Objek Wakaf. *JIPRO: Journal of Intellectual Property*, 1(1), 14-22.

Tunisa, N. (2015). Peran Otoritas Jasa Keuangan Terhadap Pengawasan Pendaftaran Jaminan Fidusia. *Jurnal Cita Hukum*, 3(2), 365-382.

Usman, R. (2001). *Aspek-aspek hukum perbankan di Indonesia*. Jakarta: Gramedia Pustaka Utama.

Winanto, A.R., & Rapini, T. (2014). Peran Lembaga Keuangan Informal Terhadap Pemberdayaan Kelompok Usaha Informal. *Jurnal Ekuilibrium*, 9 (1), 1-9.

Wowoho, J. (2014). Peran Lembaga Keuangan Bank Dan Lembaga Keuangan Bukan Bank Dalam Distribusi Keadilan Bagi Masyarakat. *Masalah-Masalah Hukum*, 43 (1), 87-97.

Import demand potential for Indonesian rubber products in ASEAN countries

Zainuddin

Agribusiness Department, Faculty of Agriculture, Universitas Batanghari, Indonesia

Correspondence author email: zainuddin.ubr11@gmail.com

Abstract

Increasing imports of rubber products from Indonesia is the key to the success of the downstream policy of rubber products to gain added value and job opportunities in the country. The rubber product market in ASEAN is more dynamic, and Indonesia must focus on strengthening competitiveness and exploiting potential markets. This paper aims to describe the potential demand for imports of Indonesian rubber products in ASEAN countries, especially Malaysia, Singapore, Thailand, the Philippines, and Vietnam. The flow of imports of rubber products uses the stochastic frontier panel data model to determine the potential demand for imports of Indonesian rubber products. Indonesian rubber products compete fiercely with similar industries in importing and exporting countries from East Asia. Indonesia mostly exports rubber products with HS codes 4015 and 4016 in the form of gloves, mittens, and mitts, rubber cellular, floor coverings and mats, erasers, gaskets and rings, boats, and fender docks to all markets in ASEAN countries. They were followed by rubber products with HS code 4010 in the form of conveyor belts or transmission belts from vulcanized rubber. The potential for import demand for other types of Indonesian rubber products (code HS4014, 4009, 4008) in ASEAN countries is relatively small and is growing slowly. Overall, the potential demand for imports of Indonesian rubber products tends to decline in ASEAN countries, as well as the actual imports of rubber products from Indonesia compared to their potential, which also declines slowly.

Keywords: *ASEAN, Import potential, Indonesia, Rubber products*

JEL Classification: F14, L52, L65

INTRODUCTION

The natural rubber has elasticity, toughness, and resilience properties, making it an important commercial aspect of rubber processing products. Exports and domestic demand are slowly driving Indonesia's rubber product industry. Indonesia exported rubber products, especially HS codes 4008, 4009, 4010, 4014, 4015, and 4016, to various countries, reaching an average of 374 million dollars in the 2001 to 2018 period. Exports of these rubber products to ASEAN countries reached 61.19 million dollars, or 16.99 percent (UN Comtrade, 2020).

Singapore is the largest export destination country for Indonesian rubber products, with a share of 50.73 percent in the 2001 to 2018 period. Thailand followed them at 16.07 percent, Malaysia at 13.41 percent, Vietnam at 10.24 percent, and the Philippines

at 5.55 percent (U.N Comtrade, 2020). The rubber products demanded by the Singapore market are relatively complete, starting from the product groups with the HS4008, 4009, 4010, 4014, 4015 to 4016 codes. The export market is relatively small for Indonesian rubber products with HS4014 and 4015 codes in Thailand and the Philippines. The export market for Indonesian rubber products with the HS code 4014 is also relatively small in Malaysia and Vietnam.

The rubber products exported include HS code 4008 in the form of plates, sheets, strips, rods, and other profiles made of vulcanized rubber. Then rubber products with HS code 4009 are in the form of tubes, pipes, and hoses made of vulcanized rubber with or without the accessories, and rubber products with HS code 4010 in the form of conveyor belts or transmission belts from vulcanized rubber. Indonesia also exports rubber products with HS code 4014 (pharmaceutical rubber products) in smaller quantities than other rubber products. These rubber products are hygienic or pharmaceutical goods (including pacifiers) made of vulcanized rubber, with or without joints of hard rubber, such as hot water bottles, ice bags, rubber sheathed contraceptives, and male contraceptives.

Other processed products made of rubber that experienced a relatively weak export trend (1.73 percent) were clothing products and clothing accessories made of vulcanized rubber, including various types of gloves (gloves, mittens, and mitts) with the HS code 4015 (Articles of apparel) & clothing accessories of vulcanized rubber. Indonesia exports a relatively large number of rubber products with HS code 4016 (articles of vulcanized rubber other than hard rubber) in the form of other articles of vulcanized rubber consisting of cellular rubber, floor coverings, and rubber mats (floor coverings and mats), erasers, gaskets and rings for engine components (gaskets and rings), boats and fender piers.

Indonesia exports relatively large numbers of rubber products with HS codes 4011, 4016, and 4015, followed by HS codes 4014, 4013, 4010, 4009, and 4008. Partner countries come from ASEAN and other countries from East Asia, the European Union, and the United States. For more than two decades of developing the rubber product industry, natural rubber producing countries, including Indonesia, only rank 6 to 12 of the largest rubber products exporting countries, while the ranks 1 to 5 are occupied by China, Japan, the United States, Germany, and South Korea. Indonesian rubber products and Malaysia and Thailand compete with other major rubber product exporting countries in the world market (Zainuddin et al. 2019).

The market for rubber products from Indonesia in ASEAN countries, especially the types of rubber products with HS codes 4008, 4009, 4010, 4014, 4015, and 4016, is in tight competition with similar products from competitor countries from the ASEAN region and the East Asia region. Thailand and Malaysia are strong competitors for rubber products in ASEAN countries. Furthermore, rubber products from Indonesia and other ASEAN countries are also in tight competition with similar products from China and Japan in the ASEAN region. The imports of rubber products from Indonesia by ASEAN countries (especially Malaysia, Singapore, Thailand, Philippines, and Vietnam) only amounted to 13 to 15 percent of the total world imports of rubber products from Indonesia in the last 10 years. In 2018, the import value of rubber products from Indonesia only reached US$ 118.1 million, much lower than competing countries. In the same year, the import value of rubber products from Malaysia and Thailand in ASEAN countries reached US$ 432.1 million. Imports of the same rubber products from Japan amounted to US$ 597.3 million, and the largest import of similar rubber products came from China at US$ 639.8 million, as shown in Figure 1.
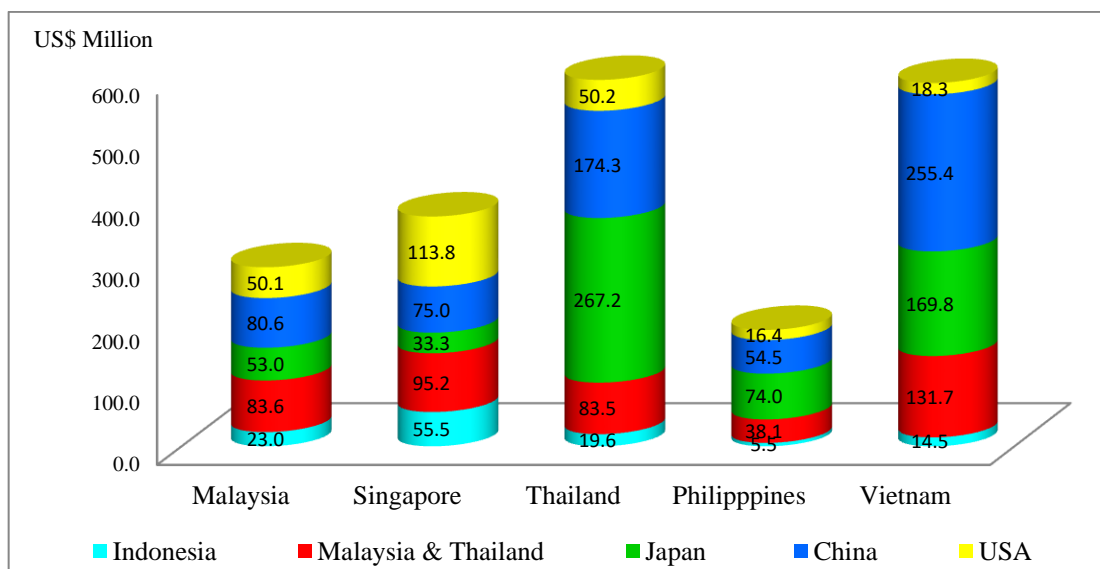
Sources: UN Comtrade (2020).

Figure 1. Import value of rubber products from Indonesia and a number of competitors in the ASEAN market (million US$).

To accelerate the downstreaming of Indonesian rubber products, it is necessary to support domestic industrial policies based on natural rubber to produce various rubber products with export promotion and import substitution strategies. Perdana (2019) stated that the development of Indonesia's downstream rubber industry requires government support, including: (1) financial sector support in financing credit to the downstream industrial sector; (2) ease of licensing services, such as business permits, land, and other permits to invite investment; and (3) implementation of trade policies that prioritize the principle of downstream. The increase in exports of Indonesian rubber products, especially to ASEAN countries, needs to be supported by increased demand, especially from the market of destination countries. The export market for rubber products is characterized by high competition between countries in the market of destination countries in dynamic market conditions. The penetration of rubber products in the market of destination countries requires a study of market dynamics. Therefore, the description of demand, especially from the market of destination countries, requires mapping the potential demand for imports of various rubber products, including demand in the markets of several ASEAN countries. This potential information can be analyzed and compared across markets in several ASEAN countries. The potential demand for Indonesian rubber products provides important information and input in policy formulation to increase and develop exports of Indonesian rubber products to countries in the ASEAN region. This article aims to describe the potential demand for imports of Indonesian rubber products (HS codes 4008, 4009, 4010, 4014, 4015, and 4016) in several ASEAN countries.

Research on the demand map for various rubber products (processed rubber) in the ASEAN market is rarely found, even though the rubber product market is growing significantly in ASEAN countries, especially Singapore, Malaysia, Thailand, Vietnam, and the Philippines. The demand for various types of rubber products in the country is driven by the increase in the automotive industry, home appliances, electrical appliances, medical equipment, parts of the infrastructure, and manufacturing equipment. Fulfillment of demand for rubber products is imported from Indonesia and other ASEAN countries, China, Japan, South Korea, and the European Union. Various countries, including ASEAN countries, import various types of Indonesian rubber

products and occupy an important position after tire products. Although Indonesia's rubber products (processed rubber) are not a big country in world trade, the results of this study contribute to the description of the mapping of demand for Indonesian rubber products in many ASEAN countries as an effort to strengthen rubber product export promotion strategies to support the acceleration of natural rubber downstream.

A country will import goods from other countries which, if produced by themselves, will consume higher resources. Exports of commodities from a certain country to another country are the difference between domestic supply and domestic demand, referred to as excess supply, and the excess is import demand for other countries (Fajrin et al. 2015). Imports are carried out as an alternative policy to meeting domestic demand for goods if the domestic production of these goods is inadequate (Pasaribu & Daulay, 2013).

In general, imports bring goods from abroad into the country through trade. The state will increase its welfare by importing high-quality goods and services at lower prices than if they were produced domestically. The reason for importing is the gap between domestic demand and production for a particular product, where domestic production has not been able to meet domestic needs. Amir (2004) states that one of the objectives of importing is to meet the community's needs by bringing in goods that are not yet available domestically from abroad. Reuvid & Sherlock (2011) then argue that there are two methods of controlling imports: import quotas and import duties (tariffs). Import quotas impose limits on the quantity or value of goods that can be imported into the country during a specified period, while importing import duties are intended to reduce demand for commodities by increasing prices to the end-user (consumer). Countries or consumers of an importing country are more prosperous if they buy goods whose price is lower than their willingness to pay (the ability to pay for a product). The greater the difference between the price and the willingness to pay, the more prosperous the country or the consumers of a country are (Sunaryo, 2001).

A country's import demand is the difference between domestic consumption minus domestic production and stock at the end of last year. The import function of a country is also influenced by factors from abroad, namely the exchange rate and import prices. In addition, other factors influence import demand, namely the income of importing countries, population, trade policies, changes in previous stocks, etc.

The function of import demand for rubber products from Indonesia in importing countries can be derived using the neo-classical approach. From the point of view of country j as an importer of rubber products from Indonesia or country k (a competitor), it is faced with an upward sloping residual rubber supply curve from the exporting country of Indonesia or country k. The curve of the residual supply of rubber products from the exporting country of Indonesia to country j (RS_{idn}^{j}) is the same as the domestic supply in Indonesia (S_{idn}^{DOM}), minus domestic demand in Indonesia (D_{idn}^{DOM}), minus exports to other countries not j (XPT_{idn}^{OTH}), minus changes in stock in Indonesia (ΔSTK_{idn}^{DOM}). Importers of rubber products in country j are faced with a residual supply curve (RS_{idn}^{j}) to maximize profits from importing rubber products from Indonesia by equating marginal revenue (MR^{j}) with marginal costs (MC^{j}) so that the quantity of rubber products imported from Indonesia is $Q_{idn}^{j.IMP}$.

Importers of rubber products in country j import ($Q_{idn}^{j.IMP}$) from exporters of rubber products from Indonesia by maximizing the following profits:

Max $\pi_j^{idn} = \frac{P^j}{ER^j} Q_{idn}^{j.IMP} - \{(1+t)P_{idn}^{j.IMP}(Q_{idn}^{j.IMP}) + C_j^{OLH} + C_j^{TRS}\}Q_{idn}^{j.IMP}$ .... (1)

P^j is the price of rubber products in the domestic market of country j, ER^j is the exchange rate of country j, t is the import tariff for rubber products (ad valorem) in country j. C_j^{TRS} is the transaction cost that is borne by importers of rubber products from Indonesia, and C_j^{OLH} is the cost of distribution of rubber products in country j. Differential equation (1) to the quantity of imported rubber products by country j and simplified results in equation (2).

$$\frac{\partial \pi_j^{idn}}{\partial Q_{idn}^{j.IMP}} = \frac{P^j}{ER^j} - (1+t)\frac{\partial P_{idn}^{j.IMP}}{\partial Q_{idn}^{j.IMP}} * Q_{idn}^{j.IMP} - (1+t)P_{idn}^{j.IMP} - C_j^{OLH} - C_j^{TRS} = 0$$

$$\frac{\frac{P^j}{ER^j} - C_j^{OLH} - C_j^{TRS} - (1+t)P_{idn}^{j.IMP}}{(1+t)P_{idn}^{j.IMP}} = \frac{\partial P_{idn}^{j.IMP}}{\partial Q_{idn}^{j.IMP}} * \frac{Q_{idn}^{j.IMP}}{P_{idn}^{j.IMP}} \quad \text{.. (2)}$$

The left side of equation (2) is similar to Lerner's Index LI = (P-MC)/P. In this case it is defined $\left\{\frac{P^j}{ER^j} - C_j^{OLH} - C_j^{TRS} - (1+t)P_{idn}^{j.IMP}\right\}/(1+t)P_{idn}^{j.IMP}$ The Adjusted Lerner Index can be used to measure the monopsony market power of importers as importers of rubber products in country j (Knetter, 1993; Glauben & Loy, 2003). The relationship between the import price of rubber products from Indonesia ($P_{idn}^{j.IMP}$) in country j with the price of rubber products in the domestic market of country j (P^j) are:

$$P^j = \left\{\left(\frac{\partial P_{idn}^{j.IMP}}{\partial Q_{idn}^{j.IMP}} * \frac{Q_{idn}^{j.IMP}}{P_{idn}^{j.IMP}} + 1\right)(1+t)P_{idn}^{j.IMP} + C_j^{OLH} + C_j^{TRS}\right\} ER^j \quad \text{.......................... (3)}$$

Assuming that there is one unit of distribution costs and transaction costs for each importer of rubber products in country j as a constant ratio, it can be written as: $\mu_1 = C_j^{OLH}/P_{idn}^{j.IMP}$ and $\mu_2 = C_j^{TRS}/P_{idn}^{j.IMP}$ also, the flexibility of import prices is abbreviated $= \theta_{idn}^{j.IMP} = \frac{\partial P_{idn}^{j.IMP}}{\partial Q_{idn}^{j.IMP}} * \frac{Q_{idn}^{j.IMP}}{P_{idn}^{j.IMP}}$, so that equation (3) can be simplified into equation (4) with regard to $\emptyset^j = \left\{\left(\theta_{idn}^{j.IMP} + 1\right)(1+t) + \mu_1 + \mu_2\right\}ER^j$.

$$P^j = \left\{\left(\theta_{idn}^{j.IMP} + 1\right)(1+t) + \mu_1 + \mu_2\right\}ER^j * P_{idn}^{j.IMP}$$

$$P^j = \emptyset^j * P_{idn}^{j.IMP} \quad \text{.. (4)}$$

Derivation of the model from exporting and importing rubber products can be reconcepted into a model of demand for country j reverse residual rubber products as in equation (5).

$$RD_j^{idn} = D_j^{DOM} - \left(S_j^{DOM} + IMP_j^{OTH} + \Delta STK_j^{DOM}\right) \quad \text{.. (5)}$$

Furthermore, domestic demand and supply of rubber products in country j are conceptualized as equations (6) and (7).

$$D_j^{DOM} = D_j^{DOM}(P^j; Z_j^D) \quad \text{.. (6)}$$

$$S_j^{DOM} = S_j^{DOM}(P^j; Z_j^S) \quad \text{.. (7)}$$

where Z_j^D and Z_j^S is the shifting vector of demand and supply of rubber products in country j. Substituting (6) and (7) into equation (5) results in a demand for residual rubber products for importing country j from Indonesia (RD_j^{idn}) as in equation (8).

$$RD_j^{idn} = RD\left(P^j, Z_j^D, Z_j^S, IMP_j^{OTH}, \Delta STK_j^{DOM}\right) \quad \text{.. (8)}$$

The total demand for imports of rubber products in country j from Indonesia is a function of the producer prices for rubber products in country *j*, various shifts in demand and supply of rubber products in country *j*, imports of rubber products from country *j* from non-Indonesian countries, and the stock of rubber products in country *j*.

Refer to Kalijaran & Findlay (2005) that the trade flow model between countries can be integrated with the stochastic frontier production function model to produce a demand import model in the form of a stochastic frontier as in equation (9):

$$lnX_{ijt} = lnf(Y_{ijt}, \beta)exp^{v_{ijt}-u_{ijt}}$$ .... (9)

X_{ijt} is the actual export from country i to country *j*, $f(Y_{ijt}, \beta)$ is a function that determines the export potential, β is a parameter, and the double-sided error term (v_{ijt}) is assumed to be normally distributed with a mean of zero and variance (σ_v^2). If the value u_{ijt} is equal to zero, then the potential export of a product from country *i* to country *j* is obtained.

Battese & Coelli (1988) and Linh et al. (2019) describe the comparison between actual exports and maximum exports when minimum barriers are said to be trade efficiency (exports). Parallel to this concept, the comparison between actual imports and maximum imports in conditions with minimal obstacles is said to be trade efficiency (imports). Armstrong (2008) also explains that the potential for exports (imports) is identical to the acquisition of exports (imports) when the resistance is lowest in trading at certain exchange rates, transportation, and institutional conditions. Furthermore, the econometric approach has been used to estimate the trade flow model between countries and calculate trade potential as Viorica (2015), Kumar & Prabhakar (2017), and Egger (2002). Import potential as the maximum import value (the most open trade conditions) of a product by country *j* from country *i* in year t is determined as in equation (10).

$$Import\ Potential_{ijt} = (Import\ Actual^{ijt}/Import\ Efficiency^{ijt})$$ .... (10)

METHODS

Data and variables

This study focuses on the flow of imports of various rubber products from Indonesia to various countries in ASEAN. Types of rubber products are products with HS codes 4008, 4009, 4010, 4014, 4015, and 4016. The data is panel data for five countries importing rubber products from Indonesia from 2009 to 2019. Descriptions for all variables used are listed in Table 1.

