Faculty Economics and Business Building, 3rd Floor, UIN Syarif Hidayatullah Jakarta
Jl. Ibn. Sina IV, Ciputat 15415
Telp. (021) 22744610
Email: etikonomi@uinjkt.ac.id
Website: http://journal.uinjkt.ac.id/index.php/etikonomi

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Faculty Economics and Business Building, 3rd Floor, UIN Syarif Hidayatullah Jakarta

Jl. Ibn. Sina IV, Ciputat 15415

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Nexus between Consumption, Income, and Price Changes: Asymmetric Evidence from NARDL Model

Raheel Gohar[1], Bisharat Hussain Chang[2*], Omer Faruk Derindag[3], Zahida Abro[4]

[1]Al Yamamah University, Riyadh, Saudi Arabia
[2,4]Shaheed Zulifqar Ali Bhutto Institute of Science and Technology, Larkana Campus, Larkana, Pakistan
[3]Department of International Trade and Business, Inonu University, Turkey
E-mail: [1]r_gohar@yu.edu.sa, [2]bisharat.chang86@gmail.com, [3]omer.derindag@inonu.edu.tr, [4]abroo@lrk.szabist.edu.pk

[*)]Corresponding Author

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Abstract

Previous research has primarily examined the link between price, income, and consumer spending using linear regression models. On the other hand, the latest evidence shows an asymmetric link among economic and financial variables. We contribute to the literature by employing a novel technique known as the asymmetric ARDL model. This approach is used to investigate the impact of favorable and unfavorable changes in income and prices on household consumption. The results show that higher income has a substantial and beneficial effect on household expenditures in the short term and long term. On the other hand, a fall in income has no impact on consumer spending. Moreover, for most developing countries, price adjustments have a negligible effect on consumer expenditures. Our findings suggest that implementing the same policy initiatives across periods of rising and falling income and prices may result in potential losses.

Keywords:
E7 countries; consumption, NARDL model, asymmetry

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INTRODUCTION

A large number of theoretical works support the drivers of consumer spending. Moreover, empirical work also supports the drivers of consumer spending. To begin with, Keynes (1936) offered the psychological rule of consumption as a preliminary hypothesis. The absolute income hypothesis (AIH) is another name for this notion. According to this concept, an increase in income enhances consumption; nevertheless, a change in consumption is often smaller than a change in income. Duesenberry (1949) presented the relative income hypothesis (RIH) parallel to an absolute income hypothesis. According to this idea, the consumption habits of one individual rely on the consumption patterns of their relatives. In other words, most purchasing behaviors are culturally linked. To counter the relative income hypothesis, Ando and Modigliani (1963) developed the permanent income hypothesis (PIH), whereas Friedman (1957) offered the life-income hypothesis (LIH). The propositions by these authors suggest that a family's future and current income affect their consumption spending. Macklem (1994) further said it's not just the current income that influences family consumption but also future earnings. Arapova (2018) mentioned that family income is the most critical factor-affecting consumer spending.

The past research also claims that household spending is influenced by income and a variety of other variables that seem to have a considerable effect on consumer buying patterns. Research studies, such as Obinna (2020), D'Acunto et al. (2015), and Bakri et al. (2017), exclusively considered annual income as a driver of spending. Nevertheless, the major flaw in earlier research has been that researchers failed to include the emerging seven (E7) nations, which is the focus of this research.

Furthermore, the past research paid attention to older methodologies that did not consistently provide reliable findings. Ahmed et al. (2015) used an Autoregressive distributed lag approach to estimate the absolute income hypothesis (AIH) and permanent income hypothesis (PIH) in Korea, Singapore, Australia, and New Zealand. They concluded that unemployment and interest rates have significant short-run impacts on household consumption, but wealth and income possess considerable long-run effects. Khan et al. (2015) also came to the same conclusion. Similarly, Bakri et al. (2017) used the least square method and found that income has a rising impact on consumer spending in Malaysia, whereas prices hurt consumer spending. Diacon & Maha (2015) likewise utilized conventional methods to conduct research in 79 countries. Researchers grouped the 79 nations into high-income, middle-income, and low-income countries and found different results for each income group. Their findings show that the impact is much more substantial in the context of low-income and high-income nations; however, the effect is minimal in middle-income countries. Vihriala (2017) examined the effects of Mexico's income and assets using the instrumental variable approach. They concluded that rises in pension shares enhance consumption-to-income ratios. Researchers also found that income had a higher significant impact on consumer spending than the other factors. Similarly, Bonsu & Muzindutsi (2017) conducted research in Ghana using variance decomposition, Granger causality, and the impulse response function analysis. They concluded the identical findings to Vihriala (2017).

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The latest evidence has looked at the factors that influence household consumer spending. Arapova (2018) performed research in Asian nations employing panel data methodologies & discovered that income is a vital expenditure factor. Similarly, Muzindutsi & Mjeso (2018) and Damane (2018) examined the link in South Africa using the Autoregressive distributed lag model. Researchers stated that income has a favorable long- and short-run impact on consumer spending, while interest rate and prices negatively affect expenditures. Gahtani et al. (2020) used an ECM approach to perform research in Saudi Arabia. Researchers' goal was to look at how prices, income and interest rates affect spending. Their study discovered that money had a more significant influence on spending than other factors. Iheonu & Nwachukwu (2020), Sugiarto & Wibowo (2020), and Keho (2019) further looked at the factors that influence consumer spending. Researchers discovered that household spending is affected by prices, income, and interest rates.

The initial research's fundamental flaw is that it ignored differentiating the impact of favorable and unfavorable price and income change shocks on consumer spending. The previous research assumed that favorable and unfavorable surprises in such variables are considered to provide the same effect on consumer spending. On the other hand, business cycles have resulted in systemic economic fractures. As a result, economic indicators exhibit asymmetric behavior (Hok, 2020). Only very few earlier types of research have considered the asymmetric connection among economic and financial variables. Okwu et al. (2020), for instance, used an asymmetric ARDL model to investigate Nigeria's setting. Their goal was to look at the asymmetrical short term and long-term impacts of the factors that predict consumer spending. Researchers concluded that positive oil supply shocks significantly influenced consumer spending. Similarly, Hok (2020) used the Markov Switching Autoregressive (MSAR) approach to perform Cambodia research. Their goal was to look at how government spending, prices, and inflation asymmetrically affect consumer spending. They concluded that income had a strong influence on consumer spending, and this effect is asymmetric on consumption. Moreover, they found that prices do not influence household consumption expenditures. Likewise, Bahmani-Oskooee & Nayeri (2020) employed the asymmetric Autoregressive distributed lag model to examine if economic policy uncertainty (EPU) does have a symmetric or asymmetric influence on the level of consumption expenditures. They found that EPU has a nonlinear effect on consumer spending.

Even though the previous research explored the asymmetric link among various economic factors, these researches neglected to analyze the asymmetric relationship when concentrating on the emerging seven (E7) nations. Furthermore, previous research ignored the asymmetric effect of the variables used in our case. As a result, our study adds to the current literature by investigating the long- and short-term impacts of price changes and income on consumer spending in the emerging seven nations. We employ the nonlinear ARDL model developed by Shin et al. (2014), an expanded version of the ARDL model. We evaluate the influence of both positive and negative shocks on the dependent variable using the asymmetric ARDL by decomposing the income and price variable into positive and negative surprises. This model may be used to see whether a rise in family income and price changes has the same impact on consumption as a decrease in income and price changes.

The essential addition of this research to the available literature is that it focuses on the E7 nations since the previous work has neglected to explore the link between income, prices, and consumer expenditures in these specific countries of concern. Brazil, Russia, India, China, Mexico, Turkey, and Indonesia are the emerging nations considered in our research. According to the World Bank (2019), emerging seven countries account for almost 40% of global GDP (Diacon & Maha, 2015). As a consequence, the findings from the E7 nations might have important implications in terms of low income and middle-income countries. Furthermore, it is said that consumer spending in China accounts for 70% of China's GDP. Similarly, consumer spending accounts is 67% of Turkey's GDP. Likewise, consumer spending accounts for 46.15%, 45.14%, 45.21%, 51.14%, and 61.14% of GDP in Mexico, Brazil, India, Russia, and Indonesia, respectively (https://unstats.un.org/unsd/snaama/downloads).

Furthermore, the economic growth of E7 nations has a significant impact on global GDP. Spending has considerable short-run and long run implications on world economic growth and inequalities in developing nations (Mody & Ohnsorge, 2010). As a result, this research might help design strategies for both advanced and emerging countries.

In two ways, our research contributes to the existing body of knowledge. First, Bahmani-Oskooee & Nayeri (2020) examined the nonlinear influence of economic policy uncertainty on household consumption in the G7 nations. Rather than the G7 nations, the emerging seven (E7) countries emphasize this research. Our study breaks down explanatory variables among positive and negative changes, as done by Bahmani-Oskooee & Nayeri (2020). Next, contrary to Bahmani-Oskooee & Nayeri (2020), this study analyses the asymmetric influence of changes in income and household spending using price changes and income as explanatory variables.

According to our findings, a rise in family income has a significant and favorable short- and long-term effect on household spending in all sample nations except Indonesia and China. Similarly, a fall in income has a substantial and beneficial influence on household spending. Furthermore, a rise in price adjustments has a long-term unfavorable, and significant impact on consumer expenditures in Mexico, China, Brazil, Russia, India and Turkey; however, a price decrease has a long-term adverse effect on consumer spending.

METHODS

Description of Data

Under this research, the nonlinear influence of Price (PR) and income (NI) changes on consumer spending (CP) in Emerging 7 (E7) is investigated. Household consumption expenditures (CP), National income (NI), domestic prices (CP), and interest rate (IR) are

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all based on quarterly data where the quarterly data ranges from 1991Q1 to 2020Q4. For household consumption, seasonally adjusted nominal data is used represented in local currency. Similarly, disposable personal income data, also expressed in local currency, is used to measure national income. Furthermore, the prices are described using data from the consumer price index. Lastly, the interest rate is shown using 90-day T-bill data. The International Financial Statistics (IFS) database was used to acquire all factors. The interest rate is being used as a control variable as prior research shows that this significantly affects household consumption (Mumtaz & Ali, 2020; Bahmani-Oskooee & Nayeri, 2020).