Table 1. The description of variables

Variables	Definition	Source
LnXIDNRP	The value of imports of rubber products from Indonesia in the ASEAN market.	UN Comtrade
LnRGDPIDN	The real gross domestic product of Indonesia.	IMF World Economic Outlook Database
LnRGDPC	The real gross domestic product of the export destination country	IMF World Economic Outlook Database
LnDISTANCE	Geographical distance	Center for Prospective Studies and International Information (CEPII)
LnPOPIDN	Indonesian population	The World Bank
LnPOPC	The population of the export destination country	The World Bank
LnREALEXCHC	The real exchange rate of domestic currency to the US dollar in the export destination country	The IMF – International Financial Statistics
TRADEFREE	Trade freedom	The Heritage

The specification of the econometric model

Data analysis uses an econometric model approach, in particular using frontier stochastic analysis to calculate the technical efficiency of imports of rubber products from Indonesia in ASEAN importing countries.

The trade volume between two countries depends directly on the size of their economies and inversely on the distance between them. Economic size represents export supply and import demand (Zheng et al., 2017; Liu et al., 2018). Geographic distances to show transportation costs include time costs, psychic distances, information and research costs, and economic horizons (Linnemann, 1966; Limão & Venables, 2001; Heo & Doanh, 2015). The trade volume between two countries also depends on trade barriers and exchange rates. The impact of trade barriers, as measured by freedom of trade, on trade volume has been frequently cited in the international trade literature. Tariff and non-tariff barriers limit bilateral trade flows because they cause a decrease in the quantity and an increase in the price of imported goods (Khorana & Narayanan, 2017; Cheong et al., 2018). Bilateral trade barriers prevent a country from reaching its potential trade volume.

The import demand for rubber products from Indonesia in ASEAN countries (Malaysia, Singapore, Thailand, Philippines, and Vietnam) uses a model of import demand, which is approached in the form of a stochastic frontier data panel (sfpanel) model. Through this model, the achievement of efficiency and potential demand for imports of Indonesian rubber products is calculated in trade with five countries in the ASEAN region. The import demand model of rubber products in the form of a stochastic frontier using panel data is written as follows:

$$
\begin{aligned}
\ln XIDNRP_{ij,t} = {} & \beta_0 + \beta_1 \ln\big(RGDPIDN_{i,t} \times RGDPC_{j,t}\big) + \beta_2 \ln DISTANCE_{ij} \\
& + \beta_3 \ln\big(POPIDN_{i,t} \times POPC_{j,t}\big) + \beta_4 \ln REALEXCHC_{ij,t} \\
& + \beta_5 TRADEFREE_{ij,t} + \big(v_{ij,t} - u_{ij,t}\big)
\end{aligned}
$$

The import efficiency of rubber products is equivalent to the ratio of the country's actual import of rubber products from Indonesia in a given year t to the corresponding imports when $u_{ij,t}$ is zero. Thus, the import efficiency of rubber products by importing country can be calculated as follows:

$$
\text{Import Demand Potential}_{ijt} = \frac{\ln f\big(Y_{ijt}, \beta\big)\exp(v_{ij,t} - u_{ij,t})}{\ln f\big(Y_{ijt}, \beta\big)\exp(v_{ij,t})} = \exp(-u_{ij,t})
$$

The model for import demand for rubber products from Indonesia in ASEAN countries (Malaysia, Singapore, Thailand, Philippines, Vietnam) is estimated using STATA 14 version. The estimation results are evaluated according to statistical criteria to obtain a feasible model to estimate the potential demand for imported rubber products from Indonesia.

RESULTS AND DISCUSSION

As in Table 2, descriptive statistics provide an overview of the data seen from the average value (mean), standard deviation, maximum, minimum, and normality. N or the number of data for each valid variable is 50. The import value of rubber products from

Table 2. Descriptive statistics

Variable	N	Mean	Std Dev	Min	Max	Jarque-Bera
XIDNRP	50	13963.58	10484.11	2247.43	46755.98	5.64 (0.06)
RGDPIDN	50	725816.80	80821.31	567350.90	847664.60	0.88 (0.64)
RGDPC	50	258182.10	84088.44	114210.60	450234.80	0.62 (0,73)
DISTANCE	50	2029.80	860.67	885.00	3008.00	4.83 (0.08)
POPIDN	50	254000000	9432242	239000000	268000000	3.33 (0.18)
POPC	50	58830774	36539224	4987573	107000000	5.31 (0.07)
REALEXCHC	50	3461.20	6971.12	1.1862	19332.33	4.43 (0.11)
TRADEFREE	50	80.01	6.26	63.40	90.00	0.22 (0.89)

Indonesia (HS codes 4008, 4009, 4010, 4013, 4014, 4015, and 4016) in the ASEAN countries market with a median value of USD13963.58 with the range between USD2247.43 to USD46755.98. The mean value of each variable is greater than the standard deviation, or the deviation from the datum of the variable indicates good results for all variables. Data distribution on all variables showed normal distribution according to Jarque-Bera statistics. This shows that the data distribution on each variable is not so different from the standard normal distribution.

Panel unit root test result

The panel unit roots test was used to test the stationarity of the data, as shown in Table 3. Non-stationary panel data can cause false regression where the R-squared value is too high, but the variable is insignificant. If the unit roots are in a data set at the level, then the data set in the first difference changes to stationary. If the data is stationary at the level denoted as I(0) or only stationary after the first difference, it is denoted as I(1). The unit-roots panel test in this study was carried out by Levin et al. (2002), and Breitung (2000) used EViews.

Table 3. The results of the unit root tests

Variables	Test Statistics			
	Levin, Lin & Chu		Breitung	
	Level	1^{st}diff	Level	1^{st}diff
XIDNRP	-1.7741**	-5.5011***	-2.0060**	-3.0487***
RGDPC	-4.2273***	-2.4749***	-1.5262**	-3.3427***
RGDPIDN	-1.7428**	-3.3974***	-5.1441***	0.4085
POPC	-6.6487***	-9.0445***	2.8023	2.1635
POPIDN	-4.9874***	-8.9897***	-4.0355***	-8.6203***
DISTANCE	-3.4552***	-2.3553**	0.6474	0.1338
REALEXCH	-2.6131***	-7.4842***	0.7271	-6.0177***

Note: Asterisks (***), (**) and (*) denote the statistical significance at the 1%, 5%
    and 10% levels, respectively.

The results of the unit-roots panel test for all data series show the trend of stationary data at the level. However, the results of the Breitung test show that only some of the data series are still not stationary at level, and it can be concluded that all data series are stationary at level I(0). After all the panel data used in this study showed stationary at level I(0), the stationary data was used to estimate the demand for imports of rubber products from Indonesia in ASEAN countries (Malaysia, Singapore, Thailand, Philippines, and Vietnam).

Panel cointegration test result

Panel cointegration tests are meant to test the cointegration between variables in the model. Kao (1999) and Pedroni (2004) extended the Engle-Granger framework to panel data tests. Kao (1999) tested for cointegration in a homogeneous panel, and the test statistic was calculated by pooling all the residuals of all cross-sections in the panel. It was assumed that all the cointegrating vectors in every cross-section were identical. Pedroni (2004) proposed several tests for cointegration which allowed considerable heterogeneity. Seven cointegration statistics were proposed, which could be classified into 2 categories to capture within and between effects. Table 4 demonstrates the panel cointegration test results of Pedroni (2004) and Kao (1999). Pedroni test results indicate that, out of the seven statistics, there are four statistically significant statistics at α = 0.01 and α = 0.05 levels, namely the panel PP-statistics, panel ADF-statistics, group PP-statistics, and group ADF-statistics. Kao test result also suggests that the null hypothesis can be rejected at α = 0.05 level. Therefore, there is sufficient evidence of the presence of a cointegration relationship between variables in the model.

Table 4. The result of panel cointegration tests

	Pedroni Test	Kao Test	
Panel v-Statistic	-2.6240	ADF	-2.2104**
Panel rho-Statistic	2.3528		
Panel PP-Statistic	-9.9706***		
Panel ADF-Statistic	-1.8854**		
Group rho-Statistic	2.9208		
Group PP-Statistic	-11.8173***		
Group ADF-Statistic	-2.9615***		

Note: Asterisks (***), (**) and (*) denote the statistical significance at the 1%, 5% and 10% levels, respectively.

Estimation of stochastic frontier panel data (sfpanel) model

Demand for imports of rubber products from Indonesia in ASEAN countries is approached by using the stochastic frontier panel data (sfpanel) model. The model is estimated using STATA. The results of the estimated demand for imported rubber products from Indonesia are presented in Table 5. The estimation results of the demand model for imports of rubber products from Indonesia in ASEAN countries show that all coefficients are statistically significant at 1 to 5 percent. The multiplication variable of Indonesia's real GDP with the real GDP of the importing country (LnRGDPIDN*LnRGDPC) shows a positive sign and is significant up to 1 percent. These results are consistent with other studies such as Linh et al. (2019) and Evelyn and Chandran (2019). The variable multiplication of the Indonesian population with the population of the importing country in the previous year (lagLnPOPIDN*LnPOPC) is positive and significant up to 5 percent. These results are consistent with other studies such as Evelyn & Chandran (2019) and Deluna & Edgardo (2014).

Furthermore, the bilateral distance negatively responded to the demand for imports of rubber products from Indonesia in ASEAN countries, thereby reducing trade between the two countries. This variable is a proxy for transportation and other trade costs, such as communication and transaction costs, as well as other costs (Arvis et al. 2012). So the farther the distance, the higher the trade cost. The estimation results align with Memduh et al. (2017) and Deluna & Edgardo (2014). It implies that even with more modern transportation, the distance/cost of trade in various forms still greatly

affects trade between countries. For example, distance can reflect logistical difficulties. It is related to the study conducted by Djankov et al. (2010) revealed that every additional day to move goods from warehouse to ship reduces trade by at least 1%, or equivalent to increasing the distance of 85 km from a country from its trading partners.

Table 5. The Estimated Sfpanel Model of import demand for Indonesian rubber products in the market ASEAN countries.

Variables	Coefficient	Standad error
Constant	17.6567	8.6016**
ln(RGDPIDN x RGDPC)	1.0829	0.1589***
LnDISTANCE	-5.6311	0.9471***
lag(ln(POPIDN x POPC))	0.0075	0.0035**
lnREALEXCHC	0.7654	0.1501***
TRADEFREE	0.0225	0.0108**

Number of obs	49
Number of groups	5
Wald chi2(9)	113.28 and Prob > chi2 = 0.0000
Log likelihood	-3.4014774

Note: Asterisks (***), (**) and (*) denote the statistical significance at the 1%, 5% and 10% levels, respectively.

The real exchange rate of the importing country's currency against the USDollar (LnREALEXCHC) gave a positive and significant response of up to 1 percent. This implies that the increase in the real exchange rate of the importing country's currency against the USDollar increases the demand for imports of rubber products from Indonesia in ASEAN countries. The variable freedom of trade (TRADEFREE) between Indonesia and importing countries in ASEAN has a positive and significant effect of up to 5 percent. This positive influence is in line with Hai & Thang (2017), who explains that ASEAN free trade will improve trade efficiency. The estimation results also align with Niroomand et al. (2014), who state that openness or freedom of trade positively influences trade flows between countries.

The efficiency and potential of import demand for Indonesian rubber products

Based on the estimation results of the model in the form of stochastic frontier panel data (sfpanel), it can be calculated the level of technical efficiency of demand for imports of rubber products from Indonesia in ASEAN countries (Malaysia, Singapore, Thailand, Philippines, Vietnam) as shown in Table 6.

Table 6. The efficiency of import demand for Indonesian rubber products

Import country	The efficiency of import demand for rubber products from Indonesia in ASEAN countries								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Malaysia	0.83	0.82	0.86	0.83	0.79	0.80	0.80	0.81	0.80
Singapore	0.89	0.87	0.85	0.85	0.85	0.84	0.83	0.83	0.82
Thailand	0.95	0.98	1.00	0.99	1.00	0.99	1.00	0.99	0.99
Philippines	0.96	0.94	0.96	0.98	1.00	1.00	1.00	1.00	0.98
Vietnam	0.78	0.83	0.77	0.79	0.76	0.77	0.74	0.71	0.73
Average	0.88	0.89	0.89	0.89	0.88	0.88	0.87	0.87	0.86

The technical efficiency of import demand it shows an upward trend in Malaysia and Thailand and tends to be stable in Singapore. Furthermore, the technical efficiency of demand for imported rubber products from Indonesia shows fluctuations in the Philippines and Vietnam in the 2010 to 2018 data. In general, the technical efficiency of

demand for imported rubber products from Indonesia in ASEAN countries tends to increase but decreases at the end of the period.

The results of the calculation of the technical efficiency of demand for imported rubber products from Indonesia, as shown in Table 5, are used to calculate the estimated potential demand for imports of rubber products from Indonesia (HS codes 4008, 4009, 4010, 4014, 4015, 4016) in ASEAN countries in the data period analysis. The approach used is as equation (10) before. The estimation results of potential demand for imported rubber products from Indonesia in ASEAN countries are presented in Table 7.

Table 7. The potential import demand for Indonesian rubber products in ASEAN countries

Year	Potential of import demand for Indonesian rubber products (US$ thousand)						Actual imports (%)
	Malaysia	Singapore	Thailand	Philippines	Vietnam	Total	
2010	13629	52261	8595	3048	11471	89003	87.99
2011	13824	47290	12929	3024	20407	97476	87.44
2012	21831	37237	16084	3579	12781	91511	87.51
2013	14926	37590	13780	4095	14765	85156	87.01
2014	9869	33783	13786	4379	10452	72269	87.08
2015	10707	28518	12136	4028	11798	67188	86.30
2016	10827	29792	14661	5153	9646	70080	86.67
2017	13832	31260	18052	7091	7527	77762	87.53
2018	14002	31015	19142	5177	8740	78076	86.24

The potential for total import demand for rubber products from Indonesia (HS codes 4008, 4009, 4010, 4013, 4014, 4015, 4016) in ASEAN countries (Malaysia, Singapore, Thailand, Philippines, Vietnam) in the period 2010 to 2018 shows a strong trend decreased. The decline in potential demand for imports of Indonesian rubber products occurred in all importing countries in ASEAN countries except for the markets of Thailand and the Philippines. Meanwhile, the Malaysian market showed stagnant conditions. Factors causing the potential decline may be related to the growth of similar rubber product industries in importing countries in the last 10 years or the decline in the competitiveness of Indonesian rubber products compared to similar products from major competitors such as China, South Korea, Japan, and European countries. However, rubber products from Indonesia have faced a potential decline in import demand in the markets of ASEAN countries in the last 10 years, as evidenced by the potential demand of USD89003 thousand at the beginning of the period and decreased to USD78076 thousand at the end of the period. The potential demand for imports of Indonesian rubber products tends to decline, as well as the actual imports of rubber products from Indonesia compared to their potential, which also declines slowly.

The competitiveness of various Indonesian rubber products in the markets of ASEAN countries is closely related to the competitive environment between Indonesia and ASEAN countries and East Asian countries. Regulations for eliminating regional market barriers, such as the ASEAN-China Free Trade Area Agreement (ACFTA) have had a negative impact, namely the suppression of Indonesian rubber products in the regional markets of ASEAN countries.

Aslam (2018) analyzed the impact of ACFTA on the Indonesian manufacturing sector. Indonesia-China trade is a primary commodity-finished product relationship; namely, Indonesia produces and exports primary commodities to China and imports manufactured goods from China. Indonesia has strong competitiveness in industries included in the primary sector, while China has strong competitiveness in manufacturing finished products. The performance of China's manufacturing industry is

in the form of increased exports which dominate the ASEAN and Indonesia's regional commodity markets. ACFTA has had a negative impact on the performance of the manufacturing sector and Indonesian manufacturing companies. Therefore, this paper supports the argument that ACFTA has to some extent, reduced the competitiveness of Indonesian goods in the ASEAN regional and domestic markets. Nasrudin et al. (2015) concluded that the performance of the agricultural sector is predicted to be under pressure when ACFTA is fully implemented. This is due to competitive pressures and the rigidity of domestic producers. Competitive pressure comes from fellow ASEAN countries, especially Thailand, Malaysia, and Vietnam, because of the similarity of products for the agricultural product category and from China for the manufacturing industry product category.

Meanwhile, the rigidity of domestic producers occurs because production capacity has not been able to respond to demand due to low technology and innovation as well as inefficiencies related to the small scale of business and weak logistics and distribution systems. For ACFTA to positively impact the Indonesian agricultural sector, the government should allocate a large portion of capital expenditures to increase productivity and efficiency, particularly for developing innovation, research, application, and technology. Product diversification must be increased through processing and unique and attractive packaging. Packaging is physical packaging, marketing techniques, and planting a branded or good image of Indonesian agricultural products.

The development of potential demand for Indonesian rubber products in Malaysia, Singapore, and Vietnam markets is more difficult to achieve because the competitiveness of the rubber industry in these countries is also growing fast enough to meet the demands of the domestic market. So that the potential demand for Indonesian rubber products has decreased in recent years. The rubber industry in Malaysia has been able to produce and export various types of rubber products such as gloves, rubber products for household use, industrial rubber made of rubber, and rubber products for health. The Thai rubber industry has also followed the same capability.

Makano (2019) states that the rubber industry in Malaysia and Thailand benefits from state involvement. In Malaysia, the state plays a role in developing high-quality R&D for all segments of the rubber industry. The rubber industry development policy is an integral part of the rural development strategy for the advancement of the Malay economy. Ethnically oriented affirmative action is incorporated into improving the rubber industry. In the downstream segment of the rubber industry in Malaysia, the private sector plays an important role in developing globally competitive products. Local ethnic Chinese entrepreneurs in Malaysia carved out a very lucrative niche in manufacturing gloves as one of the processed rubber products. They created their own approach to technology and management improvement and combined catch-up strategies with bottom-up strategies.

Thailand has become the world's top producer and exporter of natural rubber by taking advantage of the expanding demand for tires and industrial goods from China's rubber. The great demand for natural rubber has prompted local rubber companies to concentrate on the upstream segment. Thailand finds it difficult to advance the rubber processing industry in the midstream and downstream segments, so Thailand remains a follower of foreign rubber processing industries. However, the downstream segment of Thailand's rubber industry could be transformed by young, emerging entrepreneurs who appear to be imitating Chinese-Malaysian glove manufacturers.

The potential demand for rubber products from Indonesia and similar products from ASEAN countries is under great pressure from similar products from China,

Japan, and South Korea. The rubber industry in East Asian countries has technological and management advantages so that it is more competitive in the markets of ASEAN countries. The solution for Indonesia and ASEAN countries to strengthen the production base and regional market for rubber products is to upgrade technology and improve management so that the rubber products produced are highly competitive in the regional market. Furthermore, Makano (2019) added that the economic prospects of a resource-rich country in developing the rubber industry. In developing the potential of the rubber industry, it is necessary to choose options to seek technological improvements and better management in resource-based industries, such as the example of glove manufacturing in Malaysia and natural rubber production and processing in Thailand. The rubber industry will likely succeed with a combined public and private R&D strategy, dynamic entrepreneurship, and public-private relations. The rubber industry must innovatively respond to changes in the structure and direction of global demand for natural rubber and rubber-based manufactured goods. The result is how resource-rich developing countries can combine resource advantages with technological improvements and create "niches" such as new products, services, quality, and markets.

CONCLUSIONS AND RECOMMENDATION

Conclusions

This study used stochastic frontier analysis to estimate Indonesia's potential rubber product exports to the ASEAN countries. In addition, a panel data approach was used to analyze the determinant of the estimated potential of demand import for rubber products in Indonesia. Generally, potential rubber products exports of Indonesia to the ASEAN countries have not been high and are on a downward trend from 2010 to 2018 period. The countries with the highest potential for Indonesia's rubber products exports are Singapore, Thailand, and Malaysia, followed by Vietnam and the Philippines. In terms of value, it is possible to increase rubber product's export value to these markets, such as Thailand, Vietnam, and the Philippines, by 15-25 percent. Meanwhile, Malaysia and Singapore have smaller opportunities to increase exports.

Indonesian rubber products compete highly with similar industries in importing countries, and the increasing competition for rubber products from big competitors such as China, Japan, and South Korea. Indonesia mostly exports rubber products with HS codes 4015 and 4016 in the form of gloves, mittens, and mitts, rubber cellular, floor coverings and mats, erasers, gaskets and rings, boats, and fenders docks to all markets in ASEAN countries. Then followed by rubber products code HS 4010 in the form of conveyor belts or transmission belts from vulcanized rubber. The potential for import demand for other types of Indonesian rubber products (code HS4014, 4009, 4008) in ASEAN countries is relatively small and is growing slowly. Potential demand for imported rubber products (HS code 4008, 4009, 4010, 4014, 4015, 4016) by ASEAN countries (Malaysia, Singapore, Thailand, Philippines, Vietnam) in the period 2010 to 2018 shows a downward trend. However, the actual exports of various rubber products from Indonesia are getting closer to their overall potential.

Recommendation

The Indonesian rubber processing industry, especially rubber product manufacturing (HS codes 4008, 4009, 4010, 4014, 4015, 4016) must strengthen product competitiveness to encourage an increase in market share for various rubber products from Indonesia in ASEAN countries. The competitiveness of rubber products in question can be in the form of a more attractive design, reliability due to better quality,

ease of use, easy supply flow, and competitive prices with similar products. The Indonesian rubber product manufacturing industry should strengthen its research and product development division to encourage innovation in winning the tight rubber product market in ASEAN countries. The development of the research and development division is very important to accelerate continuous innovation of rubber products, especially products with HS codes 4008, 4009 and 4010. The three groups of rubber products are faced with stiff competition from similar products from China, Japan, and South Korea.

ACKNOWLEDGEMENT

REFERENCES

Amir, A. (2004). *Strategi Memasuki Pasar Ekspor*. Jakarta: Lembaga Manajemen PPM dan Penerbit PPM

Armstrong, S. (2008). *Asian Trade Structures and Trade Potential: An initial analysis of South and East Asian Trade*. Paper presented at the Conference on the Micro-Economic Foundation of Economic Policy Performance in Asia, 3-4 April, New Delhi.

Arvis, J. F., Yann, D. Shepherd, B. & Chorthip, U. (2012). *Trade Costs in the Developing World: 1995 – 2010. Asia-Pacific Research and Training Network on Trade*. ARTNeT Working Paper Series. No. 121/December 2012, Bangkok, ESCAP. Available at www.artnetontrade.org.

Aslam, M. (2018). ASEAN China FTA and the impact on Indonesia manufacturing industry. *Jati-Journal of Southeast Asian Studies*, 23(1), 13-46

Battese, G. E. & Coelli, T. J. (1988). Prediction of firm-level technical efficiencies with a generalized frontier production function and panel data. *Journal of Econometrics*, 38(3), 387-399.

Bergstrand, J.H. (1985). The Gravity Equation in International Trade: Some Microeconomic Foundations and Empirical Evidence. R*eview of Economics and Statistics,* 67(3), 474-481.

Breitung, J. (2000). *The Local Power of Some Unit Root Tests for Panel Data*, in: B. Baltagi (ed.), Nonstationary Panels, Panel Cointegration, and Dynamic Panels, Advances in Econometrics, Amsterdam, 15, 161-178.

Cheong, J., Kwak, D. W., & Tang, K. K. (2018). The trade effects of tariffs and non-tariff changes of preferential trade agreements. *Economic Modelling*, 70, 370-382. doi:10.1016/j.econmod.2017.08.011.

Drysdale., P. D., Y. Huang., & Kalirajan, K. (2000). *China's Trade Efficiency: Measurement and Determinants*, in P. Drysdale, Y. Zhang and L. Song (eds) APEC and Liberalisation of the Chinese economy, Canberra, Asia Pacific Press.

Djankov, S., F. Caroline and Cong, S.P. (2010). Trading on time. *The Review of Economics and Statistics*, 92(1), 166-173.

Deluna, R.J., and Edgardo, C. (2014). Philippine Export Efficiency and Potential: An Application of Stochastic Frontier Gravity Model. MPRA Paper No. 53580, posted 10 Feb 2014 UTC. Online at https://mpra.ub.uni-muenchen.de/53580/

Egger, P. (2002). An econometric view on the estimation of gravity models and the calculation of trade potentials. *The World Economy*, 25(2), 297-312. doi:10.1111/1467-9701.00432

Evelyn S. D & Chandran. V.G.R. (2019). Unlocking the Trade Potential in China-ASEAN Relations. *Journal of Southeast Asian Economies,* 36(3), 380–99.

Fajrin, A., Hartono, S., & Waluyati, L.R. (2015). Permintaan Gula Rafinasi pada Industri Makanan Minuman dan Farmasi di Indonesia. *Agro Ekonomi*, 26(2), 150-158. doi:10.22146/agroekonomi.17267

Glauben, T., Loy, J. P. (2002). Pricing-to-market versus residual demand elacticity analysis of imperfect competition in food exports: Evidence from Germany. *Journal of Agricultural & Food Industrial Organization,* 1(1), 1-21

Heo, Y., & Doanh, N. K. (2015). Trade flows and IPR protection: a dynamic analysis of the experience of ASEAN-6 Countries. *Asian International Studies Review*, 16(1), 59-74. doi:10.16934/isr.16.1.201506.59.

Hai, N. T. H, and Thang, D.N. (2017). The ASEAN Free Trade Agreement and Vietnam's Trade Efficiency. *Asian Social Science*, 13(4), 192-200.

International Trade Centre. (2018). Export potential map. Retrieved, December 8, 2018, from http://www.itc.org/

Knetter, M. M. (1993). International comparisons of pricing-to-market behavior. *American Economic Review*, 83(3), 473–486

Kalirajan., K. & Findlay, C. (2005). *Estimating Potential Trade Using Gravity Models: A Suggested Methodology*, GRIPS-FASID Joint Graduate Programme, Tokyo, Japan.

Khorana, S., & Narayanan, B. G. (2017). Modelling effects of tariff liberalisation on India's key export sectors: analysis of the EU–India Free Trade Agreement. Margin: *The Journal of Applied Economic Research*, 11(1), 1-22. doi:10.1177/0973801016676016.

Kumar, S., & Prabhakar, P. (2017). India's trade potential and free trade agreements: a stochastic frontier gravity approach. *Global Economy Journal*, 17(1), 1-19. doi:10.1515/gej-2016- 0074

Linnemann, H. (1966). *An Econometric Study of International Trade Flows*. Amsterdam: North-Holland Publishing Company.

Limão, N., & Venables, A. J. (2001). Infrastructure, geographical disadvantage, transport costs, and trade. *The World Bank Economic Review*, 15(3), 451-479. doi:10.1093/wber/15.3.451.

Levin, A, Lin, C. F & Chu, C. S. J (2002). Unit root tests in panel data: Asymptotic and finite sample properties. *Journal of Econometrics*, 108, 1-24.

Lairson, T.D. & Skidmore, D. (2017). *International Political Economy: The Struggle for Power and Wealth*. New York (USA): Routledge.

Linh, P.H, Doanh, N.K & Quynh, N.N (2019). Determinants of Vietnam's Potential Trade: A Case Study of Agricultural Exports to the European Union. *Asian Journal of Agriculture and Rural Development*, 9(1), 33-46.

Liu, A., Lu, C., & Wang, Z. (2020). The roles of cultural and institutional distance in international trade: Evidence from China's trade with the Belt and Road countries. *China Economic Review*, 61, 1-17. doi:10.1016/j.chieco.2018.10.001.

Memduh, A. D., B. Mustafa, and Utku, U. (2017). The Impact of Competitiveness on Trade Efficiency: The Asian Experience by Using the Stochastic Frontier Gravity Model. *Eurasian Journal of Economics and Finance*, 5(4), 1-15.

Makano, M. (2019). Changing Resource-Based Manufacturing Industry: The Case of the Rubber Industry in Malaysia and Thailand, in Emerging States at Crossroads,

ed. Keiichi Tsunekawa and Yasuyuki Todo (Editors). *Emerging-Economy State and International Policy Studies*. 145-162. Springer Link.

Niroomand, F., M. Hajilee., & Al Nasser, O. M (2014). Financial market development and trade openness: evidence from emerging economies. *Applied Economics*, 46(13), 1490-1498.

Nasrudin, Sinaga, B.M., Firdaus, M., Walujadi, D. 2015. Dampak ASEAN-China Free Trade Agreement (ACFTA) Terhadap Kinerja Perekonomian dan Sektor Pertanian Indonesia. *Buletin Ilmiah Litbang perdagangan*, 9(1), 1-23

Pasaribu, T.W., & Daulay, M. (2013). Analisis Permintaan Impor Bawang Merah di Indonesia. *Jurnal Ekonomi dan Keuangan*, 1(4), 14-26

Perdana, R.P.(2019). Kinerja Ekonomi Karet dan Strategi Pengembangan Hilirisasinya di Indonesia. *Forum Penelitian Agro Ekonomi,* 37(1), 25-39.

Sunaryo, S. (2001). *Ekonomi Manajerial Aplikasi Teori Ekonomi Mikro*. Jakarta: Erlangga

Sherlock, J., and Reuvid, J. (2011). *International trade: An Essential Guide to the principles and Practice of Export*. London. England: Kogan Page Limited.

Viorica, E. D. (2015). Econometric analysis of foreign trade efficiency of E.U. Members Using Gravity Equations. *Procedia Economics and Finance*, 20, 670-678. doi:10.1016/s2212- 5671(15)00122-7.

United Nation & World Trade Organization (2012). *A practical guide to trade policy analysis.* Available online: http://vi.unctad.org/tpa.

United Nation Comtrade. (2020). *Comtrade Database Statistic*. Available online: http://www.comtrade.org/

Zheng, Y., Shao, Y., & Wang, S. (2017). The determinants of Chinese nonferrous metals imports and exports. *Resources Policy*, 53, 238-246. doi:10.1016/j.resourpol.2017.06.003.

Zainuddin, Z., Sinaga, B.M., Hartoyo, S., & Erwidodo, E. (2019). Dampak Penurunan Tarif Impor, Investasi dan Relokasi Industri Ban Terhadap Perdagangan Karet Alam dan ban Indonesia di Pasar Dunia. *Buletin Ilimiah Litbang Perdagangan,* 13(1), 71- 98. doi**:** https://doi.org/10.30908/bilp.v13i1.341

Oil price volatility and industrial productivity: a comparative analysis of Nigeria and Egypt

Ayodele Folasade

Department of Economics, Faculty of Social Sciences, Ekiti State University,
Ado Ekiti, Nigeria

Correspondence author email: ayodelefolasade111@gmail.com

Abstract
This study examines the relationship between oil price volatility and industrial productivity in Nigeria and Egypt from 1980 - 2020. The study employs cointegration analysis and the Error Correction model to analyze data. The result shows that oil price volatility hinders industrial productivity in both Countries. But the magnitude of the effect was more in Nigeria than in Egypt. It can be traced to the fact that Nigeria is an importing Country while Egypt is a net exporting country. Also, Nigeria has neglected important sectors like the Industrial sector at the advent of oil, which made Nigeria a mono-product country for decades. Based on these findings, the study recommended diversification of the export revenue base for Nigeria to minimize reliance on oil. Also, alternative energy sources such as biofuel and solar power plants should be developed for the two countries to reduce dependency on oil consumption.

INTRODUCTION

Oil plays a dominant role in the economy of any nation because it is one of the most important natural resources with the world's largest commodity market. It has a huge contribution to the revenue of a country. For instance, oil receipts accounted for 82.1%, 83%, and about 90% of Nigerian's foreign exchange earnings in 1974, 2008, and 2010 respectively (CBN Statistical bulletin, 2011). The effect of oil price volatility on the industrial productivity of an oil-exporting country is different from its effect on a net importing country. The immediate effect of the Oil Price increase is to increase the cost of production for oil-importing countries, as this will surely reduce the output. Higher oil price lowers disposable income and decreases consumption. Where the increase is perceived as persistent, oil is less utilized in production, capital, labor productivity decreases, and potential industrial output falls. For oil-exporting countries, oil production usually accounts for a large share of their GDP, and an increase in Oil price directly increases the country's currency value. However, the total effect of oil price increase on each sector of the economy depends on what the oil-producing nation does with the additional revenue (Hakan & Nukhet, 2010). The effect is also different across sectors depending on the nature of the sector's activity and its capacity to absorb and

91

transmit the oil risk to its consumers and other economic sectors (Martins & Filian, 2004; Shawkat & Salim, 2006).

Industrial productivity refers to the output of industrial establishments, and it covers sectors such as construction, mining, manufacturing, and public utilities (electricity, water, and gas). The industrial sector is energy-intensive, using electricity and oil as the main energy source in its production processes, transport, distribution, and service rendering activities (Onuonga et al. 2011).

In this study, Nigeria and Egypt were chosen to compare the effects of oil price volatility on their industrial productivity because of the difference in economic characteristics. In the Nigerian economy, the history of industrial productivity is a classical illustration of how a nation could neglect a vital sector through policy inconsistency and distraction attributable to crude oil discovery.

Oil was discovered in commercial quantity at Oloibiri in Nigeria's Niger Delta region in 1956, but production did not start until 1958. In 1960, there was a significant increase in the industrial sector from 4.8% to 8.2% in 1990. However, in 2000 and 2002, this economic sector took a big hit and reduced its contribution from 64.1% to 3.4%. Since 2000, the oil sector has dominated all other sectors by increasing its contribution to 47.5%. However, due to the rapid growth and dominance of the oil sector, the industrial sector could not experience much growth (Ayadi, 2000).

In 1971, Nigeria became a member of the Organization of Petroleum Exporting Countries (OPEC). She was the fifth-largest supplier of crude oil to the United States and the seventh-largest producer of oil in the world. Nigeria's economy depends heavily on oil. 1t accounts for over 90% of the nation's export revenues and over 90% of foreign exchange earnings. The oil boom made the economy depend heavily on it, causing the agricultural sector to neglect. Many manufacturers and industries have been denied their source of raw materials. Import substitution and promotion of export earnings are affected by the absence of locally sourced input, which is the main industrialization strategy, resulting in low industrialization. The crux of the problem lies in the fact that Nigeria relied on this commodity over the years, making it's economy a mono-product economy, which has triggered severe economic structural difficulties.

The Egyptian economy is similar to that of Nigeria, as agriculture was the mainstay of its economy. In the 1970s, agriculture employed more than 90% of the Egyptian working population. Today, it only employs 32% of the labor force, and its share in Gross Domestic Product has been reduced to 13.1% as of 2010. This was due to oil discovery and rapid industrialization. In 1886, oil was first discovered in Ras Gemsar with 10 barrels per day production. In 1969, oil production reached 500,000 barrels per day. In January 2013, Egypt's oil reserve was estimated at 4.4 billion barrels per day. This increase was due to several new oil discoveries by United States Apache since 2008 (OAPEC Statistical bulletin). Egypt is an important none OPEC energy producer. It has the sixth-largest proved oil reserve in Africa. However, Egypt is not a member of OPEC but the Organization of Arab Petroleum Exporting Countries (OAPEC).

Egyptian oil production began to decline from its peak in 1996. Then, the production was 922000 barrels per day; in 2002, it was 631,000 barrels per day; in 2011, it declined to 555,000 barrels per day. In contrast, industrial demand for oil increased from 501,000 barrels per day in 1996 to 585,000 barrels per day in 1999. This increase in demand was attributable to rapid industrial growth and government subsidies, as the government-subsidized most oil products to prevent rising prices. The price of fuel has not changed in the past decades, which has encouraged

overconsumption (Amcham, 2003). As of April 20, 2016, Egypt was the largest none OPEC oil producer in Africa.

The Industrial sector is the second largest sector in Egypt and accounted for 32% of Gross Domestic Product In 1999. It employs approximately 17% of the labor force and contributes 37% to Gross Domestic Product. The sector's contribution depends heavily on the performance of the world market and fluctuates accordingly. In the early 1970s, Egypt was faced with a drop in industrial growth due to its defeat in the 1967 war resulting in the loss of revenues from oil fields.

According to the World Bank, in the year 2013. The oil price fell from $105.9 per barrel to $28 per barrel in February 2016. Within this period, the value-added of the industrial sector to Gross Domestic Product was 16%. In the first quarter of 2015, the value-added was reduced by 7% (World Bank, 2013).

Similar studies in the past have discussed oil price volatility and its effect on economic growth. Olomola & Adejumo (2006), Chuku et al. (2010), and Ikla et al. (2012) have all provided evidence that there is indeed a relationship between the two.

Empirical studies focusing on developed economics (Hamilton, 1983; Hooker, 1996; Jimenez-Rodrigues & Sanchez, 2005; Fills & Chatziantoniou, 2013) have revealed that crude oil price increase tends to have an adverse effect on industrial productivity and economic growth. Nevertheless, they all concluded that this relationship had not been stable for these countries over time. The unsteady relationship that had been perceived in the literature was confirmed in a study by Blanchard & Gali (2007), who compared the present response of inflation and output to oil price shocks in the group of developed economies to those in the 1970s Blanchard & Gali. (2007) concluded that the main cause behind the weak responses of economies in recent years was smaller energy intensity, a more flexible labor market, and improvement in monetary policy.

Jiranyakul (2006) examines the effect of changes in all prices on industrial productivity in Thailand using the Johansen cointegration test. He found that oil price change positively affected industrial productivity in the long run, while the change in oil prices negatively affected industrial production in the short run. Empirical studies on the oil price and industrial productivity growth relationship for developing economies have reported different results.

Chang & Wong (2003) used a structural VAR model to examine the effects of oil price fluctuations on the Singaporean economy. They found an insignificant negative relationship between oil price shocks and Singapore's gross domestic output, inflation, and unemployment rate. On the contrary, studies by Olomola (2006); Akpan. (2009) and Oriakhi & Osaze (2013) found a positive relationship between oil price increases and the growth of industrial productivity in Nigeria. Studies by Wakeford (2006), and Bouzid. (2012) found a negative relationship between oil price and industrial productivity growth for South Africa and Tunisia, respectively. Some exporting countries like Iran, Saudi Arabia, Indonesia, Mehrara, and Sarem (2009) said there was a unidirectional causality from oil price shocks to industrial productivity.

Tang et al. (2010) in China used structural VAR and found out that increases in oil prices affect industrial productivity negatively. Akpan (2009) used the VAR model and found a strong positive relationship between oil price changes and real government expenditures. Unexpectedly, the result identifies a marginal Impact of oil price fluctuations on Industrial productivity growth. Furthermore, the "Dutch Disease" syndrome is observed through significant real effective exchange rate appreciation.

Oriakhi & Osazee (2013) used quarterly data and employed the VAR methodology in carrying out their findings using data from 1970 to 2010. They found out that oil price volatility directly impacted real government expenditure, real exchange rate, and real import, which in tum had an impact on the real gross domestic product, real money supply, and inflation through other variables, notably government expenditure. This implies that an oil price change determines government expenditure level, which determines industrial productivity growth.

Riman et al. (2013) employed annual time series data spanning the years (1970-2010), and the methodology of VAR examined the asymmetric effect of oil price shocks on exchange rate volatility and industrial productivity in Nigeria. The study reveals that government expenditure responded immediately to the oil price shock. Still, public investment, private investment, and industrial productivity negatively responded to the oil price shock, further confirming the evidence of a "Dutch disease" in Nigeria.

Olomola (2006) investigated the impact of oil price shocks on aggregate economic activities such as industrial productivity and real exchange rate in Nigeria. The Vector Autoregressive method was used on quarterly data from 1970 to 2003. The findings revealed that, contrary to the previous empirical findings, oil price shocks do not significantly affect industrial productivity in Nigeria. However, oil price shocks significantly influenced the real exchange rate. The author argues that oil price shocks may give rise to a wealth effect that appreciates the exchange rate and may squeeze the tradable sector, giving rise to "Dutch disease".