The short-run and long-run asymmetrical impacts of price and income fluctuations on household spending are investigated using the asymmetric ARDL approach. Shin et al. (2014) presented an asymmetric ARDL approach that enhances the classic Autoregressive distributed lag model (Pesaran & Shin, 1999) while considering the nonlinear nature of the relationships between the specified variables in the study. The traditional ARDL approach, on the other hand, ignores the asymmetric character of the connection between the variables of the study (Chang, 2020, Syed et al., 2019). In our example, the conventional ARDL model is represented by the equation (1).

$$\begin{aligned}\Delta lnCP_{kt} = \beta_0 + \beta_1 lnCP_{kt-1} + \beta_2 lnNI_{kt-1} + \beta_3 lnPR_{kt-1} + \beta_4 lnIR_{kt-1} \\ + \sum_{i=1}^{n} \theta_1 \Delta lnCP_{kt-i} + \sum_{i=0}^{n} \theta_2 \Delta lnNI_{kt-i} + \sum_{i=0}^{n} \theta_3 \Delta lnPR_{kt-i} \\ + \sum_{i=0}^{n} \theta_4 \Delta lnIR_{kt-i} + \varepsilon_t \quad (1)\end{aligned}$$

The long-run parameters are β_1, β_2, β_3 and β_4, whereas the short-run parameters are θ_1, θ_2, θ_3, and θ_4. Income, consumption, interest rate, and prices for nation k at time t are represented by IR_{kt}, PR_{kt}, NI_{kt}, IR_{kt} and CP_{kt}, respectively. Using ln for each variable shows that a natural logarithm has been used for all parameters. Furthermore, Δ signifies the difference operator that is utilized to establish the short-run connection.

In addition, the nonlinear influence of price changes and income on household consumption is investigated using an asymmetric ARDL approach. The long-run description of the asymmetric ARDL approach is shown in equation (2).

$$lnCP_{kt} = \beta_0 + \beta_1 lnNI_{kt}^{+} + \beta_2 lnNI_{kt}^{-} + \beta_3 lnPR_{kt}^{+} + \beta_4 lnPR_{kt}^{-} + \beta_5 lnIR_{kt} + \varepsilon_t \quad (2)$$

Where $lnNI_t^{+}$ signifies the partial sum of positive changes in the national income and $lnNI_t^{-}$ shows the partial sum of adverse changes in national income. Similarly, $lnPR_t^{+}$ represents the partial sum of upward price hikes, whereas $lnPR_t^{-}$ represents the partial sum of adverse price fluctuations.

The partial sum of favorable and unfavorable changes in income level was generated using equations (3a) and (3b). In contrast, the data for the partial sum of favorable and negative changes in the prices were generated using equations (4a) and (4b), respectively.

$$lnNI_{kt}^{+} = \sum_{i=1}^{t} \Delta lnNI_{kt}^{+} = \sum_{i=1}^{t} \max(\Delta lnNI_i, 0) \quad (3a)$$

and

$$lnNI_{kt}^{-} = \sum_{i=1}^{t} \Delta lnNI_{kt}^{-} = \sum_{i=1}^{t} \min(\Delta lnNI_i, 0) \quad (3b)$$

$$lnPR_{kt}^{+} = \sum_{i=1}^{t} \Delta lnPR_{kt}^{+} = \sum_{i=1}^{t} \max(\Delta LnPR_i, 0) \quad (4a)$$

and

$$lnPR_{kt}^{-} = \sum_{i=1}^{t} \Delta lnPR_{kt}^{-} = \sum_{i=1}^{t} \min(\Delta LnPR_i, 0) \quad (4b)$$

where $lnNI_{kt} = lnNI_0 + lnNI_{kt}^{+} + lnNI_{kt}^{-}$ and $lnPR_{kt} = lnPR_0 + lnPR_{kt}^{+} + lnPR_{kt}^{-}$

The nonlinear ARDL approach is constructed by combining the equations 3a-3b and 4a-4b to get the following expression (Shin et al., 2014).

$$\Delta lnCP_{kt} = \beta_0 + \beta_1 lnCP_{kt-1} + \beta_2 lnNI_{kt-1}^{+} + \beta_3 lnNI_{kt-1}^{-} + \beta_4 lnPR_{kt-1}^{+} + \beta_5 lnPR_{kt-1}^{-}$$
$$+\beta_6 lnIR_{kt-1} + \sum_{i=0}^{n} \theta_1 \Delta lnCP_{kt-i} + \sum_{i=0}^{n} (\theta_2^{+} \Delta lnNI_{kt-i}^{+} + \theta_3^{-} \Delta lnNI_{kt-i}^{-})$$
$$+ \sum_{i=0}^{n} (\theta_4^{+} \Delta lnPR_{kt-i}^{+} + \theta_5^{-} \Delta lnPR_{kt-i}^{-}) + \sum_{i=0}^{n} \theta_6 \Delta lnIR_{kt-i} + \varepsilon_t \quad (5)$$

Many of the parameters in equation (5) are specified in the same way as before. The asymmetric autoregressive distributed lag model is represented through this formula, which divides national income (NI) and prices (PR) into a partial sum of positive and negative shocks (Chang & Rajput, 2018; Chang et al., 2018).

The Wald test evaluates long-run cointegration in the asymmetric ARDL approach. The null hypothesis in the Wald test means that there is no cointegration, but the refutation of the null hypothesis implies that there is cointegration. The null hypothesis for the bounds test is $\beta_0 = \beta_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$, with the null hypothesis being checked with the use of the Wald test. We conclude that a long-run correlation exists if a null hypothesis is false. The long-run asymmetry is then examined, with the null hypotheses for income and prices marked by $\beta_2 = \beta_3$ and $\beta_4 = \beta_5$, respectively. Furthermore, we look at the short-run asymmetries, in which the null hypotheses for income and prices, respectively, are $\theta_2 = \theta_3$ and $\theta_4 = \theta_5$. The Wald test can also be used to examine short-term and long asymmetry, with the null hypothesis being rejected, implying an asymmetric connection.

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RESULT AND DISCUSSIONS

The descriptive analysis of consumption, prices, income, and interest rates, for the selected nations in our research, are shown in Table 1. In addition, the time series plots of the variables employed in our study are shown in Figure 1. The summary characteristics of almost all of the studied variables within our study are shown in table 1, where PR, IR CP, and NI stand for domestic prices, interest rate, consumer expenditures, national income, respectively. Without log data are used to represent descriptive statistics. The Jarque-Bera test is used to ensure that the data is normal. Under this test, the null hypothesis states that the data are normally distributed. *, **, and *** signify that the alternative hypothesis is accepted at 10%, 5%, and 1% significance level, respectively.

Table 1. Descriptive Statistics

Variable	Mean	Std. Dev.	Skewness	Kurtosis	Jarque-Bera
Brazil					
CP	64712.200	35141.612	0.541	1.415	14.471***
NI	124512.000	45124.000	0.251	1.641	17.411***
PR	47.214	54.582	-0.745	1.415	17.742***
IR	8.541	9.471	0.471	5.251	15.451***
Russia					
CP	44745.512	74751.544	-0.241	1.471	14.451***
NI	541521.714	514214.012	-0.451	1.412	18.541***
PR	74.471	47.451	-0.142	2.251	17.471**
IR	5.471	7.471	0.641	4.412	16.541***
India					
CP	45142.568	74512.984	0.541	3.471	2.845
NI	74512.251	54124.253	0.471	4.847	8.474**
PR	74.541	41.47	-0.251	3.745	7.842*
IR	6.541	7.844	0.541	5.451	17.745***
Indonesia					
CP	4512.471	4512.584	-0.874	1.412	17.470***
NI	54114.654	5412.541	-0.475	1.641	14.519***
PR	87.745	54.451	-0.512	1.745	12.748**
IR	6.745	6.745	1.541	2.471	24.543***
Mexico					
CP	21421.544	54124.242	1.451	2.412	54.352***
NI	54125.251	84515.547	1.471	4.541	47.541***
PR	74.471	8.745	-1.782	7.652	34.235***
IR	6.541	6.541	1.845	6.541	35.541***
Turkey					
CP	412541.451	7841.784	0.845	2.845	17.874***
NI	54154.514	18451.652	0.745	2.471	14.745***
PR	84.471	54.784	-0.855	2.874	12.541**
IR	10.541	7.745	0.784	2.541	14.451***
China					
CP	47142.541	1425415.354	0.451	1.745	18.541***
NI	514514.451	451254.545	0.874	1.652	16.784***
PR	74.745	51.584	-0.541	1.471	18.874***
IR	54.451	4.745	0.641	4.541	24.865***

According to the summary data, China has the most significant average value, followed by Brazil and India. On the other hand, the minimum average value is obtained inside the setting of Mexico. The highest value for income also was observed within the context of India. In Mexico, the greatest price value is discovered. Meanwhile, the least price value is found in China. For all Emerging 7 countries, the value skewness is positive for income and consumption but a minus for prices. Except for the interest rate in Indonesia, China, Brazil, and India and prices in India, the kurtosis values show that each variable is platykurtic.

Furthermore, the Jarque-Bera statistics suggest that the variables are not normally distributed, indicating that the data may be subject to temporal volatility. The nonlinear nature of the link amongst presented factors is conceivable due to the temporal fluctuation in the dataset. Therefore, examining asymmetric relationships is the primary emphasis of this research. The residual plots of the series are shown in Figure 1.