But in Egypt, Hakan et al. (2010) examined the impact of oil price shocks on the economic growth of selected Middle East and North Africa Countries using the data from 1952-2005 and the Vector Autoregressive approach. He found out that oil price volatility does not have a statistically significant effect on the output of Egypt, and he said the output increase in Egypt is not a result of the oil shock.

Hang & Guo (2007) studied the impact of oil prices on the industrial growth of Egypt using a structural vector autoregressive framework. They found no significant impact of oil price shock on industrial performance. Amr Saber Algarhi (2010) assessed Egypt's oil and natural gas sector using SWOT analysis. It also considered the effect of oil prices on the real economic activity in Egypt using annual data set from 1991-2010. The Autoregressive Distributed lag model (ARDL) was utilized and found that fluctuation in oil prices had an advert effect on the industrial growth of Egypt. He attributed this adverse impact to huge government subsidies on petroleum products.

Al-Risheq, (2012) investigated the impact of oil prices and other key variables on Industrial productivity by utilizing data from fifty-two countries, using a fixed-effect model on variables like real exchange rate and oil prices. He found that oil price volatility growth in developing countries negatively and significantly impacts industrial productivity.

Some of these past researches above provided evidence of a positive relationship, while some said there is a negative relationship between oil price volatility and industrial productivity. Moreover, some lots captured the relationship between oil price volatility and industrial productivity, there are even some that compared a country with another country on the effect of industrial productivity on oil price volatility, but none of these studies had been able to compare oil-producing countries from different cartels that is, members of Organization of Petroleum Exporting Countries (OPEC) with non - OPEC members when it comes to the relationship between oil price volatility and industrial productivity. They all focused on OPEC with little or no attention to other cartels. Therefore, this study aims to determine if the effect of oil price volatility on

each economy's industrial sector is the function of the cartel to which such economy belongs.

And this research will fill the gap in previous literature by comparing countries from different cartels, OPEC and OAPEC members, in looking at the relationship between oil price volatility and industrial productivity.

In view of this, the study seeks to address the research question, "How does oil price volatility affect industrial productivity in Nigeria and Egypt". And the objective of the study is to determine the effect of oil price volatility on industrial productivity in Nigeria and Egypt from 1980 – 2020. The study will use Oil rent, exchange rate, and oil price volatility, while industrial value-added would be the dependent variable. The data is sourced from the World Bank data bank, Organization of Petroleum Exporting Countries' Annual Statistical Bulletin.

METHODS

Theoretical framework

The theoretical framework for Industrial productivity revolves around the growth accounting model, otherwise known as the source of growth analysis. The origin of the growth accounting framework can be traced back to the work of Solow (1957), Kendrick (1961), Denison (1962), and Jorgenson & Griliches (1967). More recently, the subject has been revisited and expanded by Rasche & Tatom (1977), Hamilton (1983), Barro (1998), and Al Risheq (2012). The growth accounting framework decomposes observed growth in industrial productivity into its main component. The first component was known as Solow's residual. It was originally viewed as growth in industrial productivity attributable to technical progress. The name is quite functional because it encompasses all sources of industrial output growth apart from those attributable to capital and labor. After all, the intermediate inputs are usually assumed to net out.

At the industrial level, the growth accounting exercise relates factors growth to relative factor share. One sterling contribution of the growth accounting framework is in determining whether the growth in industrial productivity has been generated by the growth in factor input derived by productivity. The relevance of this distribution is that observed growth in industrial productivity propelled by a rapid increase in capital-labor or material inputs is not sustainable in the long run. Sustainable long-run growth in output can only be guaranteed through productivity. Following the theoretical proposition of the Solow growth model employed in the study of economic growth through a neoclassical production function of Cobb Douglass type, it attempts to explain long-run output growth by means of accumulation of capital, labor, and increase in productivity, with regards to the linkage between energy and productivity growth from the neoclassical production function, the industrial value-added which is the proxy for industrial productivity is expressed as a function of the exchange rate, oil rent and oil price volatility. (Al-Risheq, 2012).

Model specification

This study adopts the model with some modifications. The modification, as regards the Changes in techniques of oil price volatility trend in Nigeria, with the determinant (oil rent, exchange rate, and oil price volatility) will enable this study to capture the effect of oil price volatility on industrial productivity.

The functional form of the model:

IVA = f (OR, EXR, OPV, U).

Where:

IVA = Industrial Value Added
OR = Oil Rent
EXR = Exchange Rate
OPV = Oil Price Volatility

The econometric form is written as

$$IVAt = \beta_0 + \beta_1 OR_t + \beta_2 EXR_t + \beta_3 OPV_t + U_t \text{----(1)}$$

U = error term and other variables has defined earlier. The apriori economic expectations. $\beta_1 < 0$, $\beta_2 < 0$, $\beta_3 < 0$

RESULTS AND DISCUSSION

Descriptive statistics of data

Table 1 shows the descriptive statistics for all the variables in both Nigeria and Egypt. During the period covered, the mean value of Industrial Value Added in Egypt is less than that of Nigeria; the exchange rate in Nigeria is higher while it is low in Egypt. The large margins between the minimum and maximum values of all the series indicate significant variations in the series' trend.

Table 1. Summary of statistical data

	Nigeria				Egypt			
	IVA	OP	OR	EXR	IVA	OP	OR	EXR
Mean	51.15	40.18	24.51	73.01	32.17	40.18	10.07	3.82
Maximum	104.64	109.45	54.09	158.55	39.89	109.45	27.42	7.08
Minimum	20.16	12.28	3.03	0.55	25.33	12.28	2.61	0.70
Std.Dev	22.01	30.20	10.60	61.62	4.05	30.20	5.62	1.79
Skewness	0.74	1.21	0.54	0.00	0.20	1.21	1.25	0.16
Kurtosis	2.66	3.11	3.45	1.34	2.04	3.11	4.21	1.83
Jacqu.Bera	3.37	8.82	1.88	4.02	1.62	8.82	11.63	2.17
Probability	0.19	0.01	0.40	0.13	0.44	0.01	0.00	0.33

Regarding the statistical distribution of the series, the exchange rate in both countries and the industrial value-added in Egypt show normal skewness around its mean because the values are approximately "0". In contrast, oil rent and oil price are positively skewed in both countries. Kurtosis measured the peakedness or flatness of the series distribution. The exchange rate and industrial value-added in both countries are platykurtic because its kurtosis value is less than "3" which means the series will have lower values below its sample mean. It is flat curved. While the oil price is mesokurtic, i.e., normally distributed because it is approximately 3". Oil rent and industrial value-added are leptokurtic, meaning these series' distribution is peaked curves.

This is buttressed by the Jacque Bera test, which shows that industrial value-added in Nigeria, oil price, and oil rent in Egypt are generally not distributed because the probability values are less than 5% critical value, while others are normally distributed.

Test for the volatility of the oil price

In order to test for volatility, ARCH and GARCH models would be used. And before this test can be done, there must be an ARCH effect.

Table 2. Heteroskedasticity test: ARCH

Variable	Coefficient	Standard Error	t-statistics	Probability
C	260.0491	192.2567	1.352614	0.1854
RESID^2(-1)	0.716189	0.121255	5.906472	0.0000

Table 2 shows the result of the ARCH test. The result indicates that the null hypothesis of no arch effect is rejected at a 5% critical value with a probability value of 0.000, which means there is a problem with the ARCH effect in the residual.

Table 3. ARCH, GARCH, TARCH, EGARCH

	AIC	SIC	Log Likelihood
ARCH (5, 0)	7.69	8.08	-129.44
GARCH (1, 1)	7.24	7.51	-124.41
TARCH	7.38	7.68	-125.85
EGARCH	7.35	7.62	-126.45

After comparing ARCH (5.0), GARCH (I.1), TARCH, and EGARCH, the result in table 3.3 above shows that GARCH (I,1) is the most suitable model because it is the one with the lowest Akaike Information Criteria (AIC) and Schwarz Information Criteria(SIC).

Table 4. Summary of GARCH (1,1) result

Variable	Coefficient	Standard Error	Z – statistics	Prob
C	12754.44	22433.18	0.568552	0.5697
Resid(-1)^2	- 723.1057	1397.850	- 0.517298	0.6049
Garch Resid1 (-1)	1.218406	0.077186	15.78536	0.0000
C	35.72317865	7.225749	4.868513	0.0000
AR(1)	0.940498	0.045937	20.47353	0.0000

The result of the GARCH model is presented in Table 4. For industrial productivity with the effect of oil price volatility represented in table 3.4, the model reveals that the existence of ARCH and GARCH is significant. The probability value is statistically significant at a 5% critical value, which shows that oil price volatility is a significant determinant of industrial productivity. The GARCH (1,1) results in Table 4 generated data for oil price volatility from the fitted values.

Unit root test results

The analysis starts with exploring the time series property of the variables specific test for stationarity is conducted. The unit root test was applied to know the order of integration of the variables. Part of the conditions for applying Johnson Cointegration techniques below shows the result of the unit root.

Table 5. Summary of unit root test result (Augmented Dickey-Fuller)

Variables	Level		First difference		
	ADF statistics	Probability	ADF Statistics	Probability	Order of Integration
IVA – Nig	-2.3636	0.1592	-6.5839	0.0000	I (1)
OR- Nig	-0. 7182	0.8280	-7.8252	0.0000	I (1)
OPV – Nig	-0. 1636	0.9341	-6.2155	0.0000	I (1)
EXR – Nig	-0.0778	0.9440	-4.3756	0.0015	I (1)
IVA – Eg	-1.1525	0.6836	-4.9767	0.0003	I (1)
OR – Eg	-1.2801	0.6277	-4.3335	0.0016	I (1)
OPV – Eg	-0.1636	0.9341	-6.2155	0.0000	I (1)
EXR – Eg	0.0060	0.9525	-4.3813	0.0015	I (1)

The test result indicates that the probability values of all variables: industrial value-added, oil rent, oil price, and exchange rate in both countries are greater than the 5% critical values levels. It implies they all have a unit root at levels because the null hypothesis is "there is a unit root". And they are all stationary at first difference. It implies that if there is any shock on any of the variables, the impact of the shock will be transitory and not permanent.

Cointegration test

In order to determine the long-run relationship among the variables, a cointegration test was performed. The model for the cointegration test is specified below:

$$IVA = f(OR, EXR, OPV)$$

The model is re-written as:

$$IVA_t = \beta_0 + \beta_1 OR_t + \beta_2 EXR + \beta_3 OPV_t + U_t$$

The data for oil price volatility has been generated from the fitted values of oil price, and the Augmented Dickey-Fuller test has been performed on it to test for the unit root. The result shows that oil price volatility is integrated with order 1. Therefore, the Johansen Cointegration test would be done to check if the variables have a long-run relationship. But before the cointegration test, the optimal lag to be used would be selected by the lag length Criteria.

Optimal lag selection

An optimal lag length test was conducted to avoid the risk associated with the under-specification or over-specification of the model. The result for the two countries is tabulated in Table 6.

Table 6. Optimal lag selection for Nigeria and Egypt

Lag	Nigeria		Egypt	
	AIC	SC	AIC	SC
0	33.34	33.53	21.45	21.63
1	27.64	28.55	16.09	17.60
2	27.53	29.18	16.07	17.70

According to the lag selection criteria, lag"2" is the optimal lag to be used in Nigeria and Egypt because of its lowest AIC value. Therefore, the cointegration analysis would be done using lag "2"

Table 7. Johansen cointegration test for Nigeria and Egypt

Hypothesized No of CE(s)	Trace Statistics	5% Critical Value	Probability	Max. Eigen Statistics	5% Critical Value	Probability
Nigeria						
None*	57.2114	47.8561	0.0052	29.1342	27.5843	0.0314
At most 1	28.0772	29.7971	0.0779	23.4201	21.1316	0.0234
At most 2	4.6571	15.4947	0.8441	4.5091	14.2646	0.8021
At most 3	0.1480	3.8415	0.7005	0.1480	3.8415	0.7005
Egypt						
None*	53.1287	47.8561	0.0147	26.5582	27.5843	0.0672
At most 1	26.5705	29.7971	0.1126	17.1109	21.1316	0.1668
At most 2	9.4596	15.4947	0.3246	6.6489	14.2646	0.5315
At most 3	2.8415	3.8415	0.0936	2.8107	3.8415	0.0936

According to Table 7, the cointegration test shows that there is a long-run relationship between industrial value-added, oil rent, exchange rate, and oil price volatility in both Nigeria and Egypt since both trace and maximum Eigen test reject the null hypothesis of "there is no cointegrating equation", because the probability values are less than 5% "none" and "at most 1". Hence, there are two cointegrating equations among the variables in Nigeria and one cointegrating equation among that of Egypt. Therefore, the alternative hypothesis of a long-run relationship among the variables is accepted.

Table 8. The long-run relationship

Variable	Nigeria				Egypt			
	Coeff	Standard error	t-Statistics	Prob. value	Coeff	Standard error	t-Statistics	Prob. value
Constant	-276.23				71.83			
IVA	1.00				1.00			
OR	-4.78	0.98	4.90	0.2827	3.18	1.09	-2.91	0.1731
EXR	-0.97	0.144	6.73	0.00428	20.85	4.47	-4.67	0.0549
OPV	-0.73	0.36	0.36	0.0019	-0.22	0.25	0.86	0.0495

Table 8 indicates that oil rent achieved Nigeria's expected negative coefficient sign. Oil rent has an insignificant negative relationship with industrial value-added, which means the higher the Oil rent, the lower the Industrial Value added. Thus, in Nigeria, a percentage increase in Oil rent caused a 4.78% decrease in industrial value-added. But in Egypt, Oil rent has a significant positive relationship with industrial value-added, and a percentage increase in Oil rent led to a 3.18 percent increase in industrial value-added.

Then, the exchange rate in Nigeria has a significant negative relationship with industrial value-added, and a % increase in the exchange rate led to a 97% decrease in industrial value-added. In Egypt, the reverse is the case, 20.85 percent increase in the industrial value-added is caused by a percentage increase in the exchange rate.

Also, oil price volatility achieved the expected negative sign in both Nigeria and Egypt. Oil price volatility significantly negatively impacts industrial value-added in both countries. The higher the oil price volatility, the lower the industrial value-added. A percentage decrease in oil price volatility in Nigeria increased the industrial value-added by 73%. While in Egypt, a percentage decrease in oil price volatility increased the industrial value-added by 22%.

Error correction model

The error correction model is constructed only if the variables are cointegrated. Variables are said to be cointegrated when there is a long-run relationship among them. Error Correction Model is constructed to examine the short-run dynamics of the cointegrated series. Based on the Johansen cointegration test, which suggested the existence of long-run cointegration among variables and coupled with I (1) order condition in the series, I further employed ECM estimation to analyze the short-run dynamics in the variables. The short-run analysis was run on the dependent variable" industrial value-added and the independent variables oil rent, exchange rate, and oil price volatility to find out the short-run effect of oil price volatility on industrial productivity in both Nigeria and Egypt.

Table 9. Summary of short-run analysis

Variable	Nigeria				Egypt			
	Coeff	Standard error	t-statistics	Prob Value	Coeff	Standard error	t-statistics	Prob Value
D(IVA1)	-0.0968	0.1532	-0.6321	0.5328	0.1141	0.1492	0.7644	0.4518
D(OR1)	-0.0999	0.0911	-1.0970	0.2827	0.1161	0.828	1.4022	0.1731
D(EXR1)	-0.1880	0.0883	-2.1294	0.0428	1.5936	0.7914	2.0137	0.0549
D(OPV)	**0.**2576	0.0746	3.4532	0.0019	0.0484	0.0234	2.0642	0.0495
ECM (-1)	-0.3438	0.1338	-2.5683	0.0163	-0.5676	0.2576	0.0746	3.4532
C	-2.2403	0.9445	-2.3718	0.0254	-0.2459	0.2773	-0.8869	0.3835

From the table above, the short-run relationships are estimated as shown. The term ECM (-1) represents the speed of adjustment to restore equilibrium in the dynamic model. The coefficient of the lag error correction model is - 0.3438, negative and significant at a 5% significant level, which confirms the existence of the cointegrating relationship. This indicates that about 34% of deviations from the long-term industrial productivity caused by previous years' shocks converge to the long-run equilibrium in the current year. In Nigeria and Egypt, the short-run effect of oil rent and exchange rate on industrial productivity was the same as the long-run relationships. But the short-run effect of oil price volatility on industrial value-added differs from the long-run effect in both countries. In the short run, oil price volatility has a positive effect on industrial value-added, but in the long run, it has a negative effect on both countries.

A Series of diagnostic tests are conducted within the ECM framework. This ensures the estimate's reliability and validity in the Error Correction Model. Therefore, tests for normality, serial correlation, and heteroskedasticity were carried out on the model.

Table 10. Series of diagnostic test

	Nigeria	Egypt
Autocorrellation test	Breusch Godfrey test P Value = 0.2096	Breusch Godfrey test P Value = 0.2010
Heteroskedasticity test	Breusch Pagan Godfrey test P Value = 0.6924	Breusch Pagan Godfrey test P Value = 0.0643
Normality test	Jacque – Bera test P Value = 0.9382	Jacque – Bera test P Value = 0.3556

Jacque Bera test was used to check the residuals of the estimate if they are normally distributed or not. The null hypothesis (HO) is that "residuals are normally distributed". According to the table above, the probability value of the Jacque Bera test is more than 5% critical value. Therefore, the null hypothesis was accepted, and the alternative hypothesis was rejected. It means the residuals are normally distributed both in Nigeria and Egypt.

The Breach Godfrey autocorrelation LM test was employed to check the serial correlation among the residuals. From the table, the probability value is more than 5%, so the null hypothesis of "no serial correlation" was accepted. This is a relief.

Finally, the residuals of the estimates are checked for the presence of heteroskedasticity. The probability value is greater than 5%, indicating that the residuals are not heteroskedastic.

Discussion

The study investigated the relationship between oil price volatility and industrial productivity in Nigeria and Egypt (1980-2020). The study used the unit root test to check the stationarity of the data. The unit root test results show that all the variables used in the model are stationary after the first difference. Also, the heteroskedasticity test reveals that there was a presence of Autoregressive Conditional Heteroskedasticity ARCH) effect on oil price and the residual graph made the volatility clustering obvious as low clustering was being followed by low clustering and high clustering by high clustering. The GARCH (1,1) model result generated data for oil price volatility. The results show that oil price significantly affects industrial productivity in Nigeria. A heteroskedasticity test using the ARCH approach was done to validate the model's reliability. The expected result is that our model should not have an ARCH effect again.

According to the diagnostic test performed on the GARCH (1.1) model, the null hypothesis is that there is no heteroskedasticity, the residuals were normally distributed, and there is no more ARCH effect in the residual since the probability value is greater than the critical value. Therefore, the results of these diagnostic tests validate the fitness of the result.

The Cointegration test showed that the variables involved have a long-run relationship. It means there is a long-run relationship between total industrial value-added, oil rent, oil price, and exchange rate in Nigeria.

In order to determine the nature of the long-run relationship by the reversed coefficient using the normalized Johansen Cointegration equation, it can be seen that oil rent has a significant negative relationship with industrial value-added in Nigeria. It means the higher the oil rent, the lower the industrial value-added. Meaning that a 1% increase in oil rent caused a 47.8% decrease in industrial value-added. The neglect of the industrial sector may explain this at the discovery of oil. This confirmed the apriori expectation and the existing literature. Ayadi (2000) said the boom in the oil sector made the economy depend heavily on it, thereby causing neglect in other sectors like industrial and agricultural sectors. Many manufacturers and industries have been denied their source of raw materials. Import

Substitution and promotion of export earnings are affected by the absence of locally sourced input, which is the main industrialization strategy. Therefore, an increase in Oil rent does not increase industrial productivity. Komonen & Jurikalla (2007) said an increase in oil earnings spells doom for net oil-importing countries because an increase in oil price affects the Gross Domestic Product of the importing countries

In the case of the exchange rate, the result established a significant negative relationship with industrial value-added. The higher the exchange rate, the lower the industrial value-added. A percentage increase in the exchange rate led to a 97% decrease in industrial value-added and vice versa.

The result established that oil price volatility also achieved an expected negative coefficient, which significantly negatively affected industrial value-added. The cointegration test revealed that a percentage increase in oil price volatility led to a 73% decrease in industrial value-added. This was also in line with the works of Ojapinwa & Ejumedia (2012) and Riman et al. (2013). Loto (2012) and Finn (2000) found a significant negative response of Industrial productivity to oil price volatility. The implication of this is that whenever there is a rise or fall in oil price, the cost of production is not stable, leading to a reduction in output pressure on prices of goods and services and consequently resulting in the reduction of aggregate demand.

Also, the cointegration test in Egypt revealed a long-run relationship among the variables. The reversed coefficient of the normalized Johansen Cointegration equation revealed a long-run relationship between industrial value-added, Oil rent, and exchange rate in Egypt. Oil rent has an insignificant positive relationship with industrial value-added. From the findings, a percentage increase in Oil rent increased the industrial value-added by 31.8%. It implies that within the period studied, Egypt, as an oil-exporting country, generated more revenue from the oil sector, forming a large share of their Gross Domestic Product and positively influencing their industrial value-added. That is why the Industrial sector is the second largest sector in Egypt. Also, the exchange rate had a significant positive effect on the industrial value-added of Egypt. A unit increase in the exchange rate led to a 20% increase in industrial value-added. This confirmed the work of Nawaz. (2012), Al-Risheq (2016), whose work was on the impact of oil prices on Industrial production in developing countries, found that an increase in the exchange rate makes the price of domestic products relatively cheaper. Therefore, an increase in the international competition of domestic industries increases the country's exports of domestically produced goods and improves output levels.

Depreciating currency makes a country's export relatively cheaper. And on the other hand, when there is currency appreciation, everything, including the raw materials used in industrial production, escalates; this will increase the cost of production, thereby reducing industrial productivity.

When it comes to oil price volatility, the contrary is the case. Oil price volatility significantly negatively affected industrial value-added in Egypt. An increase in oil price volatility led to a 22% decrease in the economy's industrial value-added. It is also in line with previous researchers like Al-Risheq (1970-2012), and Am Saber Alghari (1970 - 2010) assessed Egypt's oil and natural gas sector and found that volatility in oil prices had an advert effect on industrial productivity.

CONCLUSION AND RECOMMENDATION

Conclusions

The study concluded that oil price volatility negatively affected industrial value-added in Nigeria and Egypt. An increase in oil price volatility significantly reduced industrial productivity in both countries. Although the two countries under study were from different cartels, the direction of the effect of oil price volatility on their industrial productivity is the same. Still, the magnitude of the effect is higher in Nigeria than in Egypt. Two main reasons can be ascribed to this. One of the reasons is that Egypt is a net exporter of oil (Egypt exports refined oil). While Nigeria exports crude oil and imports refined oil, Nigeria is a net importer of oil. Also, the total effect of oil price increase on each sector of the economy depends on what the oil-producing nation does with the additional revenue. Therefore, it is concluded that oil price volatility is an ill wind that blows no one any good.

Recommendations

The study recommends some policies that may help lessen the effect of oil price volatility on industrial productivity.

Firstly, it is essential to improve the oil reserve system in developing countries to reduce vulnerability to oil volatility as most developing economies are dependent on oil imports. Then most importantly, alternative sources of energy such as biofuel and solar power plants should be developed to reduce dependence on oil and consumption of oil.

Industrial-based developing economies should be made strong. The measure should be taken to keep the real exchange rate at a level that benefits developing economies' domestic productions and export activities.

The interest rate should be kept low to boost investment for production purposes. To sustain industrialization in Nigeria, the manufacturing sector should begin to focus on producing capital goods. The government should deliberate effort to negotiate and acquire available technology in specific areas like the industrial sector.

National security should be strengthened and tightened to curb insurgency, armed robbers, kidnappers, and ethnic militants to protect and encourage investment in the country.

Above all, the country should diversify its export revenue to minimize reliance on oil and petroleum products. This will further cushion the effect of od price volatility in the economy.

REFERENCES

Ahmed, H.J.A & Wadud, I.K.M (2011). Role of Oil Price Shock on Macroeconomic Activities of Malaysia Economy and Monetary responses. *Energy Policy*, 39, 8063 – 8069.

AmCham (American Chamber of Commerce in Egypt) (2003). *The Petroleum Industry in Egypt: Investment and Prospects*. Business Studies & Analysis Centre.

Akpan, E. (2009). Oil Price Shocks and Nigeria's Macroeconomy. *Journal of Economics, Ibadan, 4(2), 12-19.*

Ayadi, O. (2005). Oil Price Fluctuation and the Nigerian Economy. *OPEC Review*, 10, 199-217

Blanchard, O. & Gali, J. (2007). The Macroeconomic Effects of Price Shocks: Why are the 2000s so different from the 1970s" *NBER Working Papers, 373-427.*

Bouzid, A. (2012). The Relationship of Oil Prices and Economic Growth in Tunisia. *The Romanian Economic Journal,* 15(43), 3-22

Chang. E.C. & Wong. W.C. (2003). Oil Price Fluctuation and Singapore Economy. *Energy Policy. 31, 1151-1165.*

Chuku, C., Effiong, E. & Sam, N. (2010). *Oil Price Distortions with their Short and Long Run Impacts on the Economy*. MPRA Paper 24434, University Library of Munich, Germany

Cunado, J. & de Gracia, F.P. (2005). Oil Prices, Economic Activity and Inflation: Evidence from some Asian Countries. *The Quarterly Review of Economics and Finance*, 45(1), 65-83

EIA (Energy Information Administration) (2013). *Country Analysis Briefs: Egypt*. US Department of Energy, Washington DC.

Finn, M.G. (2000). Impact of Oil Prices on GCC Economies. *International Journal of Business and Social Sciences.* 32(3), 30-34.

Hamilton, J, D. (1983). Oil and the macro economy since World War 11. *Journal of Political Economy, 9(2), 28-48.*

Hakan, B., Nildag, C. & Nukhet, D. (2010). The Impact of Oil Price Shocks on the Economic Growth of Selected MENA Countries. *The Energy Journal*, 3(1), 149-176

Hooker, M. A. (1996). What Happened to the Oil Price-macro Economy relationship? *Journal of Monetary economics,* 38(2), 195-213.

Hang, Y. & Guo, F. (2007). The Role of Oil Price Shocks on China's Real Exchange Rate. *China Economic Review*, 18(4), 403-416.

Ikla, B.V. (2012). *Macroeconomic impact of oil price shocks on oil rich economies: Evidence from Nigeria using a structural VAR Approach*. 31st USAEE/IAEE North American Conference, Austin, Texas. November 4-7.

Jiranyakul, K. (2006). The Impact of International Oil Prices of Industrial Production: The Case of Thailand, *NIDA Economic Review*, 1(2), 35-42.

Jimenez-Rodrigues & Sanchez, M. (2005). Oil Price Shocks and Real Gross Domestic Product Growth: Empirical Evidence from Some OECD Countries. *Applied Economics,* 37(2), 201-228

Mehrara, M. & Sarem, M. (2006). Effect of Oil Price Shocks on Industrial Production: Evidence from some Oil Exporting Countries. *Journal of OPEC Energy Review,* 33, 170-183.

Ojapinwa, T.V. & Ejimudia, P.E. (2012). The Industrial Impact of Oil Price Shocks in Nigeria. *European Scientific Journal,* 8(12,: 1857-7881.

Onuonga, S.M., Etyang, M. & Mwanbu, G. (2011). Oil Price Volatility and Manufacturing in Nigeria. *The Journal of Energy and Development, 34(2).*

Olomola, P.A. & Adejumo, A.V. (2006). Oil Price Shocks and Macroeconomic Activities in Nigeria. *International Research Journal of Finance and Economics*, 3, 28-34

Oriakhi, D.E. & Osaze, I.D. (2013). Oil Price Volatility and its consequences on the growth of Nigerian Economy. *Asian Economic and Financial Review*, 3(5), 683-702.

Rasche, R. H. & Tatom, J.A. (1977). Energy Resources and Potential GNP. *Federal Reserve Bank of St. Louis Review* 59(6), 10-24.

Riman, H.B., Akpan, E.S., Offiong, A.I. & Ojong, C.M. (2013). Nexus between Oil Revenue, Non-Oil Export and Industrial Output in Nigeria. *International Journal of Financial Economics*, 1(2), 48 - 60

Sadorky. P. (1999). Oil Price Shocks and Stock Market Activity. *Energy Economics, Elsevier,* 21(2), 449-469.

Al-Risheq, S.M. (1970-2012). The impact of Oil Prices and other key variables on Industrial productivity.

Tang, W., Wu, L., & Zhang, Z.X. (2010). Oil Price Shocks and their Short and long term effect on Chinese economy. *Energy Policy.* 68,394 - 402

The effect of the performance of the audit committee, internal audit, and manager religion on the implementation of good corporate governance and their implications on fraud

Rita Friyani; Haryadi*; Afrizal; Enggar Diah Puspa Arum

Faculty of Economics and Business, Universitas Jambi, Indonesia

*To whom correspondence should be addressed: haryadikamal@gmail.com

Abstract
The main objective of this research is to analyze the performance of the audit committee, internal audit, and religiosity of the manager on the implementation of good corporate governance (GCG) and its implication for fraud. The study was conducted at State-owned enterprises (SOEs) in Indonesia. The population of this research is all SOEs in Indonesia, and the number of samples is 89 SOEs (based on the Slovin formula). The sampling method used a simple random sampling technique. The research data was obtained by submitting a list of questions to the selected respondents. Respondents consist of the chairman of the audit committee or members of the audit committee, the head of internal audit or members of internal audit, the corporate secretary, and the finance director (financial manager). The data were analyzed using the SEM-PLS model. The research proves that the performance of audit committees and internal audits affects the implementation of GCG, while the religiosity of managers does not affect the implementation of GCG. The research also proves that the performance of the audit committee and the implementation of GCG affect fraud, while internal audit and religiosity of managers do not affect fraud.

INTRODUCTION

The economic crisis that occurred in mid-1997 and the emergence of various financial scandals in international companies profoundly impacted the economy. The crisis even affected the collapse of the political regimes in power in several countries in Asia. The analysis conducted by various international organizations and government regulators in many countries found that the main cause of the economic crisis was weak good corporate governance (GCG) in many companies (Gusnardi, 2011).

The failure to implement the principles of GCG has been one of the triggers of the financial crisis in the last 10 years (Fikri, 2014). GCG reflects a country's economy. However, many companies in Indonesia still have not applied the principles of GCG on an ongoing basis, which has the potential to trigger a financial crisis. Implementing

GCG in a good and sustainable manner can affect the decision-making process and balance the framework and overall understanding of company management.

Efforts that must be made to achieve GCG are fulfilling the characteristics of transparency, accountability, and participation in various social, political, and economic activities. From an economic perspective, one indicator of openness, accountability, and participation is the low level of fraud that occurs in economic activity at various levels of economic actors. Therefore, the factors that must be considered in order to achieve the goal of clean government are needed to reform a set of integrated information systems, including reforms of the budget system, information systems, audits, and institutional reforms so that the accounting sector can play a more optimal role.

State-Owned Enterprises (SOEs) as agents of development can become the driving force that can help accelerate the recovery of the national economy through applying the principles of GCG. SOEs need a healthy business culture and strong management commitment to survive in global competition, so a culture of GCG or corporate governance is needed. Many companies have gone out of business because GCG principles have not been realized (Heryana & Novrita, 2012).

The efforts made by the government in realizing the principles of GCG to improve company performance, especially SOEs in Indonesia, was the issuance of the Decree of the Minister of State-Owned Enterprises Number: KEP-117 / M-MBU / 2002 concerning the implementation of GCG practices in Business Entities. State-owned (SOEs) Article 2 requires SOEs to implement GCG consistently.

Applying the principles of GCG in SOEs will encourage forming a clean, transparent, and professional management work pattern (Effendi, 2016) so that fraud in BUMN can be avoided or minimized. According to Tunggal (2010:231), one way to prevent fraud can be by improving organizational culture, which can be done by implementing the principles of GCG. Research conducted by Eferakeya et al. (2016) and Gusnardi (2011) states that the audit committee influences the prevention of fraud, and Abbott et al. (2000) found that the audit committee affects fraudulent financial reporting. The two main characteristics of the audit committee will reduce the possibility of fraud on financial statements.

Research conducted by In'airat (2015) which examined the relationship between GCG and fraud in Saudi Arabia, stated that the implementation of GCG reduced the level of fraud. Tuek & Klikovac (2012) conducted a study related to corporate governance on the prevention and detection of fraud in Croatia and found that there is an influence between corporate governance and the prevention and detection of fraud

Wefa's (2017) and Gusnardi's (2011) research results state the influence of implementing GCG and fraud. Where if GCG is implemented correctly, fraud can be prevented and detected.

Although various policies and regulations are in place, cases of fraud, irregularities in state finances, and poor governance are still common among SOEs in Indonesia. Up to 2013, there were 510 cases with a total value of Rp. 2.69 trillion (BPK RI, 2013)

These cases show the weak supervision of related parties within these companies, including supervision by the audit committee and internal audit. This fraud case indicates that the company/SOEs is not implemented the principles of GCG (Pranoto, 2019).

Regulation Number IX.1.5 in the attachment to the Decree of the Chairman of Bapepam Number: Kep-29 / PM / 2004 states that: "The Audit Committee is a

committee formed by the Board of Commissioners to assist in carrying out its duties and functions". The Audit Committee plays an important role in realizing GCG because it is the "eye" and "ear" of the board of commissioners overseeing the company's running. An effective audit committee is one aspect of assessment in implementing GCG. To realize the principles of GCG in a public company, the principles of transparency, accountability, responsibility, independence, and fairness must be the main basis for the audit committee's activities (Effendi, 2016).

The attributes of the audit committee consist of size, independence, meeting frequency, expertise, and compensation plans (Al-Baidhani, 2016; Salloum et al., 2016). Previous studies have shown that the audit committee affects the implementation of GCG (Abdullah et al., 2018; Drogalas et al., 2016; Gusnardi, 2011; Al-Baidhani, 2016; Salloum et al., 2016).

Furthermore, the Internal Audit Professional Organization Consortium states that an internal audit is an independent and objective assessment function of activities carried out within an organization. Internal audit helps an organization achieve its objectives through a systematic and orderly approach to evaluate and improve the effectiveness of internal control systems, risk control, and good governance processes to support the realization of a healthy company. Previous studies have found that internal audit positively affects corporate governance (Karagiorgos et al., 2010; Abdullah et al., 2018; Drogalas et al., 2016; Gusnardi, 2011). Internal audit also plays a role in preventing and detecting fraud (Petrascu & Tieanu, 2014; Gusnardi, 2011; Zarkasyi, 2008)

So that in addition to the audit committee and internal audit, another factor that influences the implementation of GCG is the religiosity factor. Religiosity is the level of one's conception and commitment to religion. Religious people will carry out religious orders and avoid religious prohibitions (Glock & Strak, 1966; Stratta et al., 2013). Religious managers will try to carry out religious orders and will not violate religious rules. So, they are afraid to do unethical things that are not in accordance with the rules. A religious manager will try to implement the principles of GCG in the company.

GCG is universally very closely related to the teachings of existing religions. The principles of GCG are in line, especially with Islamic teachings. The moral dimension of the implementation of GCG, among others, lies in the principle of accountability, the principle of responsibility, the principle of transparency, and the principle of fairness. (Effendi, 2016).

Kim & Daniel (2016) researched the relationship between religion and corporate governance in 32 countries, and the research results showed that religion positively affected the implementation of corporate governance. Research by Hasan et al. (2017) states that fees and religiosity affect the independence of the sharia supervisory board in realizing GCG. Experimental research by Bloodgood et al. (2008) shows that the more religious a person is, the more he will not cheat. Aydemir's (2010) study states that religious people will carry out business ethics, and the possibility of cheating is very slight.

In order to improve the implementation of GCG and prevent fraud in SOEs in Indonesia, it is important to conduct a study related to the influence of the performance of the audit committee, internal audit, and religiosity of managers on the implementation of GCG and its implications for fraud in SOEs in Indonesia.

METHODS

This research is survey research. The population of this research is all SOEs in Indonesia, which are 115 SOEs. The number of samples is 89 SOEs (based on the Slovin formula). The sampling method used a simple random sampling technique.

The research data was obtained by submitting a list of questions to the selected respondents. Respondents consist of the chairman of the audit committee or members of the audit committee, head of internal audit or members of internal audit, corporate secretary, and finance director (financial manager)

The data analysis method used to prove the hypothesis is a component-based or variance-based structural equation modeling (SEM) known as Partial Least Square (PLS) with a model framework as given in Figure 1.
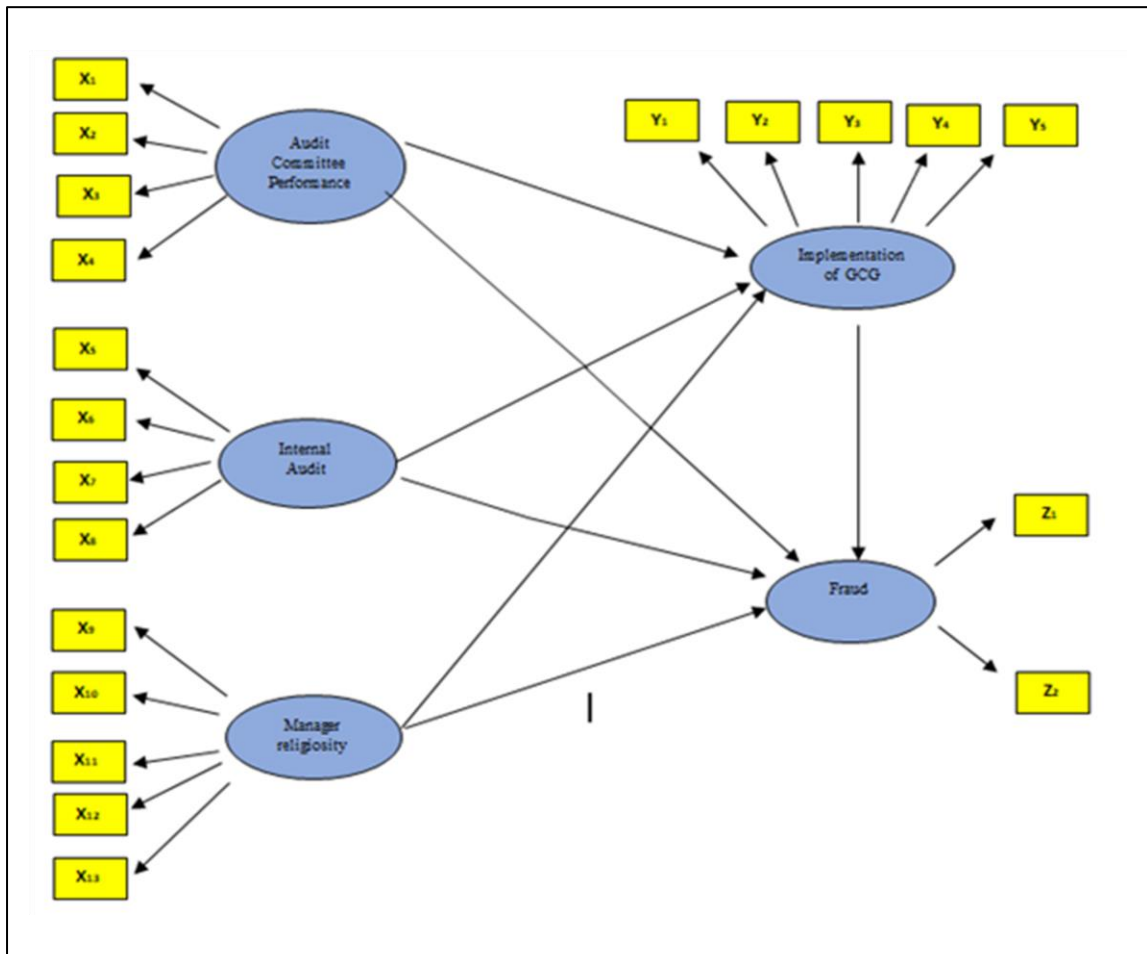
Figure1. Research model framework

Notes:
X1 – X4   = Audit committee performance indicators
X5 – X8   = Internal audit indicator
X9 – X13 = Manager's religious indicators
Y1 – Y5   = GCG implementation indicators
Z1 – Z2   = Fraud indicator

The operational definitions of variables for the indicators used in the model are given in Table 1.