The nonlinear ARDL model, like the classical ARDL model, could only be utilized if no variables are stationary just after taking the second difference. It indicates that the variable could be stationary at both the level and first difference. As a result, stationary tests are used to assess the order of integration of each variable. The enhanced Lee Strazicich, Perron, and dicky fuller (ADF) stationary tests are utilized in this investigation. The method's findings consisted of all three-sample statistics presented at the level, and the first difference is shown in Table 2. The results suggest that all our variables seem to be stationary at level I(0) or after the first difference I(1) of such indicators is determined. On the other hand, neither variable is discovered stationary at the second difference. Therefore, our research motivates us to apply the asymmetric autoregressive distributed lag approach.

Furthermore, the autoregressive distributed lag and nonlinear ARDL models also need optimal lags to be chosen using particular criteria. We employ the Akaike Information Criterion (AIC) and Hannan-Quinn Information Criterion (HIC) to identify optimal lags. In our instance, the information criteria advise picking a total of 4 lags.

According to the Wald test, all of the explanatory variables are cointegrated with household spending (Table 3-Panel C). Because the Wald test results denote long-run cointegration, this study investigates each variable's short- and long-run impacts on the predictor variables. The long-run influence of income and price fluctuations on family household consumption is discussed in Panel C of Table 3. Our findings corroborate the absolute income theory in terms of the emerging seven nations since income increases considerably influence household consumption. When family income rises about 1%, consumer spending rises by 0.12%, 0.23%, 0.25%, 0.23%, 0.24%, 0.13%, 0.37% in India, Indonesia, Turkey, China, Brazil, Russia, Mexico, respectively. As a result, our findings support the absolute income hypothesis since a rise in family income leads toward a large rise in consumer spending. Still, a rise in household consumption is less proportional to a rise in income.

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Figure 1. Residual Plots of the Emerging Seven Nations' Income, Consumption and Price Series

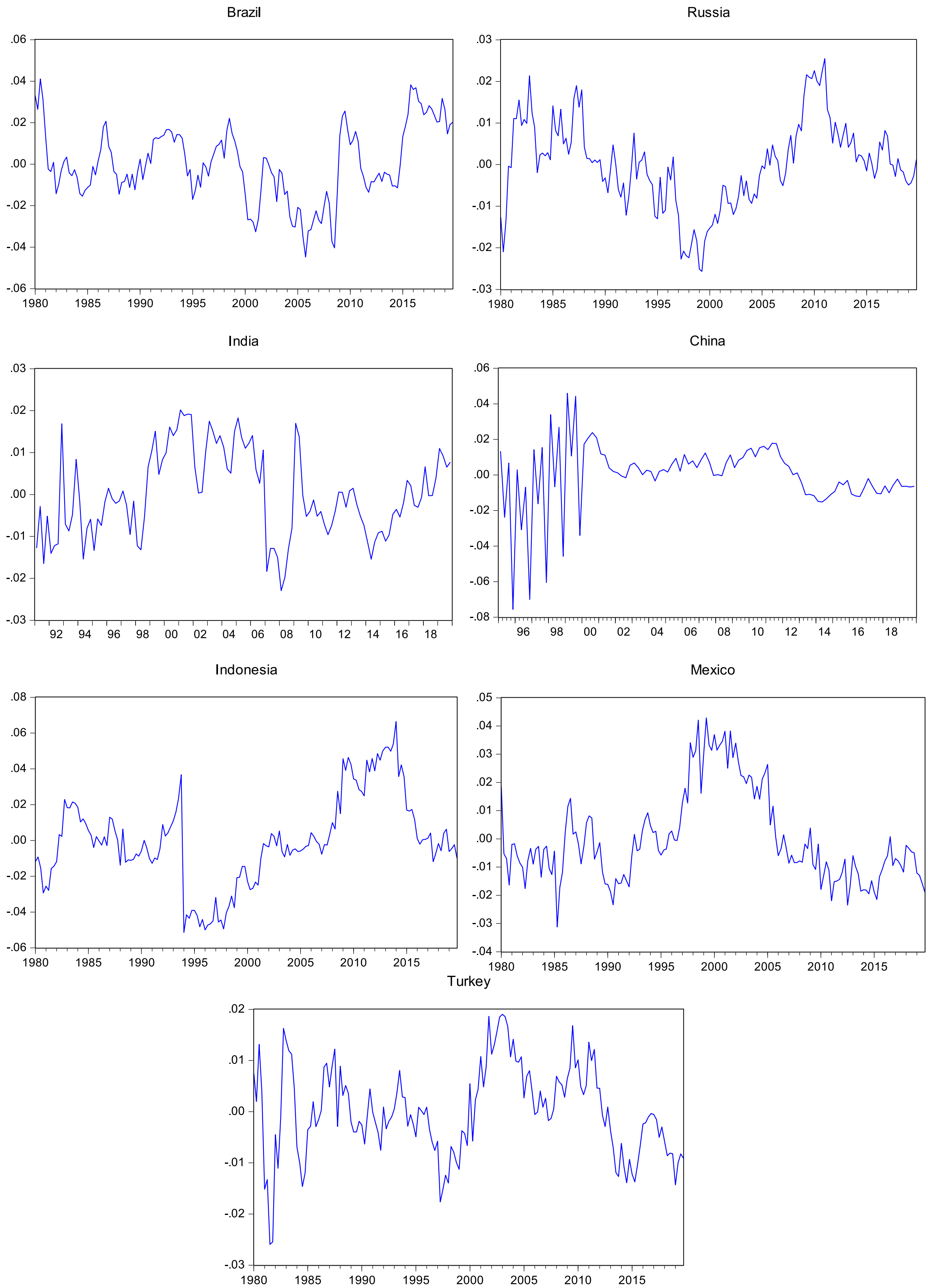

Table 2. Results of the Stationarity of The Variables

Variables	ADF (Level)	ADF I(1)	L-Z (Level)	Break year	L-Z I(1)	Break year	Peron (Level)	Break year	Peron I(1)	Break year
					Brazil					
CP	-9.744[a]	-7.451[a]	-0.741	1899Q3	-8.471[a]	1996Q2	-4.471	2012Q1	-14.45[a]	2014Q3
NI	-5.452[b]	-7.471[a]	-1.471	2002Q4	-8.844[a]	1999Q3	-3.477	2014Q4	-13.11[a]	2016Q2
PR	-1.451	-8.471[a]	-0.745	2001Q2	-5.74[b]	2012Q4	-4.655	1999Q3	-14.7[b]	2001Q2
IR	-2.451	-8.541[a]	-7.841[a]	2001Q1	-9.745[a]	2014Q2	-5.450[b]	2001Q2	-11.47[a]	2014Q3
					Russia					
CP	-6.562[a]	-4.541[b]	-0.451	1998Q4	-4.874[a]	1997Q2	-6.541[a]	2018Q2	-5.745[b]	1999Q3
NI	-5.421[a]	-5.562[b]	-0.562	1996Q3	-6.541[a]	1994Q2	-6.451[a]	2007Q1	-8.564[a]	2014Q2
PR	-1.541	-6.412[b]	-0.471	1998Q4	-7.562[a]	1995Q3	-8.541[a]	2002Q4	-9.562[a]	1998Q2
IR	-3.541	-10.25[a]	-2.521[c]	1995Q3	-5.541[a]	1995Q4	-9.451a	1999Q4	-8.541[a]	1995Q4
					India					
CP	-2.541	-13.25[a]	-1.521	1996Q4	-5.353[c]	1995Q4	-1.452	1994Q4	-4.541[b]	1999Q1
NI	-1.251	-8.457[a]	-3.124	2001Q3	-7.252[a]	1996Q3	-2.241	2001Q3	-15.21[a]	1992Q3
PR	-1.541	-4.845[a]	-1.254	2002Q2	-9.450[a]	1994Q2	-3.125	2002Q2	-6.541[b]	1994Q1
IR	-1.562	-7.541[a]	-4.142[c]	2001Q3	-7.653[a]	1993Q3	-3.241	1996Q3	-7.384[a]	1999Q1
					Indonesia					
CP	-7.365[a]	-7.542[a]	-0.541	1999Q3	-8.562[a]	1996Q2	-2.542	1996Q4	-9.345[a]	1994Q1
NI	-3.954[c]	-5.254[b]	-1.874	1994Q1	-4.471[b]	1997Q4	-1.235	1997Q1	-8.298[a]	1998Q4
PR	-2.258	-5.451[b]	-0.259	1992Q4	-5.541[b]	1996Q3	-3.584	1992Q3	-5.548[b]	1997Q2
IR	-8.541[a]	-7.541[a]	-5.584[b]	1994Q1	-4.485[b]	1996Q2	-3.258	1995Q2	-8.658[a]	1999Q2
					Mexico					
CP	-1.374	-12.84[a]	-2.451	1999Q2	-8.259[a]	1994Q1	-15.65[a]	1996Q2	-15.42[a]	1999Q1
NI	-2.447	-15.95[a]	-3.845	1994Q3	-12.87[a]	1995Q3	-11.42[a]	1994Q2	-15.16[a]	1994Q3
PR	-3.284	-8.784[a]	-1.471	2013Q2	-4.541[c]	2012Q2	-2.541	1995Q3	-4.452[a]	2001Q2
IR	-2.545	-7.451[a]	-5.258[a]	1995Q1	-5.541[b]	1992Q1	-2.452[b]	1994Q2	-8.587[a]	1901Q3
					Turkey					
CP	-8.584[a]	-4.541[c]	-0.784	1994Q4	-8.474[a]	2001Q3	-5.895b	1994Q1	-8.854[a]	2001Q1
NI	-9.485[a]	-9.258[a]	-0.584	1994Q1	-9.447[a]	1999Q2	-6.845a	2001Q2	-7.485[a]	1999Q2
PR	-1.254	-8.451[a]	-0.485	1992Q2	-8.684[a]	1999Q1	-7.451a	1998Q3	-6.584[b]	1995Q2
IR	-1.541	-8.584[a]	-4.254[b]	1991Q1	-7.345[a]	1991Q2	-4.451b	1994Q3	-25.47[a]	2018Q3
					China					
CP	-9.482[a]	-6.745[a]	-0.854	2012Q1	-7.484[a]	2012Q2	-8.540[a]	2010Q3	-18.59[a]	2018Q2
NI	-8.954[a]	-7.845[a]	-1.874	2010Q1	-7.447[a]	1994Q2	-5.485[c]	2018Q2	-9.874[a]	2015Q2
PR	-4.485[b]	-9.845[a]	0.258	2011Q2	-5.584[b]	2010Q2	-5.884c	2017Q1	-8.684[a]	2013Q3
IR	-4.452[b]	-8.562[a]	-4.847[b]	1994Q3	-5.745[b]	1999Q3	-5.447c	1991Q2	-8.747[a]	2016Q1

The findings of the Lee Z, ADF and Perron tests for domestic prices (PR), interest rate (IR), consumption (CP), income (IN) are shown in this Table. The subscript c shows the rejection of the null hypothesis at a 10% significance level, b suggests that the rejection of the null hypothesis is at a 5% level of significance, and a denotes that the null hypothesis is rejected at a 1% level of significance.