Tabel 1. Variable operational definition

No	Variable	Concept	Indicator
1.	Audit committee performance (X1)	The audit committee is a committee that works professionally and independently and is formed by the board of commissioners. As such, its task is to assist and strengthen the function of the board of commissioners (or supervisory board) in carrying out the supervisory function of the financial reporting process, risk management, audit implementation, and implementation of the audit committee, corporate governance in companies.	• Roles and responsibilities of the audit committee • Requirements for Membership of the Audit Committee • Audit Committee membership meeting • Audit committee report
2.	Internal audit (X2)	Internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluating and improving the effectiveness of risk management, control, and governances processes	• Independence • Professional skills • Implementation of inspection activities • Internal audit management
3	Manager religiosity (X3)	Religiosity is the level of one's conception of religion and the level of one's commitment to his religion. The level of conceptualization is the level of a person's knowledge of his religion, and the level of commitment needs to be understood thoroughly so that there are various ways for individuals to become religious.	• Confidence • Worship • Experience • Knowledge • Application
4.	Implementation of Good Corporate Governance (Y)	GCG is a process and structure used by SOE organs to improve company business and accountability to realize shareholder value in the long term while taking into account the interests of other stakeholders based on laws and ethical values.	• Transparency • Independence • Accountability • Accountability • Fairness
5.	Fraud (Z)	Fraud includes acts of dishonesty, lying, or deception, which directs another party to give something of value or give up certain legal rights.	• Fraud detection • Fraud prevention

RESULTS AND DISCUSSION

Measurement model (outer model) evaluation

The measurement model (outer model) is a model that connects the latent variable with the manifest variable. In principle, measurement model evaluation measures how far the indicator (item) can explain the latent variable. Evaluation of the measurement model results (measurement model) consists of convergent validity, discriminant validity, and internal consistency reliability.

Convergent validity

Convergent validity is the principle that a construct's quantifiers (manifest variables) should be highly correlated. The rule of thumb that is usually used to assess convergent validity is that the loading value must be more than 0.7 for confirmatory research, and the loading value between 0.6-0.7 for exploratory research is still acceptable and the Average Variance Extracted (AVE) value) must be greater than 0.5 (Chinn 1998). The loading factor and AVE value of the research model are given in Table 2.

Tabel 2. Convergent validity

Latent Variable	Indicators	Loading factor	AVE
Audit Committee Performance	X1.1	0.901	0.944
	X1.2	0.807	
	X1.3	0.907	
	X1.4	0.883	
Internal Audit	X2.1	0.939	0.938
	X2.2	0.979	
	X2.3	0.983	
	X2.4	0.983	
Manager religiosity	X3.1	0.897	0.766
	X3.2	0.905	
	X3.3	0.933	
	X3.4	0.866	
	X3.5	0.922	
GCG Implementation	Y1	0.885	0.837
	Y2	0.939	
	Y3	0.903	
	Y4	0.897	
	Y5	0.950	
Fraud	Z1	0.972	0.819
	Z2	0.965	

Based on Table 2, it can be seen that all indicators have a loading factor value greater than 0.70. Furthermore, the AVE value for all variables is greater than 0.5. This means that all indicators in each latent variable have met convergent validity.

Discriminant validity

Discriminant validity relates to the principle that different constructs' manifest variables should not be highly correlated. Discriminant validity testing can be done by means of cross-loading.

Tabel 3. Cross Loading

	Internal Audit	Fraud	Audit Committee Performance	GCG Implementation	Manager religiosity
X1.1	0.385	0.697	0.901	0.613	0.142
X1.2	0.255	0.584	0.807	0.419	-0.107
X1.3	0.510	0.799	0.907	0.709	0.205
X1.4	0.300	0.688	0.883	0.563	0.162
X2.1	0.939	0.498	0.313	0.642	0.436
X2.2	0.979	0.659	0.430	0.733	0.514
X2.3	0.983	0.616	0.439	0.706	0.505
X2.4	0.983	0.684	0.461	0.738	0.458
X3.1	0.421	0.175	-0.026	0.296	0.897
X3.2	0.430	0.187	0.087	0.253	0.905
X3.3	0.432	0.262	0.099	0.360	0.933
X3.4	0.294	0.124	-0.047	0.190	0.866
X3.5	0.537	0.447	0.283	0.493	0.922
Y1	0.656	0.618	0.521	0.885	0.321
Y2	0.622	0.785	0.619	0.939	0.429
Y3	0.771	0.734	0.578	0.903	0.356
Y4	0.618	0.794	0.499	0.897	0.370
Y5	0.665	0.892	0.815	0.950	0.320
Z1	0.680	0.972	0.793	0.870	0.281
Z2	0.549	0.965	0.752	0.757	0.319

From 3, it can be seen that all indicators have the highest correlation with the measured latent variables. This can be seen from the loading factor value for the X1.1-X1.4 indicator, which has the highest correlation with the audit committee performance

construct, then the X2.1-X2.4 indicator, which has the highest correlation with the internal audit construct, then the X3.1-X2 indicator. X3.5 has the highest correlation with the manager's religiosity construct, further indicators Y1-Y5 which has the highest correlation with the GCG implementation construct, and the Z1-Z2 indicator, which has the highest correlation with the fraud construct. So it can be concluded that the model has good discriminant validity.

In addition to the cross-loading discriminant validity test, it can be tested using the Fornell lacker criterion test by comparing the AVE root value with the correlation value between latent variables.

Tabel 4. Fornell Lacker criterion

Latent Variable	Internal Audit	Fraud	Audit Committee Performance	GCG Implementation	Manager religiosity
Internal Audit	0.971				
Fraud	0.638	0.969			
Audit Committee Performance	0.427	0.799	0.875		
GCG Implementation	0.728	0.843	0.672	0.915	
Manager religiosity	0.493	0.309	0.132	0.392	0.905

Notes: The shaded number is the root value of AVE

The results of the Fornell Lacker Criterion test in Table 4 show that the AVE root gain on the audit committee performance variable is 0.875 higher than the highest correlation between audit committee performance and GCG implementation. Then the acquisition of the AVE root on the internal audit variable is 0.971, which is higher than the highest correlation between internal audit and manager religiosity. The AVE root gain on the GCG implementation variable is 0.915, higher than the highest correlation between GCG implementation and manager religiosity. The AVE root of the fraud variable is 0.969, which is higher than the highest correlation between fraud and GCG implementation. So it can be concluded that the model has good discriminant validity.

Internal consistency reliability

Internal consistency reliability, better known as the reliability test, is carried out to test the instrument's accuracy, consistency, and accuracy in measuring constructs with composite reliability (CR) and reinforced with Cronbach alpha (CA). The rule of thumb that is usually used to assess construct reliability is that the CR value must be greater than 0.7 for confirmatory research, and 0.6-0.7 is still acceptable for exploratory research.

Tabel 5. Internal consistency reliability

Latent Variable	Cronbach's alpha	Composite reliability
Audit Committee Performance	0.898	0.929
Internal Audit	0.980	0.985
Manager religiosity	0.947	0.958
GCG Implementation	0.951	0.963
Fraud	0.934	0.968

Based on Table 5, it can be seen that each latent variable has a Cronbach's alpha (CA) value > 0.6 and Composite Reliability (CR) > 0.7, so it is reliable. This shows that all indicators already have consistency and accuracy in measuring each construct.

Structural model (inner model)

The structural model connects exogenous latent variables with endogenous latent variables or the relationship between endogenous variables and other variables. Its function tests the effect of one latent variable on other latent variables. Based on the full structural model testing using the bootstrapping method, which is shown in Figure 2.
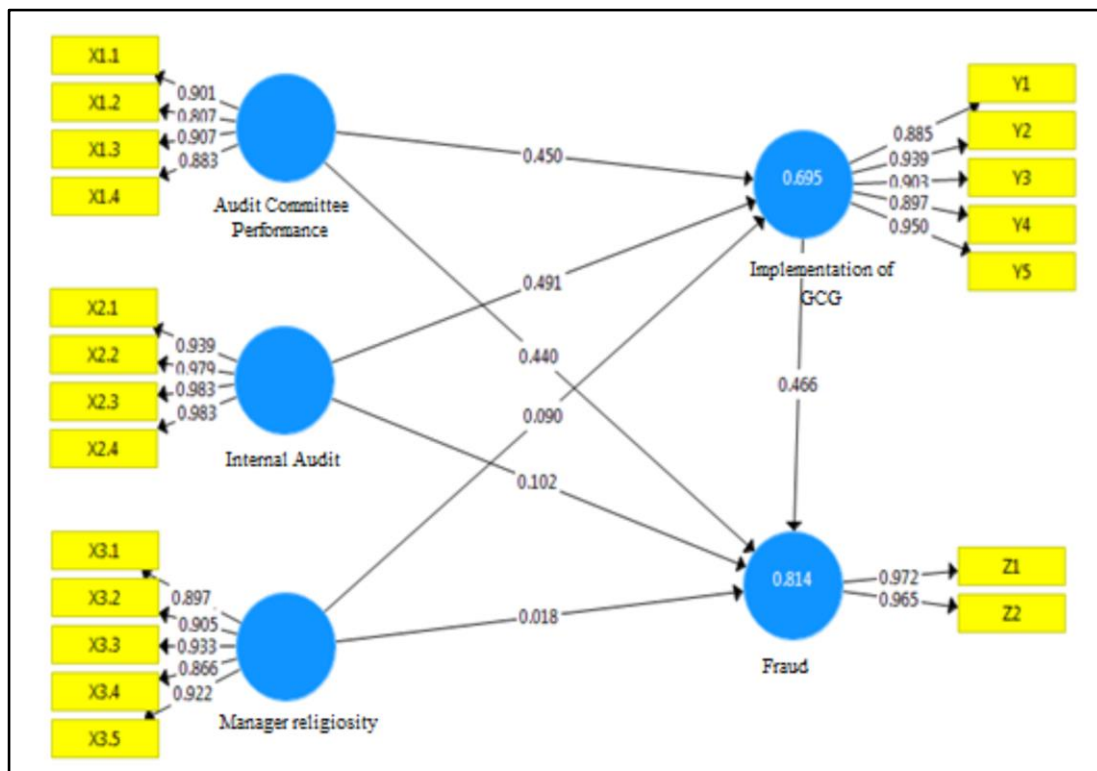
Figure2. Structural model (inner model)

Hypothesis test

This study has 4 (four) main research hypotheses to be tested. Following are the results of the test recapitulation based on the path value (path coefficient) and the statistical t-value to answer the research hypothesis.

Table 6. Simultaneous and partial hypothesis testing

Simultaneous Hypothesis				
1	The performance of audit committee, internal audit, and religiosity of manager --> The implementation of GCG	R-square : 0,695		Hypothesis accepted
2	The performance of audit committee, internal audit, the religiosity of manager dan Pelaksanaan GCG --> Fraud	R-square : 0,814		Hypothesis accepted

Partial Hypothesis		Path Coefficient	t-Statistic	P-Values	Conclusions
1	The performance of audit committee --> The implementation of GCG	0.450	3.985	0.000	Hypothesis accepted
2	Internal audit --> The implementation of GCG	0.491	3.554	0.000	Hypothesis accepted
3	Religiosity of Manager --> The implementation of GCG	0.090	0.523	0.601	Hypothesis rejected
4	The performance of audit committee --> Fraud	0.440	3.673	0.000	Hypothesis accepted
5	Internal audit --> Fraud	0.102	0.652	0.515	Hypothesis rejected
6	Religiosity of Manager --> Fraud	0.018	0.190	0.849	Hypothesis rejected
7	The Implementation of GCG --> Fraud	0.466	3.058	0.002	Hypothesis accepted

Effect of the performance of the audit committee, internal audit, and religiosity of the manager on the implementation of good corporate governance

The audit committee's performance, internal audit, and managerial religiosity affect the implementation of GCG in SOEs in Indonesia. These results can be interpreted that the performance of the audit committee, internal audit, and managerial religiosity will affect the implementation and application of the principles of good corporate governance.

The magnitude of the influence of the variables simultaneously can be seen from the coefficient of determination (R-square) found in Table 1. It can be seen that in the first sub-structure where the performance of the audit committee, internal audit, and managerial religiosity together has an effect of 69.5% on the implementation of GCG, and the remaining 30.5% are influenced by other factors not examined in this study.

GCG can be seen from the transparency and accountability in the company, which can be seen from the internal control within the company. Adequate internal control must provide reliable information, compliance with policies, procedures, laws, and regulations; asset security; use of resources economically and efficiently; achievement of the goals set. The audit committee's responsibilities include ensuring that the company's internal controls are running well. This responsibility can be carried out through the use of financial reports as well as discussions with management, internal audit, and external auditors. The active involvement of the audit committee in evaluating the implementation of improved internal control by management will encourage the emergence of a good control environment.

The audit committee and internal audit are crucial in creating good corporate governance. In addition to the role of the audit committee and internal audit in the implementation of GCG, other factors influence the implementation of GCG. This factor is religiosity. According to Jalaluddin (2001), religiosity is a condition that exists within a person that encourages him to behave in accordance with the level of obedience to religion. The more religious a person (in this case, the company leadership) is, the more they will want to implement the principles of good corporate governance. The concept of GCGuniversally is closely related to the teachings of existing religions, and the principles of GCG align with Islam's teachings in particular. The moral dimensions of the implementation of GCG, among others, lie in the principle of accountability, the principle of responsibility, the principle of openness, and the principle of fairness (Effendi, 2016). The synergy between the audit committee's performance, internal audit, and religiosity is expected to create good corporate governance, especially in SOEs in Indonesia.

Effect of audit committee performance on the implementation of good corporate governance

The audit committee's performance positively affects the implementation of GCGin SOEs in Indonesia. These results can be interpreted that the better the audit committee's performance, the better the implementation of GCGwill also prove that the audit committee can be maximally utilized in implementing the principles of good corporate governance. The results of this study support the results of research by Abdullah et al. (2018), Drogalas et al. (2016), Gusnardi (2011), Al-Baidhani (2019), Salloum et al. (2016)

The agenda discussed in the audit committee membership meeting at SOEs in Indonesia, among others, is related to performance evaluation, including evaluation of

the implementation (implementation) of good corporate governance. From the meeting, if there are deficiencies in the implementation of GCG, it can be evaluated for future improvements. This is in accordance with the research results that prove that the audit committee's performance affects the implementation of good corporate governance.

The effect of internal audit on the implementation of good corporate governance

The internal audit positively affects the implementation of GCGin SOEs in Indonesia. These results can be interpreted as that internal audit plays a role in encouraging the implementation of GCGin SOEs in Indonesia. The results of this study support the results of research conducted by Karagiorgos et al. (2010), and Abdullah et al. (2018).

One of the objectives of the internal audit is to assist the management of SOEs in Indonesia in improving the company's performance, especially from the control aspect, by carrying out inspection and management activities in the internal audit section as well as evaluating and improving the governance process. This is in accordance with the results of research which shows that the internal audit of 34 SOEs in Indonesia affects the implementation of GCG

The effect of a manager's religiosity on the implementation of good corporate governance

Manager's religiosity does not affect GCGin SOEs in Indonesia. This study's results align with the findings of Nakpodia et al. (2018). However, the results of this study are not in line with the findings of Kim & Daniel (2016) and Hasan et al. (2017), which show that the influence of manager religiosity does not affect good corporate governance.

The religiosity of the manager variable, simultaneously with the audit committee performance and internal audit variables, affects the implementation of good corporate governance. Still, partially the religiosity of the manager variable does not affect the implementation of GCG. As explained earlier, the internal audit variable has the greatest influence on the implementation of GCG, followed by the audit committee performance variable and religiosity of a manager being the variables that have the least influence on the implementation of GCG.

The higher the level of a manager's religiosity, the principles of GCGconsisting of transparency, accountability, responsibility, independence, and fairness can be implemented and applied properly. However, this study's results state that the religiosity of managers does not affect the implementation of the principles of GCGin Indonesian SOEs.

The effect of audit committee performance, internal audit, the religiosity manager, and the implementation of GCG on fraud

The audit committee's performance, internal audit, manager religiosity, and the implementation of GCGaffected fraud. These results can be interpreted as the audit committee's performance, internal audit, manager religiosity, and the implementation of GCGaffect the detection and prevention of fraud in SOEs in Indonesia.

Based on the coefficient of determination (R-square), it can be seen that in the second sub-structure, it can be seen that the performance of the audit committee, internal audit, manager religiosity, and GCG implementation together have an influence of 81.4% on fraud. The remaining 18.6% is influenced by other factors not examined in this study.

The effect of audit committee performance on fraud

The performance of the audit committee has an effect on fraud in SOEs in Indonesia. The results of this study are in line with research by Eferakeya et al. (2016), Gusnardi (2011), and Abbott et al. (2000). These results can be interpreted that the better (effective) the performance of the audit committee in 34 SOEs in Indonesia, the more fraudulent in Indonesian SOEs can be prevented and detected earlier.

One of the strategies to deal with fraud, according to PwC, is the audit committee's role. If the audit committee suspects irregularities or fraud in the company, the commissioner may assign the audit committee to conduct a special audit. Then the audit committee can request external assistance to conduct an investigative audit to reveal the occurrence of fraudulent practices.

The effect of audit internal on fraud

Theoretically, one of the most effective ways to prevent fraud is to improve the internal control system. In this case, the most responsible for internal control is the management of an organization. In preventing fraud, various efforts must be made to discourage fraud perpetrators from committing fraud. If fraud has occurred, the impact that arises is expected to be minimized. Internal auditors are responsible for assisting in fraud prevention by conducting tests on the adequacy and effectiveness of the internal control system. However, the results obtained from this study state that internal audit does not affect fraud prevention. This indicates that internal auditors have not maximally tested the adequacy and effectiveness of the internal control system

This study's results align with the research by Hamdan et al. (2018). However, this finding differs from Petrascu & Tieanu (2004) and Gusnardi (2011), which state that internal audit affects fraud prevention.

The effect of religiosity of the manager on fraud

Theoretically, one of the most effective ways to prevent fraud is to improve the internal control system. In this case, the most responsible for internal control is the management of an organization. In preventing fraud, various efforts must be made to discourage fraud perpetrators from committing fraud. If fraud has occurred, the impact that arises is expected to be minimized. Internal auditors are responsible for assisting in fraud prevention by conducting tests on the adequacy and effectiveness of the internal control system. However, this study found that internal audits did not affect fraud prevention. This indicates that internal auditors have not maximally tested the adequacy and effectiveness of the internal control system. This study's results align with the research by Hamdan et al. (2018).

The Effect of GCG on Fraud

The implementation of Good Corporate Governance had an effect on fraud in SOEs in Indonesia. These results can be interpreted that fraud will be prevented and detected by implementing the principles of GCG in SOEs in Indonesia. The implementation of GCG in SOEs in Indonesia, of course, faces challenges, including internal SOEs, some of which still follow bureaucratic workflows, so the state must be committed to forcing SOEs to implement GCG in a transparent and accountable manner with a high level of professionalism and effectiveness. (Yuanjaya, 2019). The results of this study are in line with the research by In'airat (2015), Tuek & Klikovac (2012), Wefa (2017), and Gusnardi (2011).

CONCLUSIONS AND LIMITATIONS

Conclusions

The performance of the audit committee, internal audit, and religiosity of the manager simultaneously affect the implementation of good corporate governance (GCG) in State-Owned Enterprises (SOEs) in Indonesia, and the performance of the Audit Committee, Internal Audit, Religiosity of the manager, and the implementation of GCG on Fraud.

The audit committee's performance affects the implementation of GCG and fraud in SOEs in Indonesia. The better the performance of the audit committee, the better the implementation of GCG will also prove that the audit committee can be maximally utilized in relation to the implementation of the principles of GCG and to the detection and prevention of fraud.

The internal audit affects the implementation of GCG. Internal audit plays a role in encouraging the implementation of GCG in SOEs in Indonesia.

Internal audits do not affect fraud. This study also finds that the religiosity of the manager has no effect on the implementation of GCG, and the manager's religiosity variable has no effect on fraud.

Recommendation

The Audit Committee is advised in order to further improve its performance in accordance with its duties and responsibilities to assist the board of commissioners in carrying out their responsibilities, especially in creating discipline and control within the company that can reduce the opportunity for fraud to occur. Improving the performance of the audit committee can be done, among others, by holding more frequent audit committee meetings (at least 4x a year) to be able to evaluate the performance of the audit committee concerning the implementation of GCG

The internal auditor is advised further to enhance professional capabilities through a systematic and regular approach to evaluate and improve the effectiveness of the internal control system, risk control, and good governance processes to support the realization of a free company from fraud. Increasing professional abilities, among others, by participating in training and workshops.

This study has not revealed all variables that can affect the implementation of GCG. It is better if further research is carried out, plus other independent variables such as the executive director and external auditor.

REFERENCES

Abdullah, R., Ismail, Z., & Smith, M. (2018). Audit committees' involvement and the effects of quality in the internal audit function on corporate governance. *International Journal of Auditing*, *22*(3), 385–403. https://doi.org/10.1111/ijau.12124

Abbott, L.J., Park, Y. & Parker, S. (2000). The effects of audit committee activity and independence on corporate fraud. *Managerial Finance*, 26(11), 55-68. https://doi.org/10.1108/03074350010766990

Al-Baidhani, A.M. (2016). The Role of Audit Committee in Corporate Governance: A Descriptive Study. *International Journal Research & Methodology Social Science,* 2(2), 45-57

Aydemir, M., & Eğİlmez, Ö. (2010). An Important Antecedent of Ethical/Unethical Behavior: Religiosity. *Eurasian Journal of Business and Economics*, *3*(6), 71–84.

Bloodgood, J. M., Turnley, W. H., & Mudrack, P. (2008). The influence of ethics instruction, religiosity, and intelligence on cheating behavior. *Journal of Business Ethics*, *82*(3), 557–571. https://doi.org/10.1007/s10551-007-9576-0

Chinn, R. (2000). *Corporate Governance Handbook*. London: Gee Publishing Ltd,

Drogalas, G., Arampatzis, K., & Anagnostopoulou, E. (2016). The relationship between corporate governance, internal audit and audit committee: Empirical evidence from Greece. *Corporate Ownership and Control*, 14(1), 569–577. https://doi.org/10.22495/cocv14i1c4art3

Effendi, M.A. (2016). *The Power of Good Corporate Governance: Teori dan Implementasi.* Jakarta: Salemba Empat

Eferakeya, I., Enaibre, I. F., & Offor, N. T. (2016). The Relationship Between Corporate Governance and Fraud Prevention in Nigeria : a perceptual view. *Journal Of Social and Management Sciences*, *11*(3), 1–18.

Fikri, A. (2014). *Tata Kelola Perusahaan Buruk jadi Pemicu Krisis Ekonomi Dunia*. Retrieved from: https://www.liputan6.com/bisnis/read/817550/tata-kelola-perusahaan-buruk-jadi-pemicu-krisis-ekonomi-dunia.

Glock, C. & Stark, R. (1966). *Religion and Society in Tension.* Chicago: Rand McNally and Company.

Gusnardi, G. (2011). Pengaruh Peran Komite Audit, Pengendalian Internal, Audit Internal dan Pelaksanaan Tata Kelola. *Ekuitas*, *15*(110), 130–146.

Hamdan, L.S., Jaffar, N., & Razak, R.A. (2018). The Effects of Interaction between Internal Auditor and Audit Committee on Fraud Detection in Malaysia. *International Journal of Engineering & Technology*, 7(4.38), 1338-1344. https://doi.org/10.14419/ijet.v7i4.38.27820.

Hasan, M.A.K., Prastiwi, I.E. & Triono, D.C. (2016). Pengaruh Fee Dan Religiusitas Terhadap Independensi Dewan Pengawas Syariah Dalam Mewujudkan Good Corporate Governance Untuk Meningkatkan Kinerja BMT. *Equilibrium,* 5(1) 113–133.

Heryana, T. & Novrita, V. (2012). Pengaruh Audit Internal terhadap Good Corporate Governance pada BUMN. *Jurnal Akuntansi Riset*, 4(2), 961-972

In'airat, M. (2015). The Role of Corporate Governance in Fraud Reduction-A Perception Study in the Saudi Arabia Business Environment. *Journal of Accounting and Finance*, *15*(2), 119.

Jalaluddin, J. (2001). *Psikologi Agama*. Jakarta: PT.Raja Grafindo Perkasa

Karagiorgos, T. (2010). Corporate social responsibility and financial performance: An empirical analysis on Greek companies. *European Research Studies Journal*, 13(4), 85–108. https://doi.org/10.35808/ersj/301

Kim, J., & Daniel, S. J. (2016). Religion and Corporate Governance: Evidence from 32 Countries. *Asia-Pacific Journal of Financial Studies*, *45*(2), 281–308. https://doi.org/10.1111/ajfs.12130

Nakpodia, F., Shrives, P. J., & Sorour, M. K. (2020). Examining the Link Between Religion and Corporate Governance: Insights From Nigeria. *Business and Society*, *59*(5), 956–994. https://doi.org/10.1177/0007650317745852

Petrascu, D. & Tieanu, A. (2014). The Role of Internal Audit in Fraud Prevention and Detection. *Procedia Economics and Finance*, 16, 489-497

Pranoto, T. (2019). *Quo Va Korup Q BUMN*. Retrieved from https://mediaindonesia.com/kolom-pakar/276495/quo-va-korup-q-bumn

Salloum, L., Salloum, C., Jarrar, H., Sassine, M., Gebrayel, E., & Chaanine, N. (2016). Corporate governance and audit committee. *International Journal of Managerial*

and   Financial   Accounting,   *7*(3–4),   198–216. https://doi.org/10.1504/IJMFA.2015.074900

Stratta, P., Capanna, C., Riccardi, I., Perugi, G., Toni, C., Dell'Osso, L., & Rossi, A. (2013). Spirituality and Religiosity in the Aftermath of a Natural Catastrophe in Italy. *Journal   of   Religion   and   Health*,   *52*(3),   1029–1037. https://doi.org/10.1007/s10943-012-9591-z

Tuek, B. & Klikovac, A. (2012). Corporate Governance Practices in Fraud Prevention and   Detection: Empirical   Evidence   from   Croatia. *International Journal of Management Cases, 14(3),* 59-71

Wefa, O. (2017). Pengaruh Implementasi Good Corporate Governance, Pengendalian Intern Kas, Asimetri Informasi terhadap Fraud. *JOM Fekon*, 4(1), 1007-1021

Zarkasyi, M.W. (2008). *Good corporate governance : pada badan usaha manufaktur, perbankan, dan jasa keuangan lainnya.* Bandung: Alfabeta

The accountability of village funds and to improve the effectiveness of village programs

Arna Suryani

Management Department, Faculty of Economics, Universitas Batanghari, Indonesia

Correspondence author email: arna_halim@yahoo.co.id

Abstract

This study aims to analyze the management of village funds and village finances, as well as the inhibiting factors in the management of village funds and village finances. The data was obtained from informants at the research site (Harapan Makmur Village, East Tanjung Jabung Regency, Jambi Province). Data collection is carried out by triangulation in interview observations, literature, and documentation. Data analysis used a qualitative approach based on the NVivo 12 Plus program. The results showed that the management of village funds started early in the planning stage by identifying and selecting programs or activities that were urgent and prioritized for the community. The implementation stage is processed following the Regulation of the Minister of Finance Number 199 of 2017 concerning procedures for allocating village funds and implementing the village income and expenditure budget. Financial recording and reporting have been carried out correctly and adequately, and village funds have also been reported transparently to sub-district and district governments and village communities. Nevertheless, several obstacles are faced by the Harapan Makmur village government in optimizing the management of village funds. These constraints are related to the capacity of village apparatus resources, natural factors, low community support for managing village funds, inappropriate disbursement system, and government policies and regulations that change yearly.

INTRODUCTION

The government has a role in managing public finance, starting from the financial governance of the center, region, and village. Moreover, the village, also known as the territorial boundaries judicial society, has the power to regulate and manage government activities. The community's interests are based on the rights of origin and/or traditional regional rights recognized and respected by the Republic of Indonesia (Law No. 6 of 2014).

Government Regulation No. 43 of 2014, Law No. 6 of 2014 on the village was a starting point for demonstrating the role and ability of the village to build the Indonesian Government. Villages are empowered to manage and manage their

authority, depending on the requirements and priorities of the village. Determining priorities for using these funds remains in line with the village's responsible authority. With this aspect, the government issued a policy of forming a village funds allocation (ADD) as the embodiment of financial decentralization with a vision of realizing an independent village.

ADD is made from central and regional funding from the village regency, approximately 10% (ten percent). By allocating the village's funds, the village can autonomously manage development, management, and social communities. By utilizing the allocation of village funds, the village can also play a more active role in mobilizing village empowerment to improve the function of government to the needs of the public.

ADD is based on population, area, poverty rate, and geographical difficulties. This fund is sourced from the state budget (APBN) through the local government budget (APBD) and used to fund government management, development, community development, and community empowerment. ADD is expected to increase the equalization of development by improving the village's public services, promoting village economies, overcoming the development gap between the village, and strengthening the village community. In general, the village's income and expenditure budget is an annual village finance plan established based on village regulations that contain forecasts of sources of income and expenditure to support needs in the village development programs concerned (Sumpeno, 2011; Hehamahua, 2015; Ramly et al., 2018).

The ADD program has a distribution target in all areas that need it most to increase development and community empowerment (Arifin et al., 2020). Based on the 2014 Ministry of Home Affairs No. 113 rules on the financial management of the village Local city Guidelines, village funds allocation is a balanced fund received by a regency or city in the APBD of districts/cities after deduction of special allocation fund. ADD is the financial part of the village obtained from the regional tax revenue sharing and part of the fiscal balance transferred from the central government to regions (Nafidah & Suryaningtyas, 2015).

ADD financial management is an important part that can't be separated from managing village finances in the village revenue and expenditure budget (Aprisiami, 2012). Village fund management, according to Thomas (2013), is a process or set of tasks performed by many people whose planning, organization, execution, and monitoring utilize the existing potential to achieve certain goals. Under Article 71 (1) of Law No. 6 of 2014, village finances are village rights and obligations, which can be monetarily valued in the form of money and goods related to the exercise of rights related to the village's obligations.

Village finances are managed according to transparency, accountability, participation, and discipline with an orderly budget. Financial management transparency is based on the rationale that people have open rights to fully know about government accountability to manage consigned resources and comply with laws and regulations for information provision (Sujarweni, 2015).

Local governments have faced various problems since the implementation of ADD in 2015. There are two main problems in implementing the village fund: the provision of large amounts of village funds is not balanced by the ability of human resources (village apparatus) at the village level to manage village finances. Second is the lack of involvement of the village community in planning and budgeting for the

preparation of the village income and expenditure budget, as well as monitoring the use of village funds (Aziz, 2016; Asni et al., 2013). Village officials must manage village funds properly. Fund management must be followed by public policy control (Nugroho, 2013). Implementing village funding is an action taken by the government and private sector individuals (and groups) to achieve the goals and objectives that have been set. Based on this, it can be concluded that the implementation of policies consists of three things, namely (1) Policy goals or objectives, (2) Activities to achieve those goals, and (3) Results of activities (Noverman, 2018). Policy implementation is the application of a rule of program, action, and action and action in a rule that is integrated into a particular system (Ramdhani & Ramdhani, 2017).

Good policies are also affected by good management processes to achieve the expectations of policy implementation already underway. Based on this, this study aims to analyze the management of village funds and village finances, as well as the inhibiting factors in the management of village funds and village finances. The research was conducted in Harapan Makmur Village, Tanjung Jabung Timur Regency, Jambi Province.

Several previous studies regarding the allocation of village funds, such as Saputra et al. (2016), Meutia & Liliana (2017), Rusman et al. (2019) and (Suryani, 2021), reveal that reporting and accountability are still a problem in some villages because not all villages have adequate resources. Several previous studies regarding the allocation of village funds, such as Saputra et al. (2016), Meutia & Liliana (2017), Simangunsong & Wicaksono (2017), and Suryani (2021), reveal that reporting and accountability are still a problem in some villages because not all villages have adequate resources. Furthermore, Pamoragung et al. (2006) suggest that the low utilization of village funds is due to the absence of community empowerment priority programs that align with the priority of using village funds.

Suryani (2021) found that the management of village funds in villages in East Tanjung Jabung Regency had not been implemented optimally. Purnamasari's research (2015) shows that participation, transparency, and accountability principles have been applied at the planning stage and allocation of village funds. This is evidenced by the existence of a list of Musrenbangdes (Village Development Planning Consultation) and the deliberation results attached to the accountability report. Research by Karimah et al. (2014) shows that normatively and administratively, the management of village funds has been carried out well. However, in substance, it still does not refer to the true meaning of empowerment.

Purnawan (2021) shows that the village fund program based on improving public services has not been implemented well in rural areas because the condition of the village is still lagging, both in terms of basic needs to the problem of poverty. The implementation of village fund transfer is insignificant to help combat inequality, considering that the utilization of the fund tends to favor the rural apparatus or their relatives in person (Arham & Hatu, 2020).

 The research by Noverman (2019) in Nagari Bukit Bual, Sijunjung Regency, shows that the implementation of village fund management in Nagari Bukit Bual is not successful. Its management is not in accordance with the laws and regulations that govern it. Fahri (2017) states that village fund policies can be implemented properly by implementing village financial management to increase the effectiveness of village development programs.

METHODS

Research location in Harapan Makmur Village, Tanjung Jabung Timur Regency, Jambi Province. The data source was obtained from informants, as many as 15 people consisting of the village head (1 person), the Village secretary (1 person), the Chief financial officer (1 person), the Public relations/planning department manager (1 person), Government department manager (1 person), Welfare department manager (1 person), the chief of the hamlet (4 persons), the Chairman of Head of Village Deliberation Agency (1 person), and community leaders (4 persons).

Data were collected through observation, interviews, literature study, and documentation. Data analysis used a qualitative approach based on the NVivo 12 Plus program.

RESULTS AND DISCUSSIONS

Harapan Makmur Village has an area of 19,336 Km2 or 1,933.6 hectares. In 2019, the number of residents was 2,945. Since 2015 Harapan Makmur Village received village funds. The income source comes from the income of the original village and income from transfer funds. The source of village income in Harapan Makmur Village can see in Table 1.

Table 1. Income sources of Harapan Makmur Village for the fiscal year 2020

No	Details	Budget	Realization	Achievement Percentage (%)
1.	Village real income	-	-	-
2.	Transfer funds			
	A. Village funds	868,561,000	868,559,500	99.99
	B. Village funds allocation	918,285,004	887,733,006	96.67
	C. Revenue sharing of regional taxes and levies	30,402,995	30,402,995	100.00
	D. Financial support of the province	60,000,000	60,000,00	100.00
	E. Financial support of regency	-	-	-
	Total	1,877,248,999	1,846,695,506	98.37

Source: Village Budget of Harapan Makmur Village Government

Village funds are used to finance the field of village development and the field of disaster management, as well as assistance. In 2020, the village fund received by Harapan Makmur Village was Rp. 868,559,500, with the details of the allocation for each sector as follows.

Table.2 The Priority of village funds budget using the Year 2020

No	Field of Activity	Budget Amount
1.	Field of village development implementation	
	1. Implementation of PAUD/TK/TPA/TPQ/Madrasah belonging to the village: in the form of teacher honors, uniforms, operations	52,200,000
	2. Implementation of Posyandu (additional food, pregnant women class, elderly class, incentives for Posyandu cadre)	63,481,000
	3. Development/rehabilitation/improvement of village road maintenance	616,058,500
2.	Disaster management, relief, and village urgent	
	1. Urgent circumstances, Cash direct assistance (BLT)	136,819,000
	Total	868,559,500

Source: Village Budget of Harapan Makmur Village Government
Notes: PAUD = early childhood education; TK = kindergarten; TPA = Children Day Care; TPQ = Al-Qur'an Learning Center; Madrasah = a school where people go to learn about the religion of Islam; Posyandu = Integrated Services Post

Village fund management in improving the effectiveness of the village program in Harapan Makmur Village is a series of activities that begins with planning, implementation, management, monitoring, reporting, and accountability. The mechanism to use the village funds basically makes no significant difference from another village that receive village funds because it will certainly stick to policies or regulations issued by the central government. However, the policies and regulations issued by the central government are not all absolute and clear. Some policies require each village to determine how each village is in accordance with the character of each village to implement the policies.

The mechanism for managing the use of village funds is regulated in the Regulation of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration Number 19 of 2017 and Regulation of the Minister of Home Affairs Number 20 of 2018, article 29, covering aspects of planning, implementation, management, reporting, and accountability. Based on NVivo-based data processing, the implementation of these processes is given in Figure 1.
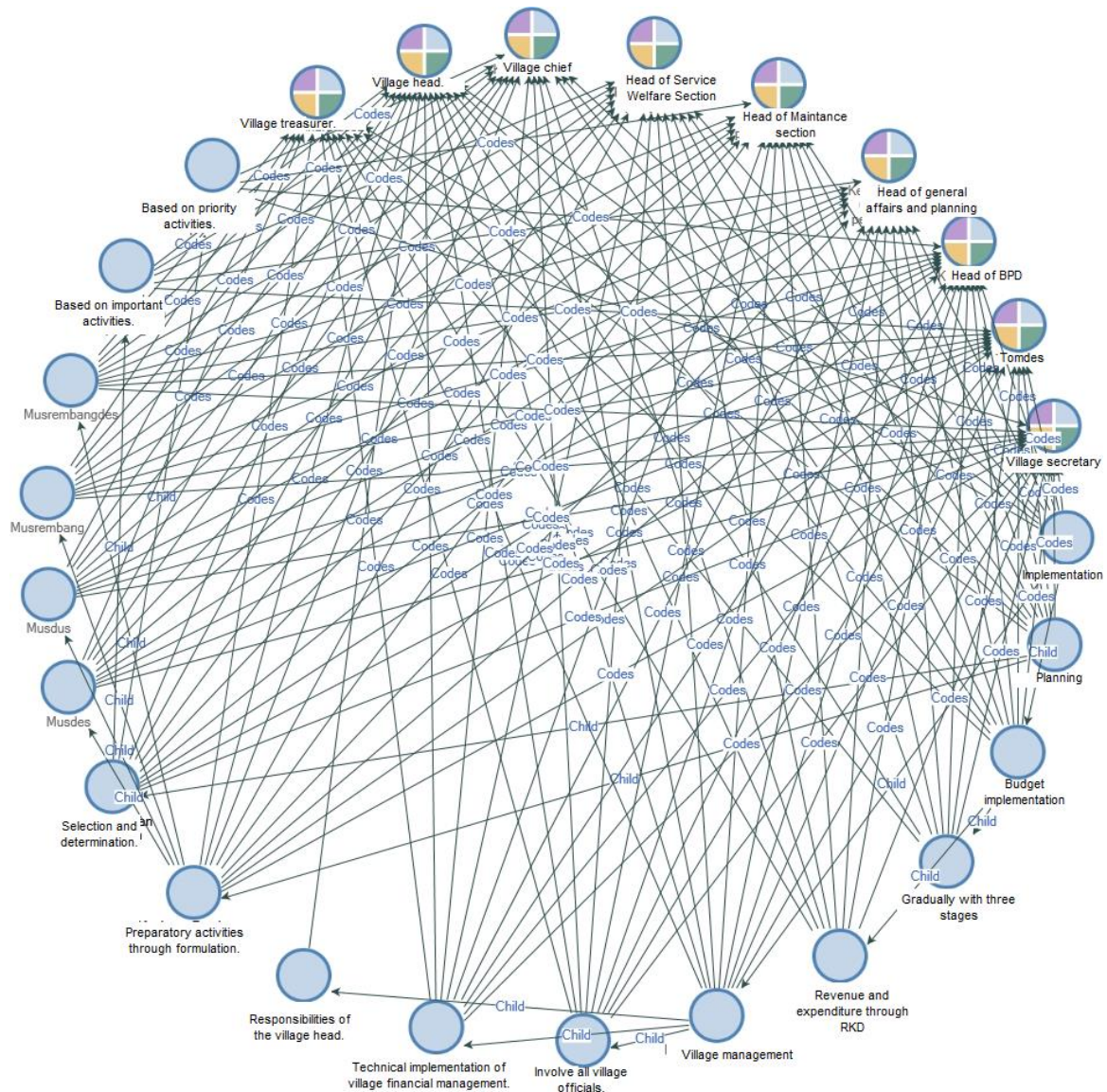

Figure 1. Analytical map

Notes: Musdes = Village deliberation; Musdus = Hamlet deliberation; Musrenbang = The planning and development deliberation; Musrenbangdes = The village planning and development deliberation; Tomdes = Community figures; BPD = Head of Village Deliberation Agency

The analytical map shows that planning, implementation, reporting, and accountability were implemented in the village fund management in Harapan Makmur Village. The process or mechanism for managing village funds can be seen from the coding, and the matrix results are shown in Table 3.