Like the previous literature (Hashmi et al., 2021a, 2021b, 2022) our estimates indicate that negative income changes reduce consumer spending; nevertheless, this fall in spending is significant in China and Indonesia. According to our estimates, a 1% decrease in income causes a 0.35% to 0.42% decrease in household spending. Our findings also suggest that income has little influence on consumer spending during economic

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downturns, a conclusion that is supported by the life cycle and permanent income theory and are consistent with the prior literature such as Chang et al. (2020a, 2020b).

In the E7 nations, price movements have a considerable impact on domestic spending. While prices rise 1%, consumer spending in Mexico, China, Brazil, and Russia drop by 0.24%, 0.29%, 0.12%, and 0.13%, respectively. Furthermore, if prices fall by 1%, consumer spending in India and Mexico fall by 0.33% and 0.52%, respectively. As the findings show, a rise in prices has not had the same effect as a fall in prices; as a result, price movements in developing nations get an asymmetrical impact on domestic spending.

Table 3: Estimates of NARDL model

Countries	Brazil	Russia	India	Indonesia	Mexico	Turkey	China
Panel A: Long-run estimates							
NI+	0.124***	0.235***	0.251***	0.232***	0.241**	0.127**	0.365***
NI-	0.124	0.187	-0.174	0.352***	0`.142	0.241	0.421**
PR+	-0.243***	-0.287*	0.124	-0.140	-0.123**	0.142	-0.125**
PR-	0.251	0.254	-0.155**	-0.235	-0.625**	0.325	-0.254
IR	-0.125***	-0.142	0.142*	-0.174	0.141	0.145	-0.125**
Panel B: Short-run estimates							
ΔNI+	0.451***	0.241***	0.412***	0.142	0.641***	0.741***	0.512***
ΔNI+ (-1)	0.352	0.421	-0.521**	0.251	0.114	0.235***	0.412**
ΔNI+ (-2)	0.541	0.251**	0.412	0.412	-0.244*	0.741***	0.235
ΔNI-	0.845***	0.874***	0.251	0.352***	0.125***	0.412*	0.412*
ΔNI-(-1)	0.254	0.352	0.412	-0.414***	0.511***	0.412***	0.214
ΔNI-(-2)	0.147	-0.541	0.251	-0.412	0.315	0.235	-0.411
ΔPR+	-0.514	0.251**	-0.541*	0.471***	-0.411**	0.241	0.541*
ΔPR+ (-1)	0.125	0.251	-0.352	-0.544*	0.247	-0.512	0.235
ΔPR+ (-2)	0.541	0.521	0.251	-0.412	0.352	-0.453**	0.425
ΔPR-	0.251	0.251	0.412	0.251	-0.641*	0.241	0.641
ΔPR- (-1)	0.654***	0.235	0.352	0.512	-0.742	0.142	0.341
ΔPR- (-2)	0.352	0.541	0.352	0.241	0.235	-0.411	0.751*
ΔIR	0.541	-0.521	0.241	0.127***	0.241	0.235	-0.252
ΔIR(-1)	0.412	0.352	-0.544	0.235	0.641	-0.412	-0.412***
ΔIR(-2)	0.352	0.541	0.214***	-0.412	0.247	0.241	-0.247
Panel C: Bounds test and diagnostics test statistics							
Bounds test	9.411***	8.841***	7.541***	7.451***	5.741***	5.745***	5.471***
LM	0.124	0.251	3.541*	1.541	0.745	0.874	0.541
Hect	0.541	0.745	5.451*	0.251	1.654	0.541	0.471
R-Reset	0.235	0.541	4.411**	1.471	17.251***	0.352	0.456
ECT	-0.412***	-0.652***	-0.251***	-0.254***	-0.451***	-0.352***	-0.425***
CUSUM	S	U	S	U	S	S	U
CUSUMSQ	U	U	U	U	U	U	S
WLR (NI)	5.142**	7.541***	4.541***	7.745***	3.745*	2.451*	10.745***
WSR (NI)	17.241***	13.412***	9.745***	6.251***	8.475***	16.541***	15.412***
WLR (PR)	6.745**	1.541	5.452**	0.521	6.471**	0.235	3.412*
WSR (PR)	0.415	3.514*	1.258	4.512**	5.755**	3.451**	3.142*

Furthermore, in Table 3, Panel B illustrates the short-run results for household spending and their determinants in E7 nations. Except for negative (NI-) surprises in India and positive surprises in income (NI+) in Indonesia, our results show that a rise and reduction in family income significantly impacts consumer spending across all E7 nations. Significant differences in the short-run influence of price increases on household spending have also been discovered in developing countries. In China and Russia, favorable price changes have a significant and favorable impact on domestic spending. On the other hand, positive price changes impacted spending in Turkey and Mexico. In Russia, a rise in price fluctuations at lag zero (PR+) has a substantial beneficial effect, whereas an increase in the price level at lag two (PR+(-2) has a significant adverse impact. In both China and Brazil, price changes have a considerable beneficial influence on family consumer spending. While in the case of Mexico, however, unfavorable price changes reduce spending that is also supported by the previous literature (Uche et al. 2022; Chang et al., 2019a, 2019b; Hashmi & Chang, 2021).

The diagnostic tests are shown in Panel C of Table 3. The Wald test is used to verify for short-run and long run asymmetry formally. According to the Wald test, the E7 nations show an asymmetrical income impact in the long and short term. Furthermore, for E7 countries except for Brazil, India, and Mexico, the Wald test reveals an asymmetric influence of prices in the long term. Again, according to the Wald test, all E7 nations, except Brazil, and India, show a nonlinear effect of prices in the short term. The asymmetrical long and the short impacts of income and price fluctuations on household consumption confirmed the hypothesis that favorable and unfavorable changes in all variables have distinct consequences on consumer spending which also supported by the previous literature (Chang et al., 2020b 2020c).

Furthermore, this study employs diagnostic testing to ensure that the findings are reliable. The model stability is checked using the CUSUM and CUSUMQ methods. The model specification is checked using the Ramsey Rest (R-Reset) testing. The serial correlation is studied using the LM Test. The estimates show that particular nations have model specifications and other diagnostic difficulties, pushing us to utilize the asymmetric ARDL model.

Results based on the asymmetric ARDL approach are shown in this Table. Independent variables include national income (NI) and prices (PR). The outcome variable is consumption (CP), while the interest rate is employed as a control variable. Panel A displays the long-run estimations, Panel B Illustrates the short-run results, and Panel C exhibits the bounds test and diagnostic tests findings. * shows that the null hypothesis is rejected at a 10% statistical significance, ** at a 5% statistical significance, and *** at a 1% statistical significance. The Wald test is used for checking the long-term (WLR) and short-term (WSR) asymmetries. The R-Reset test ensures the model specification, the Hect test verifies heteroscedasticity, and the LM test demonstrates a serial correlation. CUSUM and CUSUMQ examine the model's stability; with 'S' indicating that the model is stable and 'U' suggesting it is not. The error correction term is abbreviated as ECT.

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CONCLUSION

The link among household consumption, price changes, income changes is supported by existing research. However, none of this research looks at the impact of favorable and unfavorable price and income fluctuations on consumption spending. The influence of favorable and unfavorable variations in prices and income on consumer spending is examined in this research, which adds to the current knowledge. We utilize quarterly time series data spanning 1991Q1 through 2020Q4 to construct these models.

According to results based on the asymmetric ARDL model, income level seems to have a favorable and significant impact on consumer spending in the Emerging 7 nations. On the other hand, a drop in income does indeed have a detrimental and considerable influence on consumer spending in every country except China and Indonesia. The Wald test is further used to examine the short-run and long-run asymmetry formally. In almost all sample nations, the Wald test for the asymmetric ARDL approach shows that income does have a nonlinear influence on consumer spending in the short and long run. Furthermore, the Wald test for the asymmetric ARDL approach suggests that price increases in Mexico and China have an asymmetric influence on consumer spending in the long term. However, prices have an asymmetric effect on consumer spending in Indonesia, Russia, and Turkey in the short term.

Consequently, the findings of this study are critical for policy recommendations in both industrialized and developing nations. The results show that the impact of price income changes on consumer spending varies between favorable and unfavorable income and price increases. As a result, we must examine the asymmetric effect when formulating policies, as failing to do so could result in potential losses.

REFERENCES

Ahmed, M., Baloch, A., Khan, K., & Memon, M. H. (2015). The Estimation of Aggregate Consumption Function for High Income Countries. *Pakistan Journal of Engineering Technology and Sciences, 5*(2), 85-100.

Al Gahtani, G., Bollino, C. A., Bigerna, S., & Pierru, A. (2020). Estimating the Household Consumption Function in Saudi Arabia: an Error Correction Approach. *Applied Economics, 52,* 1259-1271. https://doi.org/10.1080/00036846.2019.1659933.

Ando, A. & Modigliani, F. (1963). The 'Life-Cycle' Hypothesis of Saving: Aggregate Implications and Tests. *American Economic Review*, *53*(1), 55-84.

Arapova, E. (2018). Determinants of Household Final Consumption Expenditure in Asian Countries. A Panel Model, 1991-2015. *Applied Econometrics and International Development, 18*(1), 121-140.

Bahmani-Oskooee, M., & Nayeri, M. M. (2020). Policy Uncertainty and Consumption in G7 Countries: An Asymmetry Analysis. *International Economics. 63*, 101-113. https://doi.org/10.1016/j.inteco.2020.06.001.

Bakri, S. B. M., Ramli, N. B. R., Hashim, E. B., Mahdinezhad, M., & Jalil, N. B. A. (2017).

Understanding Behaviour of Consumption Expenditure of Households. *International Business Education Journal, 10*(1), 43-52.

Bonsu, C. O. & Muzindutsi, P. (2017). Macroeconomic Determinants of Household Consumption Expenditure in Ghana: a Multivariate Cointegration Approach. *International Journal of Economics and Financial Issues, 7*(4), 737-745.

Chang, B. H. (2020). Oil Prices and E7 Stock Prices: an Asymmetric Evidence Using Multiple Threshold Nonlinear ARDL Model. *Environmental Science and Pollution Research, 27,* 44183-44194. https://doi.org/10.1007/s11356-020-10277-2.

Chang, B. H., & Rajput, S. K. O. (2018). Do the Changes in Macroeconomic Variables Have a Symmetric or Asymmetric Effect on Stock Prices? Evidence from Pakistan. *South Asian Journal of Business Studies, 7*(3), 312-331.

Chang, B. H., Meo, M. S., Syed, Q. R., & Abro, Z. (2019a). Dynamic Analysis of the Relationship between Stock Prices and Macroeconomic Variables. *South Asian Journal of Business Studies, 8*(3), 229-245.

Chang, B. H., Rajput, S. K. O., & Bhutto, N. A. (2019b). Impact of Exchange Rate Volatility on the US Exports: a New Evidence from Multiple Threshold Nonlinear ARDL Model. *Journal of International Commerce, Economics and Policy, 10*(2), 1950009. https://doi.org/10.1142/S1793993319500091.

Chang, B. H., Rajput, S. K. O., & Bhutto, N. A. (2020a). The Asymmetric Effect of Extreme Changes in the Exchange Rate Volatility on the US Imports: Evidence from Multiple Threshold nNnlinear ARDL Model. *Studies in Economics and Finance, 37*(2), 293-309. https://doi.org/10.1108/SEF-03-2019-0122.

Chang, B. H., Sharif, A., Aman, A., Suki, N. M., Salman, A., & Khan, S. A. R. (2020b). The Asymmetric Effects of Oil Price on Sectoral Islamic Stocks: New Evidence from Quantile-on-Quantile Regression Approach. *Resources Policy, 65*, 101571. https://doi.org/10.1016 /j.resourpol.2019.101571.

Chang, B. H., Rajput, S. K. O., Ahmed, P., & Hayat, Z. (2020c). Does Gold Act as a Hedge or a Safe Haven? Evidence from Pakistan. *The Pakistan Development Review, 59*(1), 69-80.

Chang, B. H., Rajput, S. K. O., & Ghumro, N. H. (2018). Asymmetric Impact of Exchange Rate Changes on the Trade Balance: Does Global Financial Crisis Matter? *Annals of Financial Economics, 13*(4), 1850015. https://doi.org/10.1142/S201049521850015X.

D´Acunto, F., Hoang, D. & Weber, M. (2015). Inflation Expectations and Consumption Expenditure. *Chicago Booth Global Markets Working Paper Series*.

Damane, M. (2018). Empirical Analysis of Private Consumption in Lesotho: an ARDL Bounds Test Approach. *Modern Economy, 9*, 400-421.

Diacon, P. E., & Maha, L. G. (2015). The Relationship between Income, Consumption and GDP: A Time Series, Cross-country Analysis. *Procedia Economics and Finance*, *23*, 1535-1543. https://doi.org/10.1016/S2212-5671(15)00374-3.

Duesenberry, J. S. (1949). *Income, Saving and the Theory of Consumer Behaviour.* Harvard University Press. Cambridge MA.

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v21i2.23339

Friedman, M. (1957). The Relation between the Permanent Income and Relative Income Hypotheses. In a Theory of the Consumption Function (pp. 157–182). Princeton University Press. New Jersey.

Hashmi, S. M., & Chang, B. H. (2021). Asymmetric Effect of Macroeconomic Variables on the Emerging Stock Indices: A Quantile ARDL Approach. *International Journal of Finance & Economics, (In-Press).* https://doi.org/10.1002/ijfe.2461.

Hashmi, S. M., Chang, B. H., & Shahbaz, M. (2021). Asymmetric Effect of Exchange Rate Volatility on India's Cross-border Trade: Evidence from Global Financial Crisis and Multiple Threshold Nonlinear Autoregressive Distributed Lag Model. *Australian Economic Papers, 60*(1), 64-97. https://doi.org/10.1111/1467-8454.12194.

Hashmi, S.M., Chang, B.H., & Rong, L. (2021). Asymmetric Effect of COVID-19 Pandemic on E7 Stock Indices: Evidence from Quantile-on-Quantile Regression Approach. *Research in International Business and Finance*, *58*, 101485. https://doi.org/10.1016/j.ribaf.2021.101485.

Hashmi, S. M., Chang, B. H., Huang, L., & Uche, E. (2022). Revisiting the Relationship between Oil Prices, Exchange Rate, and Stock Prices: An Application of Quantile ARDL Model. *Resources Policy*, *75*, 102543. https://doi.org/10.1016/j.resourpol.2021.102543.

Hok, L. (2020). Nonlinear Effect of Government Spending on Private Consumption in Cambodia: Markov-Switching Autoregressive Model. *Journal of Economics and Business*, *3*(1), 438-449.

Iheonu, O. C. & Nwachukwu, T. (2020). Macroeconomic Determinants of Household Consumption in Selected West African Countries. *Economics Bulletin*, *40*(2), 1596-1606.

Keho, Y. (2019). An Econometric Analysis of the Determinants of Private Consumption in Cote d'Ivoire. *Theoretical Economics Letters*, *9*, 947-958.

Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*. Macmillan, Cambridge University Press. London.

Khan, K., Chen, F., Kamal, M. A., & Shaikh, S. A. (2015). Determinants of Consumption Function, in Case of China and G7 Countries. *International Journal of Economics and Empirical Research, 3*(4), 202-210.

Macklem, T. (1994). Wealth, Disposable Income and Consumption: Some Evidence for Canada. *Technical Report, 74, Ottawa, Bank of Canada*.

Mody, A. & Ohnsorge, F. (2010), After the Crisis: Lower Consumption Growth but Narrower Global Imbalances? *IMF Working Paper 10/11*.

Mumtaz, S., & Ali, M. (2020). Impact of Exchange Rate and Its Volatility on Domestic Consumption in India and Pakistan. *Journal of Public Affairs, (In-press),* e2479. https://doi.org/10.1002/pa.2479.

Muzindutsi, P. & Mjeso, T. (2018). Analysis of South African Household Consumption Expenditure and Its Determinants: Application of the ARDL Model. *Euro Economica, 37*(3), 169-179.

Obinna, O. (2020). Effect of Inflation on Household Final Consumption Expenditure in Nigeria. *Journal of Economics and Development Studies*, *8*(1), 104-111.

Okwu, A.T., Akpa, E. O., Oseni, I.O & Obiakor, R.T. (2020). Oil Export Revenue and Exchange Rate: an Investigation of Asymmetric Effects on Households' Consumption Expenditure in Nigeria, *Babcock Journal of Economics*, *7*, 13-28.

Pesaran, M. H. & Shin, Y. (1999) An Autoregressive Distributed-lag Modelling Approach to Cointegration Analysis. *Econometric Society Monographs, 31*, 371–413.

Shin Y, Yu B, Greenwood-Nimmo M (2014). Modelling Asymmetric Cointegration and Dynamic Multipliers in a Nonlinear ARDL Framework. A Festschrift in Honour of Peter Schmidt (pp. 281–314). Springer. New York.

Sugiarto, S., & Wibowo, W. (2020). Determinants of Regional Household Final Consumption Expenditure in Indonesia. *Journal of Economics and Policy*, *13*(2), 330-342 https://doi.org/10.15294/jejak.v13i2.25736.

Syed, Q. R., Malik, W. S., & Chang, B. H. (2019). Volatility Spillover Effect of Federal Reserve'S Balance Sheet on The Financial and Goods Markets of Indo-Pak Region. *Annals of Financial Economics, 14*(3), 1950015. https://doi.org/S2010495219500155.

Uche, E., Chang, B. H., & Effiom, L. (2022) Household Consumption and Exchange Rate Extreme Dynamics: Multiple Asymmetric Threshold Non-linear Autoregressive Distributed Lag Model Perspective. *International Journal of Finance & Economics, (In-press)*. https://doi.org/10.1002/ijfe.2601.

Vihriala, E. (2017). Household Consumption in Japan – Role of Income and Assets Developments. *IMF Working Paper, WP/17/23*

World Bank. (2019). *World Development Indicators*. World Bank: Washington DC.

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Diverse Outreach of Macroprudential Policy: An Indication of Policy Leak?

Khoirul Sukma[1], Akhmad Syakir Kurnia[2*]
[1,2]Departement of Economics, Diponegoro University, Semarang, Indonesia
E-mail: [1]khoirul.sukmaa@gmail.com, [2]akhmadkurnia@lecturer.undip.ac.id
[*)]Corresponding Author

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Abstract
Despite increasing awareness of the importance of countercyclical policies to overcome financial system instability, the potential leak of such policies comes to attention due to economic agents' risk-taking behavior. This paper aims to investigate the potential leaks of the policy. Using the Estimator General Method of Moments-difference (GMM-diff), we found evidence that macroprudential policies are less functional in controlling non-financial firms' credit growth than household credit growth. The result amplifies hesitation about the effectiveness of macroprudential policy caused by potential leaks coming from non-financial firms' risk-taking behavior. We also found that macroprudential policy in developing countries is less effective than in developed countries. Hence, the financial stability goal cannot rely solely on macroprudential policy. Instead, it needs support from other mutual policies, such as the capital control policy and transparent regulatory boundaries, to prevent partial risk shift from regulated financial institutions to unregulated, prevalent in the less developed financial system.