Table 3. Matrix coding

	A	B	C	D	E	F	G	H	I
Planning									
Selection and determination									
Based on important activity	1	0	1	1	0	1	0	1	4
Based on priority activity	0	1	0	0	1	0	4	0	0
Preparatory activities through formulation									
1. Hamlet deliberation	1	1	1	1	1	1	4	1	4
2. Village deliberation	1	1	1	1	1	1	4	1	4
3. The planning and development deliberation	1	1	1	1	1	1	4	1	4
4. The village planning and development deliberation	1	1	1	1	1	1	4	1	4
Planning									
Village Management									
Technical implementation of village financial management	1	1	1	1	1	1	4	1	4
Involving all village devices	1	1	1	1	1	1	4	1	4
The head of village responsibility	1	1	1	1	1	1	4	1	4
Implementation of Local Government Budget									
Step by step, 3 steps	1	1	1	1	1	1	0	1	4
Revenue and expenditure through village cash account	1	1	1	1	1	1	4	1	0
Management									
Good and correct financial record keeping									
Revenue and expense transactions recorded by the Treasurer	1	1	1	1	1	1	4	1	0
Covers of the book at the end month.	1	1	1	1	1	1	4	1	4
Using the village's financial system	1	1	1	1	1	1	4	1	4
Financial governance									
Activities selected according to budget of village Revenue and expenditure budget/ village government workplan	1	1	1	1	1	1	4	1	4
Offline	1	1	1	1	1	1	4	1	4
The active role of Village Deliberation Agency, community stores under supervision	1	1	1	1	1	1	4	1	4
Making an accountability report	1	1	1	1	1	1	4	1	4
Reporting									
Reporting of activities procedures									
Treasurer makes village fund management report to village chief-camat-regent	1	1	1	1	1	1	4	1	4
Report submitted to the public	1	1	1	0	0	0	4	1	4
Reporting of activities procedures									
Village funds realization report	1	1	1	1	1	1	4	1	4
Accountability									
Accountability of service conformity measures									
Transparency to the public	1	1	1	1	1	1	4	1	4

Note : *A: Head of the village, B: Secretary of the village. C: Treasurer of the village, D: Administrative coordinator, E: Head of the management section, F: Head of Service Welfare, G: Village chief, H: Head of Village Deliberation Agency, I: Community figures*

Based on an analytical map and matric coding village fund management in the village of Harapan Makmur, the planning stage starts from the formation mid-term of plans for village-level development where it contains a plan for village development activities for six years. Then re-created, the village-level development plans, which explain the village-level development plan for 1 (one) year.

The preparation of the village development plan began withholding hamlet deliberations in each hamlet. The results obtained from the hamlet deliberations were discussed again at the village deliberations. After all proposals for village development have been collected, the list of proposed development plans at the village level will be discussed again at the development planning deliberation in the sub-district. Things that are important and urgent will be prioritized. The list of plans for village-level development proposals and the realization of 2020 in Harapan Makmur Village is in Table 4.

Table 4. Proposal of local government work and realization of village funds usage Year 2020

No	Types of Activity	Budget Proposal (Rp)	Fund Realization (Rp)	Achievement Percentage (%)
1.	The field of implementation of village development			
	1. Implementation of PAUD/TK/TPA/TPQ/ madrasah belonging to the village:			
	a. Payment of PAUD teachers	36,000,000	36,000,000	100.00
	b. Payment of PAUD management	16,200,000	16,200,000	100.00
	2. Implementation of Posyandu (additional food, class of pregnant women, elderly class, incentives for Posyandu cadre:			
	a. Payment of Posyandu cadre	54,000,000	54,000,000	100.00
	b. Human development cadre honor	3,000,000	3,000,000	100.00
	c. Operation of Village Healthy House	6,500,000	6,500,000	100.00
	3. Construction/rehabilitation/improvement of village road maintenance:	616,000,000	616,061,000	100.00
2	Disaster management, relief, and village urgent			
	1. Urgent circumstances, Cash direct assistance	136,880,000	136,800,000	100.00
	Total	868,561,000	868,559,500	100.00

Source: Village Budget of Harapan Makmur Village Government

There are six development activities of villages and one activity in disaster management, assistance, and village urgency contained in the 2020 Harapan Makmur Village revenue expenditure budget. This is the village's guideline in carrying out village fund management to improve village development in Harapan Makmur Village during the current period. The realization of the use of budgets on all activities indicates that the realization of the achievement of the activity is 100%. This shows that the planning stages of both preparing and evaluating programs are good enough. From the results of this study, it seems that at the planning stage of the village fund in Harapan Makmur Village, it was consistent with existing mechanisms in the deposition participatory planning.

According to the 2017 Minister of Finance Regulation No. 199 on the procedure for allocating village funds, the distribution of village funds is done by transferring the books from the state's general financial account to the village's financial account. In implementing finances in Harapan Makmur Village, several principles must be adhered

to regarding the receipts and expenditures made through the village cash account. All village revenues and expenditures carried out by the village government are carried out using the village cash account. This study's results align with research by Arifiyanto & Kurrohman (2014) in villages in Jember Regency. Planning and implementing activities to allocate village funds show that the administration is accountable and transparent.

Management in Harapan Makmur Village is based on all activities that have been selected and have been budgeted in the village budget made by a village treasurer. The treasurer must record all receipts, payments, and book covers at the end of the month in an orderly manner. In 2018 Harapan Makmur Village compiled a village revenue and expenditure budget and conducted management using the Ms. Excel application and the Village financial system (Siskeudes) in collaboration with the Financial supervisory and development board. However, the system developed is still offline, so there is still the possibility of delays and buildup in management work. Based on information from informants, the management of village funds is carried out by the village treasurer, who keeps all records of every receipt and distribution as well as book covers at the end of the month and makes an accountability report to the village head's account no later than the 10th of the following month. The management in Harapan Makmur Village has been in accordance with Regulation of the Minister of Finance No. 199 of 2017 concerning village financial management.

Reporting of construction results is carried out by making an accountability report by the Harapan Makmur Village government itself without the intervention of third parties. This reporting phase was carried out by the Village chief submitting a report to the Regent of Tanjung Jabung Timur through the Subdistrict head, including a performance report for the first and last semesters. The reporting accountability for the achievement of rural funds submitted by the rural Government of Harapan Makmur at the end of the year includes revenue, expenditure, and development budget.

There are seven reported activity and accountability programs, with the number of village funds used to amount to Rp.868,550,500 for the 2020 fiscal year. In the reporting stage of development, results have been done well. The village government provides the complete accountability report consisting of a cost budget plan, village budget revenue and expenditure summary, and village fund accountability report. Realizing the report of village funds made by the Harapan Makmur Village government at each stage, due to the disbursement of village funds in the next stage, must report the realization of the previous stage of village funds. Therefore, the reporting is limited to each stage. The village government also submits a report on village funds included in village revenue and annual expenditures budgeted to the regional development bank.

At the accountability stage, the village head submitted the report on accountability of the realization of the implementation of the village revenue and expenditure budget in the form of an accountability report on the realization of the village implementation of income and expenditure in the budget consisting of income, expenditure, and financing. The form of accountability of the Harapan Makmur Village government regarding managing village funds is to conduct transparency regarding reports on the realization of village funds. The results of this study line with research (Sulumin, 2015) that the mechanism of responsibility of Donggala regency to use village fund allocation starts with planning, implementation, and supervision ended with accountability.

This report was submitted to several parties, the district government, and the community. The Harapan Makmur Village government published the use of village funds in the public room as a form of transparency of information about the implementation of the government delivered through the website, a notice board at the village office, and the delivery of information also through representatives of each village chairman and the lowest administration unit.

Based on in-depth interviews with informants, several factors become obstacles the Harapan Makmur village government faces in managing village funds. The first is the ability of village apparatus resources in document administration. The second is natural factors such as weather which often slows down physical and non-physical activities. The third factor is the low level of community support for village fund management, especially in hamlet meetings. According to Ayub et al. (2020), the community's role is very important in the effectiveness of village programs. The fourth factor is the disbursement of village funds in connection with the support for the precautionary principle of village funds carried out by the government to cause liquid funds not all at once but gradually, causing a vacancy of funds in the village cash account at the beginning of the year. The fifth factor is the existence of government policies and regulations regarding managing village funds, which always change every year, making it difficult for the village government in the adjustment process.

CONCLUSION AND RECOMMENDATION

Conclusion

The management of village funds and village finances in Harapan Makmur Village (research village) at the planning stage has gone through a mechanism; both the preparation and evaluation of the program are quite good. The implementation of the financing is in accordance with the Regulation of the Minister of Finance Number 199 of 2017 concerning the procedures for allocating village funds. The distribution of village funds is carried out by means of book-entry from the general state treasury account to the village treasury account. This management can be carried out based on all activities selected and budgeted in the village income and expenditure budget carried out by the village treasurer.

Reporting of results has also been done well. The completeness of the accountability report has been provided by the village government and announced transparently. The village government reports the realization of village funds to the government and the community, published in the public sphere.

The Harapan Makmur village government faces several obstacles in managing village funds. First is the ability of village apparatus resources in document administration. Second, natural factors often slow down physical and non-physical activities. The third is the low level of community support for managing village funds. Fourth, there are often cash vacancies at the beginning of the year due to the gradual disbursement system. Fifth, there are government policies and regulations regarding the management of village funds that change every year.

Recommendation

As the holder of responsibility for managing the village funds, the village

government is expected to improve the quality of village development implementation activities. It is necessary to improve the quality of human resources for each village official/management team directly responsible for the village funds it manages. The community's active role is expected to provide inputs that provide the greatest benefit to the village government so that the implementation of village development can be appropriate and on target. Community participation in monitoring the village government's performance can also affect the village government's success in managing the village's finances.

ACKNOWLEDGMENT

REFERENCES

Aprisiami, P. (2012). P*enerapan otonomi desa dalam menguatkan akuntabilitas pemerintah desa dan pemberdayaan masyarakat di Desa Aglik, Kecamatan Grabag, Kabupaten Puwerejo*. [Thesis]. Universitas Negeri Yogyakarta.

Arham, M.A. & Hatu, R. (2020). Does Village Fund Transfer Address the Issue of Inequality and Poverty? A Lesson from Indonesia. *The Journal of Asian Finance, Economics and Business*, 7(10), 433–442.

Arifiyanto, D.F. & Kurrohman, T. (2014). Akuntabilitas pengelolaan alokasi dana desa di Kabupaten Jember. J*urnal Riset Akuntansi Dan Keuangan,* 2(3), 473. https://doi.org/10.17509/jrak.v2i3.6598

Arifin, B., Wicaksono, E., Tentrini, R.H., Wardhana, I.W., Setiawan, H., Damayanty, S.A., Solikin, A., … & Handoko, R. (2020). Village fund, village-owned-enterprises, and employment: Evidence from Indonesia. *Journal of Rural Studies, 79*, 382-394

Asni, F., Maryunani, M., Sasongko, S. & Budi, D. (2013). The Management of the Village Fund Allocation as an Instrument towards Economic Independence Village (Case Studies in 2 villages in Siak Regency, Province Riau). IOSR Journal of Business and Management, 10(4), 1-9

Astuty, E., & Fanida, E. (2011). Akuntabilitas pemerintah desa dalam pengelolaan. *Jurnal Penelitian Akuntansi Desa*, 1(1), 1–19.

Ayub, Z., Rianti, M., Awaluddin, M. & Triadi, F. (2020). Community Participation in Village Fund Management within Palakka District, Bone Regency of South Sulawesi, Indonesia. G*NOSI: An Interdisciplinary Journal of Human Theory and Praxis*, 3(3), 38-48

Aziz, N.L.L. (2016). Otonomi desa dan efektivitas dana desa. *Jurnal Penelitian Politik.* 13(2), 193-211.

Fahri, L.N. (2017). Pengaruh pelaksanaan kebijakan dana desa terhadap manajemen keuangan desa dalam meningkatkan efektivitas program pembangunan desa. *Jurnal Publik*, 11(1), 75–88.

Hehamahua, H. (2015). Impact Analysis of the Village Fund Allocation (ADD) Toward Economic Community (Case Study on the Rural District of Namle Siahoni), Buru Regency. *Journal of Social and Development Sciences*, 6(3), 15-23

Karimah, F., Saleh, C. & Wanusmawatie, I. (2014). Pengelolaan alokasi dana desa dalam pemberdayaan masyarakat (Studi pada Desa Deket Kulon Kecamatan Deket Kabupaten Lamongan). *Jurnal Administrasi Publik*, 2(4), 597–602.

Meutia, I. & Liliani, L.(2017). Pengelolaan keuangan dana desa. *Jurnal Akuntansi*, 2(8), 227–429.

Nafidah, L.N., & Suryaningtyas, M. (2015). Akuntabilitas pengelolaan alokasi dana desa dalam upaya meningkatkan pembangunan dan pemberdayaan masyarakat Desa Dapurkejambon. *Jurnal Bisnis dan Manajemen Islam*, 3(1), 213-239.

Noverman, Y. (2019). Analisis kesesuaian pengelolaan dana desa dengan Peraturan Perundang-Undangan (Studi Kasus Di Nagari Bukit Bual Kabupaten Sijunjung). *JAKPP (Jurnal Analisis Kebijakan & Pelayanan Publik)*, 4(2), 68–81. https://doi.org/10.31947/jakpp.v4i2.5383

Nugroho, R. (2013). *Metode Penelitian Kebijakan.* Yogyakarta: Pustaka Pelajar.

Pamoragung, A., Suryadi, K., & Ramdhani, M. A. (2006). *Enhancing the Implementation of e-Government in Indonesia through the High-Quality of Virtual Community and Knowledge Portal.* In 6th European Conference on e-Government. Marburg: Academic Conferences Limited.

Purnawan, H. (2021). Implementation of central government policy on priority for the use of Village Funds in Makartitama and Ulak Mas Villages, Lahat Regency, Indonesia. *JPSI (Journal of Public Sector Innovations)*, 06(1), 1–9.

Ramdhani, A., & Ramdhani, M. A. (2017). Konsep Umum Pelaksanaan Kebijakan Publik. *Jurnal Publik*, 11(1), 1–12.

Ramly, A., Wahyuddin, W., Mursyida, J., & Mawardati, M. (2018). The Model and Strategy Improved of Empowering Economic Community Based on Village Fund Allocation: Empirical Study in Kuala Sub District, Nagan Raya District. *Advance Science Letters*, 24(1), 362-364

Rusman, R., Budhi, S. & Jamaluddin, J. (2019). Effectiveness of The Village Fund Allocation Management (ADD) in Rural Development Of Bintang Ninggi Ii District South Teweh, North Barito Regency, Indonesia. *European Journal of Economic and Financial Research*, 3(5), 238-245

Saputra, I.W., Sujana, N. & Haris, I.A. (2016). Efektivitas Pengelolaan Alokasi Dana Desa Pada Desa Lembean Kecamatan Kintamani, Kabupaten Bangli Tahun 2009-2014. *Jurnal Jurusan Pendidikan Ekonomi (JJPE)*, 6(1).

Simangunsong, F. & Wicaksono, S. (2017). Evaluation of Village Fund Management in Yapen Islands Regency Papua Province (Case Study at PasirPutih Village, South Yapen District). *Open Journal of Social Science*, 5, 250-268

Sulumin, H.H. (2015). Pertanggungjawaban Penggunaan Alokasi Dana Desa Pada Pemerintahan Desa di Kabupaten Donggala. *E-Jurnal Katalogis*, 3(1), 43–53.

Sumaryadi, N. (2005). *Efektivitas implementasi kebijakan otonomi daerah.* Jakarta: Citra Utama Media.

Sumpeno, W. (2011). *Perencanaan Desa Terpadu*. Jakarta: Read Indonesia

Suryani, A. (2021). Village fund management (village case study in Tanjung Jabung

Timur Regency). *Dinasti International Journal of Digital Business Management*, 2(6), 963–973.

Thomas, T. (2013). Pengelolaan Alokasi dana desa dalam upaya meningkatkan pembangunan di Desa Sebawang Kecamatan Sesayap Kabupaten Tana Tidung. *e-Journal Pemerintahan Integratif,* 1(1), 51-64

Author Guidelines

1. Jurnal Perspektif Pembiayaan dan Pembangunan Daerah (The Journal of Perspectives on Financing and Regional Development) is published six times a year.

2. The manuscript is the original work that has not been published or is considered in other publications.

3. The manuscript may result from research, literature/theoretical study, methodological review, original critical ideas, hot issues/development issues, hot issues/development issues, reviews of seminars, or book reviews.

4. The manuscripts are arranged in English, accompanied by abstracts in English and Indonesian (if any). For more detailed information and journal, templates can be accessed at https://online-journal.unja.ac.id/index.php/JES/author-guidelines

5. The manuscript should be submitted through our online submission system at https://online-journal.unja.ac.id/JES. Registration and login are required to submit items online and to check the status of current submissions.

Jurnal Perspektif Pembiayaan dan Pembangunan Daerah (The Journal of Perspectives on Financing and Regional Development) is indexed and abstracted in the following databases/resources:

- Google-Scholar
- DOAJ-Directory of Open Access Journals
- EBSCO Open Science Directory
- Crossref
- IPI-Indonesian Publication Index
- Mendeley
- Microsoft Academic Search
- OpenAire
- MIAR
- OAJI-Open Academic Journal Index
- Moraref
- Princeton University Library
- Universiteit Leiden
- University of Oxford
- Harvard Library
- The University of Sheffield
- University of Saskatchewan-University Library
- Capilano University Library
- State Library New South Wales
- Vrije Universiteir Brussel (VUB)
- UNSW Australia Library
- Merchyhurst University
- University of Illinois at Chicago (UIC) Library
- Universitat Kasse
- State Library of Victoria
- Simon Fraser University Library Electronic Journals
- BJMU
- Library & Learning Center
- Aberystwyth University
- City University of London
- University of Edinburgh
- University of Glasgow
- University of Hull
- Imperial College London
- University of Manchester
- Open University
- University of York
- London's Global University
- Trinity College
- University of Alberta
- University Library
- BASE (Bielefeld Academic Search Engine
- CiteFactor
- Open Access Library (OALIB)
- Scholarsteer
- JournalTocs
- Worldcat
- CORE
- Research Bible
- Academickeys
- Citeulike
- JOURLIB
- Global Impact Factor
- Jifactor
- General Impact Factor
- e-Journal Portal BKS PTN Wilayah Barat
- Cosmos Impact Factor
- OneSearch
- International Innovative Journal Impact Factor (IIJIF)
- Journal Factor
- Directory of Research Journal Index
- Eurasian Scientific Journal Index (ESJI)
- National Library of Australia