Keywords:
macroprudential policies, policy leaks, household credit growth, non-financial corporate credit.

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INTRODUCTION

Financial system instability is a systemic risk that disrupts financial system processes. It happens due to the deterioration of all or part of the financial system that impacts the real sector (International Monetary Fund, 2009). The origin of systemic risk can endogenously originate from financial institutions' collective behavior that in turn spread through cross-section and time-series dimensions (Smaga, 2014). In theory, the distinction between time series and cross-sectional dimensions concerning systemic risk is clear. However, both dimensions are intertwined in practice, resulting in bidirectional causality to the systemic risk.

The procyclical nature of the financial system is the time-series dimension of the cause of systemic risk. Procyclicality mutually reinforces interaction between the financial and real sectors. These interactions will strengthen the business or economic cycle amplitude. Thus, the impact will encourage faster economic growth during a boom and weaken the economy when it comes into recession (Utari et al., 2012; Warjiyo & Juhro 2016). The financial system institution interconnectivity is the characteristic of the financial system that becomes a cross-sectional dimension of the systemic risk through contagion effect. The contagion effect is the primary mechanism by which widespread financial system instability causes the crisis to reach a systemic dimension (Constancio, 2012; Smaga, 2014). Systemic risk followed by the spread effect brings failure to the financial system. Thus, this situation raises the need for a dedicated policy as a new countercyclical policy that focuses on financial system stability as the goal. The policy aims to identify and prevent systemic risks that threaten financial system stability, reducing the economic costs of disruptions to financial services that underpin financial market performance (Bank for International Settlements, 2009).

Despite no consensus about the precise definition, macroprudential policy emerges as a significant policy framework deliberation to deal with financial system stability goals after the 2008 global financial crisis. The underlying motive is an awareness affirming that targeting stable prices is no longer sufficient as a monetary policy framework without stability in the financial system itself. Maintaining solely on price stability often ignores potential risks arising from macroeconomic interrelationships within the system leading to an economic bubble where the asset price is too high, leading to a high deviation of the nominal from its actual price. When the bubble bursts, systemic risk arises, and financial system instability emerges as a problem (Bank Indonesia, 2016). Therefore, the 2008 crisis opened up the awareness of economists and policymakers that targeting financial system stability is as critical as targeting price stability because financial system instability will disrupt macroeconomic stability, although inflation is maintained (International Monetary Fund, 2013). Thus, the macroprudential policy emerged as a framework for maintaining financial system stability by restricting and reducing systemic risk (Vinals, 2011).

The nexus between macroprudential policy and financial stability typically works through bank lending channels. Given the significant role of the credit channel in the

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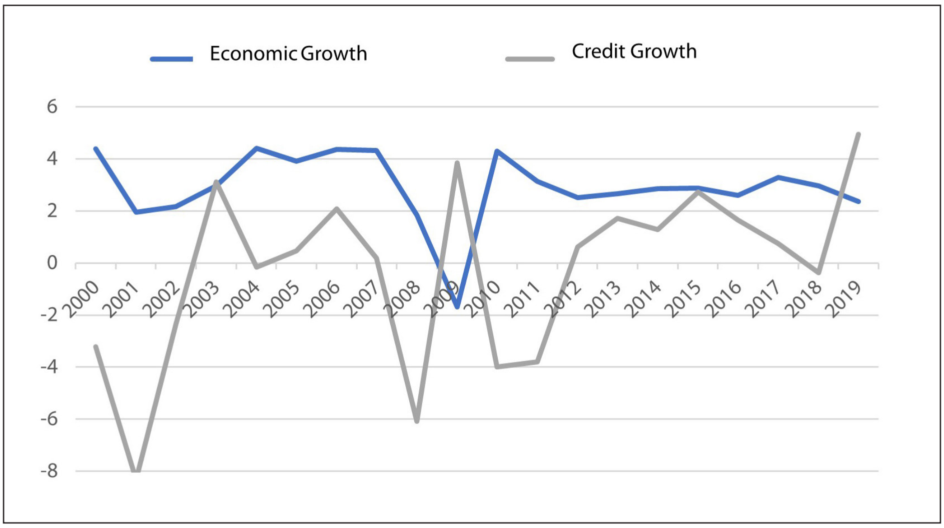
transmission mechanism of the monetary policy, financial volatility often diverges from growth volatility. Figure 1.1 shows credit growth and economic growth volatility, where credit growth is much more volatile than economic growth. The figure also shows that credit growth and economic growth are likely decoupled as each has its nature once the credit bubbles occur. Therefore, controlling excessive credit growth lies at the center of macroprudential policy. Credit growth can have sound and detrimental effects on the economy simultaneously since credit will help increase economic growth, and at the same time, excessive credit growth will disrupt financial system stability. Thus, macroprudential policies are expected to stabilize the financial system by controlling excessive credit growth.

Figure 1. Comparison of World Credit Growth with World Economic Growth (Percent)



Source: World Bank (2020)

Several empirical investigations revealed that macroprudential policies effectively maintain the financial system's stability. For example, Akinci & Olmstead-Rumsey (2018) and Fendoğlu (2017) showed that macroprudential policy instruments such as Loan to Value, Capital Requirements, and other housing measures effectively control the credit growth of the household sector. In other words, macroprudential instruments related to credit and capital requirements are very helpful in controlling credit growth in the economy. In addition, Lee et al. (2016) also found evidence that macroprudential policies can promote financial stability in Asia, where different macroprudential policies are proven effective for different types of macroeconomic risks.

On the contrary, several investigations showed that macroprudential policies were less comprehensive in controlling financial system stability caused by credit segregation, resulting in less effective policy outcomes. Open access to non-bank financial providers beyond the outreach of macroprudential policy provides companies with choices to access loans from the banking sector and non-bank financial services providers at the same time. Hence, when the banking sector's access is tightened, the access is switched to other financial providers, including foreign sectors (Dumičić, 2018). The nature of the corporate sector's risk-taking behavior enables them to access loans from various sources from domestic and foreign banks, non-bank financial institutions, or shadow banking, resulting in less effective macroprudential policy to achieve financial system stability (Cerutti et al., 2015; Dumičić, 2018; Gebauer & Mazelis, 2019; Hodula & Ngo, 2021)

Another cause of the ineffectiveness was the more emphasis of the policy to target household sector credit rather than the credit to the corporate sector. For example, Cerutti et al. (2015) showed that although the credit in both sectors gets into the outreach of macroprudential policy, the policy approach to control credit growth in the household sector is more prevalent than the corporate sector. Similar evidence was demonstrated by De Schryder & Opitz (2021), in which a typical macroprudential policy tightening shock reduces bank credit and household credit, while the non-financial corporations and total credit, however, do not react significantly.

Different types of credit respond differently to the macroprudential policies, strengthening the conjecture that macroprudential policies in practice are leaking, resulting in the less effective policy to achieve financial system stability. Moreover, the leakages inherently characterize the policy in practice by imperfect regulation enforcement, whether due to shadow banking, regulatory arbitrage, or other regulation circumvention schemes (Bhargava et al., 2018).

While credit growth has been firmly accepted as an operational target of macroprudential policy and given the inherent leakages, many countries employ various policy instruments according to the prevailing conditions depending on the economy's financial cycle and economic resilience. As a result, while developed countries sufficiently adopt borrower-based instruments as standards such as loan to value (LTV) and debt to income ratio (DTI), emerging economies complement them with extra instruments. The complementary instruments include exchange rate-related policy to respond to exchange rate fluctuation sensitivity (Cerutti et al. 2015; Ahnert et al. 2021)). Another complementary feature is capital control policy to respond to systemic vulnerability due to low domestic interest rates and strong capital inflows, especially in economies with controlled exchange rates (Zhang & Zoli, 2016).

This paper aims to provide insights in twofold; first, investigating empirical evidence that there is less effective policy due to cross-sectoral dimensions between household sector loans and non-financial corporate loans. As mentioned earlier, the nature of the risk-taking behavior of the corporate loan causes the outreach of macroprudential policy to be less potent on corporate loans than household loans. Second, while existing empirical literature did not emphasize the different nature of economic resilience and prevailing financial cycle in diverse policy outcomes between developed and developing economies, this paper verifies that economic resilience and prevailing financial cycle result in diverse policy outcomes between developed and developed and developing economies.

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METHODS

For the empirical investigation, we employ the General Method of Moments Difference *(GMM-Diff)* method for the dynamic panel data across 38 countries for ten years of observation, from 2007 to 2016. The policy measure involves credit-related instruments and capital-related instruments sourced from Integrated Macroprudential Policy *(iMaPP)* (Alam et al., 2019). The Credit-related mechanisms involve Loan-to-value *(LTV)* limit, Debt-service-to-income *(DSTI)* limit, Loan loss provisions *(LLP)*, and Loan Restrictions *(LoanR)*. The Capital Requirement *(CR)* limit represents the capital-related instruments. In addition, we deploy economic growth and interest rate for the macroeconomic predictors to the credit growth of household sector loans and non-financial corporate loan. The empirical model is as follows:

$$CG_{it} = a_0 + \beta_1 CG_{it-1} - a_1 CMP_{it} - a_2 KMP_{it} + a_3 EG_{it} + a_4 IR_{it} + u_{it} \qquad (1)$$

where *CG* denotes credit growth, *CMP* and *KMP* denote credit-related and capital-related policies, respectively; *EG* denotes economic growth, and *IR* is the interest rate. Finally, the empirical model equation (1) is deployed to separately estimate household loans growth and non-financial corporate credit growth against explanatory variables.

We deploy the Arellano-Bond test to cope with autocorrelation issues for the GMM estimate. It is worth mentioning that these estimators are consistent if there is no second-order serial correlation for the idiosyncratic errors of the first-differenced equation (Baltagi, 2005). Furthermore, the issue of the over-identifying restriction is tested using Sargan and Hansen test to ensure that the instruments correlate with endogeneous regressors and, at the same time, are orthogonal to the error term (Baltagi, 2005).

RESULT AND DISCUSSIONS

The Arellano-Bond for AR (1) and AR (2) indicates that the coefficients are not statistically different from zero with (α = 5%) indicating that there was no autocorrelation problem. The Sargan and the Hansen test results show that the coefficients are not statistically different from zero (α = 5%). With full sample observation, the Hansen test for non-financial corporate credit growth indicates that the coefficient is statistically different from zero (α = 5%). This is nothing to worry about because, in a two-step estimation, the value from Sargan is sufficient to ensure the instrument's validity (See Roodman, 2009).

Table 1. Specification Test

Specification Test		Household Credit Growth			Non-financial Corporate Credit Growth		
		All Countries	Developed Countries	Developing Countries	All Countries	Developed Countries	Developing Countries
Serial correlation	AR (1)	0.022	0.001	0.071	0.053	0.009	0.231
	AR (2)	0.273	0.183	0.351	0.354	0.311	0.295
Sargan test	*chi-squared*	0.244	0.286	0.996	0.101	0.818	0.843
Hansen test	*chi-squared*	0.257	0.296	0.973	0.032	0.524	0.567

Table 2 shows estimation results for household credit growth. The results indicate that tightening credit-related macroprudential instruments by one point will reduce household credit growth by 12.77% for the entire observation. However, when the sample was split into developed and developing countries, the results indicate that tightening credit-related macroprudential instruments in developing countries is stronger than that in developed countries. As a result, contraction one-point credit-related macroprudential instruments will reduce 12.11% household credit growth in developing countries and 3.83% in developed countries.

Table 2. Difference GMM Estimator Result on the Household Credit Growth Model

Variables	Dependent Variable: Household Credit Growth		
	All Countries	Developed Countries	Developing Countries
Credit Growth			
Household Credit (t-1)	0.5775378*	0.1404395	0.2869947
	(0.2513077)	(0.0867568)	(0.2981133)
Macroprudential Policy			
Credit-related Instrument	-12.77488*	-3.832094*	-12.1131*
	(5.935017)	(1.803127)	(6.734246)
Capital-related Instrument	-51.49703*	2.876703	-19.80134***
	(25.43906)	(3.610149)	(7.253431)
Macroeconomic Variebles			
Economic Growth	-1.093638*	-1.91815***	-1.512709
	(0.5672463)	(0.5029341)	(2.453654)
Interest Rate	-4.925922*	-3.19901***	-20.66754***
	(2.213365)	(0.9768783)	(4.707909)
Wald-stat	16.99***	35.40***	49.23***
Observations	304	208	96
Observations per group	8	8	8
Instruments	16	8	8
Groups/countries	38	26	12

Notes: (i) respectively, the signs ***, ** and * describe the significance level at 1%, 5% and 10%; (ii) standard errors are in parentheses; (iii) estimation result of two-step difference GMM

Similar to the effect of credit-related instruments on credit household growth, capital-related instruments have the same direction effect for full sample. Contraction capital-related instruments by one point reduces household credit growth by 51.49% for full observation. Similar to credit-related tools, the impact of capital-related policy tools on household credit growth in developing countries is vigorous, with a coefficient of -19.80, which means that tightening the capital-related instruments by one point, reduces household credit growth by -19.80%. On the contrary, contracting capital-related policy tools intensifies household credit growth in developed countries. The opposite effect of capital-related policy tools in developed countries is not surprising

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since developed countries tend to use macroprudential instruments related to credit, especially housing loan-related tools such LTV and DSTI. Therefore, the capital-related tools appear irrelevant. Even instead of withholding the credit growth, tightening capital-related policy tools will have a credit-escalating effect as a response to cyclical response policy behavior (See Akinci & Olmstead-Rumsey, 2018).

Table 3 shows the estimation results for non-financial corporate credit growth in response to the macroprudential policy. The results indicate that both credit-related and capital-related policy tools have no significant effect on the credit growth of non-financial companies for the entire observation. These findings catch the eye of interest in terms that while credit and capital-related policy tools appear to influence household credit growth effectively, both policy tools fail to control non-financial corporate credit growth. The nature of corporate risk-taking behavior allows them to maintain their risk appetite even when the policy is tightened. Moreover, access to various financial sources, including the international market, gives them extensive alternative financial sources other than banks' credit (Dumičić, 2018). Due to the tightened macroprudential policy in developing countries, higher domestic interest rates will induce a higher interest rate differential. Hence, international loans are more attractive than costly domestic credit. Therefore, the tightened macroprudential policy will generate capital inflows in open economies. As a result, tightened macroprudential policy is not responded to by the corporate credit growth.

Table 3. Difference GMM estimator result on Non-financial companies credit growth model

Variables	Dependent variable: Non-financial companies Credit Growth		
	All Countries	**Developed Countries**	**Developing Countries**
Credit Growth			
Corporates Credit (t-1)	0.3933481	-0.2103845	0.572521
	(0.2672726)	(0.3179125)	(0.5601161)
Macroprudential Policy			
Credit-relatedInstrument	-9.086119	-2.385529	-5.231412
	(6.906179)	(17.64847)	(10.02006)
Capital-related Instrument	-16.19439	-38.06551*	-14.31706
	(20.60767)	(21.99496)	(12.21551)
Economic Growth	-0.2354812	-1.374152*	-1.577132
	(0.4593345)	(0.5378151)	(2.310256)
Interest Rate	-1.754092	-0.5865443	-6.269625*
	(1.213816)	(1.92258)	(3.70663)
Wald-stat	16.90***	26.63***	43.52***
Observations	304	208	96
Observations per group	8	8	8
Instruments	16	9	8
Groups/countries	38	26	12

Notes: (i) respectively, the signs ***, ** and * describe the significance level at 1%, 5% and 10%; (ii) standard errors are in parentheses; (iii) estimation result of two-step difference GMM.

However, splitting the observation into developed and developing countries reveals that capital-related policy instruments in developed countries appear to be statistically significant in withholding non-financial corporate credit growth. While capital-related policy fails to control household credit growth in developed countries effectively, the tools impact non-financial credit growth. Unlike developing emerging economies, capital requirements

We deploy economic growth and money market interest rates as control variables in the model. Economic growth is a proxy for fundamental determinants of credit growth, and interest rate represents credit prices. Remarkably, the results show that the coefficient of the economic growth variable is negative for household credit and non-financial corporate credit growth. While the results do not correspond to the typical positive relationship between credit growth and economic growth, this has augmented the creditless recovery hypothesis. After the crisis marked by a credit boom, economic growth and bank credit expansion experienced an anomaly relationship or even decoupled (Takáts & Upper, 2013).

More profoundly, the phenomenon of creditless recoveries is explained through Abiad et al. (2011), in which economic growth without credit growth is prevalent in a situation after a crisis. In this situation, credit recovery is preceded by the disruption of credit supply, such as banking crises, credit booms, and real estate boom-bust cycles. Therefore, credit recovery results in lower output growth, and investment has a disproportionately lower contribution to output growth than average recovery.

Money market interest rates as a whole had an impact on the decline in credit growth for households and non-financial companies in all countries, both in developed and developing countries. However, interest rates appear to have a minor impact compared to macroprudential policies in controlling credit growth. In this case, it can be said that macroprudential policy is more robust than monetary policy (Cerutti et al., 2015). In controlling the growth of household credit, it can be seen that the interest rates on financial markets in both developed and developing countries have a statistically significant effect on the decline in household credit. However, things are different in the effect of interest rates on the credit growth of non-financial companies. For example, a 1% increase in interest rates will reduce credit growth for non-financial companies by 6.26%. In contrast, the estimated interest rates in developed countries will have no effect on credit growth for non-financial companies. This is again explained by Cerutti et al. (2015) that this may occur because developed countries have more sophisticated financial systems to offer other alternatives as funding sources to replace bank credit.

CONCLUSION

The paper has shown a different response to the macroprudential policy regarding household credit and non-financial corporate credit growth. While household credit growth is sensitive to the policy, non-financial corporate credit growth is not. This finding has opened the eye to the suspicion that although the macroprudential policy

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is critical to control financial stability via credit channels, the outreach has not been comprehensive, leading to policy leakage. This finding should concern the Central Bank because of the policy effectiveness anxieties in achieving the financial system stability goal. This policy leak results from the nature of corporate risk-taking behavior in response to tightening policy.

Moreover, open access to finance, including international finance, allows corporate to switch from domestic finance to international finance when domestic credit policy is tightened. There needs to be a balance that countries worried about capital leakage should accompany macroprudential policy with capital control policies. Lastly, the clear regulatory boundary and its impact on aggregate welfare are required to deal with partial shift risk from the regulated sector to the unregulated one, particularly in the dualistic financial industry countries.

REFERENCES

Abiad, A., Ariccia, G. D., & Li, B. (2011). Creditless Recoveries. *IMF Working Paper No. 58*.

Ahnert, T., Forbes, K., Friedrich, C., & Reinhardt, D. (2021). Macroprudential FX Regulations: Shifting the Snowbanks of FX Vulnerability? *Journal of Financial Economics*, *140*(1), 145–174. https://doi.org/10.1016/j.jfineco.2020.10.005.

Akinci, O., & Olmstead-Rumsey, J. (2018). How Effective are Macroprudential Policies? An Empirical Investigation. *Journal of Financial Intermediation*, *33*, 33-57. https://doi.org/10.1016/j.jfi.2017.04.001.

Alam, Z., Alter, A., Eiseman, J., Gelos, G., Kang, H., Narita, M., Nier, E., & Wang, N. (2019). Digging Deeper — Evidence on the Effects of Macroprudential Policies from a New Database. *IMF Working Paper No. 19/66.*

Baltagi, B. H. (2005). *Econometric Analysis of Panel Data* (3rd ed.). John Wiley & Sons, Ltd. New Jersey.

Bank for International Settlements. (2010). Macroprudential Instruments and Frameworks: a Stocktaking of Issues and Experiences. *Committee on the Global Financial System CGFS Papers No. 38.*

Bank Indonesia. (2016). *Mengupas Kebijakan Makroprudensial*. Bank Indonesia. Jakarta.

Baum, C. F., Schaffer, M. E., & Stillman, S. (2003). Software Updates: Instrumental Variables and GMM: Estimation and Testing. *Stata Journal*, *3*(1), 1-31.

Bhargava, A., Górnicka, L., & Xie, P. (2018). Leakages from Macroprudential Regulations: The Case of Household-Specific Tools and Corporate Credit. *IMF Working Paper No. 754*.

Cerutti, E., Claessens, S., & Laeven, L. (2015). The Use and Effectiveness of Macroprudential Policies: New Evidence. *IMF Working Paper No.* 15/61.

Constancio, V. (2012). Contagion and the European Debt Crisis. *Financial Stability Review*, *16*, 109–121. Retrieved from: https://publications.banque-france.fr/sites/default/ files/medias/documents/financial-stability-review-16_2012-04.pdf.

De Schryder, S., & Opitz, F. (2021). Macroprudential Policy and Its Impact on the Credit Cycle. *Journal of Financial Stability*, *53*, 100818. https://doi.org/10.1016/j.jfs.2020.100818.

Dumičić, M. (2018). Effectiveness of Macroprudential Policies in Central and Eastern European Countries. *Public Sector Economic*, *42*(1), 1–19. https://doi.org/10.3326/pse.42.1.1.

Fendoglu, S. (2017). Credit Cycles and Capital Flows: Effectiveness of the Macroprudential Policy Framework in Emerging Market Economies. *Journal of Banking & Finance, 79,* 110-128. https://doi.org/10.1016/j.jbankfin.2017.03.008.

Gebauer, S., & Mazelis, F. (2019). Macroprudential Regulation and Leakage to the Shadow Banking Sector. *DIW Berlin Discussion Paper No. 1814.*

Hodula, M., & Ngo, N. A. (2021). Does Macroprudential Policy Leak ? Evidence from Non-Bank Credit Intermediation in EU Countries. *Czech National Bank Working Paper No. 5/2021*.

International Monetary Fund. (2009). *Guidance to Assess the Systemic Importance of Financial Institutions, Markets, and Instruments : Initial Considerations Report to the G-20 Finance Ministers and Central Bank Governors*. Retrieved from: https://www.imf.org/external/np/g20/pdf/100109.pdf.

International Monetary Fund. (2013). The Interaction of Monetary and Macroprudential Policies. *IMF Policy Papers*, 1–25.

Lee, M., Asuncion, R. C., & Kim, J. (2016). Effectiveness of Macroprudential Policies in Developing Asia: An Empirical Analysis. *ADB Economics Working Paper Series No. 157507-2.*

Roodman, D. (2009). How to Do Xtabond2: An Introduction to Difference and System GMM in Stata. *Stata Journal: Promoting Communications on Statistics and Stata*, *9*(1), 86–136. https://doi.org/10.1177/1536867x0900900106.

Smaga, P. (2014). The Concept of Systemic Risk. *Systemic Risk Centre's Special Paper Series*, *5*, 1–26. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2477928.

Takáts, E., & Upper, C. (2013). Credit and Growth After Financial Crises. *BIS Working Paper No. 416.*

Utari, G. A. D., Arimurti, T., & Kurniati, I. N. (2012). Prosiklikalitas Sektor Perbankan dan Faktor-Faktor yang Mempengaruhi. *Jurnal BPPK*, *5*, 1–14.

Vinals, J. (2011). Macroprudential Policy: an Organizing Framework. *IMF Policy Paper Vol. 2011(18).* https:doi.org/10.5089/9781498339179.007.

Warjiyo, P., & Juhro, S. M. (2016). *Kebijakan Bank Sentral: Teori dan Praktik*. Rajagrafindo Persada. Jakarta.

Zhang, L., & Zoli, E. (2016). Leaning Against the Wind : Macroprudential Policy in Asia. *Journal of Asian Economics*, *42*, 33–52. https://doi.org/10.1016/j.asieco.2015.11.001.

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The Nexus among Agriculture Sector Development and Environmental Degradation in Emerging Economies

Buket Altınöz

Nisantasi University, Turkey
E-mail: buket.altinoz@nisantasi.edu.tr

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Abstract
This paper aims to determine the effect of agriculture sector development on CO2 emissions in 10 big emerging market economies. This relationship is tested for the first time for emerging economies by using the panel quantile regression approach. The results suggest that agricultural value-added mitigate emissions in lower, middle-lower, and upper quantile levels. This result implies that the agricultural sector is an effective policy tool in reducing pollution in these countries. Economic growth and natural resources rent have a positive impact on pollution. Financial development only has an emission-reducing effect at the middle-upper quantile level, while globalization has a negative impact on CO2 emissions both in the middle-upper and upper quantiles. These results justify the consideration of heterogeneous effects and allow clear policy implications. Moreover, the critical importance of agricultural policies for environmental quality in these countries is emphasized with concrete evidence.

Keywords:
agriculture, CO_2 emissions, emerging economies, panel quantile approach.

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INTRODUCTION

Today, climate change is one of the most critical environmental, social and economic problems globally. Increased carbon dioxide (CO2) emissions are the primary cause of climate change, and the relationship between CO2 emissions and various economic indicators is widely discussed in the related literature. Although the previous studies mainly focus on the EKC hypothesis, the impact of different indicators on climate change has been handled in many studies over time (Soytas et al., 2007; Jalil & Mahmud, 2009; Esteve & Tamarit, 2012; Tiwari et al., 2013; Alper & Onur, 2016; Jebli et al., 2016; Dogan et al., 2017; Yao et al., 2019; Pata & Aydın, 2020). These are categorized as environmental indicators such as energy (Farhani & Shahbaz, 2014; Gorus & Aslan, 2019; Ardakani & Seyedaliakbar, 2019), natural resources (Balsalobre-Lorente et al., 2018; Danish et al., 2019), economic indicators such as financial development (Shahbaz et al., 2016; Pata, 2018; Nasir et al., 2019), agriculture sector development (Balsalobre-Lorente et al., 2018; Wang et al., 2020), and globalization (You & Lv, 2018; Acheampong et al., 2019; Liu et al., 2020).

Essentially, the EKC hypothesis is based on the view that emissions are rapidly increasing because of a shift from agricultural production to industrial production in an economy with two-sector that has entered a rapid growth process (Cherniwchan, 2012). From a historical perspective, it is known that industrialization processes occur depending on fossil fuel consumption (Gokmenoglu & Taspinar, 2018). It is widely accepted that industrialization has a more significant negative impact on environmental quality in developing countries than in developed countries (Nasrollahi et al., 2020). Nevertheless, the agricultural sector still maintains its importance in economic growth by contributing to an increase in the total factor productivity (Gokmenoglu & Taspinar, 2018). While the agricultural sector contributes directly or indirectly to economic growth, this sector triggers environmental degradation due to intensive energy consumption and land and water use. However, it is still considered how the reducing-effect of CO2 emissions compared to the other sectors, such as the manufacturing and transport sectors (Dogan, 2016; Wang et al., 2020). Besides the theoretical views, there is no consensus on the impact of the agricultural sector on CO2 emissions in the empirical literature. For example, while the Dogan (2016), Mahmood et al. (2019), and Wang et al. (2020) argue that the agriculture sector reduces pollution, Duxbury et al. (1993), Gokmenoglu & Taspinar (2018), Ullah et al. (2018), and Balsalobre-Lorente et al. (2019) achieved the opposite results. According to the OECD (2019) Green Growth Report, emerging market economies have achieved a growth rate that eliminated poverty in the last decade but inevitably caused environmental destruction. It is also envisaged that the environmental destruction is mitigated by measures to improve the agricultural sector in the same report. On the other hand, like the results obtained by Balsalobre-Lorente et al. (2019), the agricultural sector is likely to be an emitter for emerging countries. Therefore, the focus of this study is to reveal the relationship between the agriculture sector development and air pollution in emerging market economies.

Another focus of the study is the consideration of financial development, natural resource rents, and globalization, which are discussed in the current literature regarding their relationship with climate change. Especially in the last two decades, emerging market economies have experienced a significant growth performance, contributing significantly

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to global production and consumption (IMF, 2017). While it is claimed that the most important driving force behind this rapid economic growth is financial development, an inevitable increase in energy demand is expected due to this interaction (Sadorsky, 2010). However, there is no consensus on the studies on the impact of financial development on CO2 emissions. Financial development can be sued to tackle the reduction of CO2 emissions by expanding financing opportunities through banks, and in this case, a positive impact of financial development on environmental quality emerges (Tamazian et al., 2009; Shahbaz et al., 2013a; 2013b; Salahuddin et al., 2015).

On the other hand, financial development can accelerate manufacturing activities and cause an increase in emissions (Al-Mulali & Lee, 2013; Charfeddine & Ben Khediri, 2016; Shahzad et al., 2017). In addition, the impact of the rapid integration of economies with each other because of globalization on environmental performance is another controversial issue. The literature on the impact of globalization on emissions is relatively limited (Liu et al., 2020; Wang et al., 2020). On the other hand, it focuses on trade openness to represent globalization (Shahbaz et al., 2017a; Acheampong et al., 2019; Kim et al., 2019). In this study, it is taken into consideration that the increase in the degree of openness caused by the countries' economic globalization caused the deterioration of the environmental quality (Wang et al., 2020). In addition to all, considering the share of financial development and globalization in economic growth in emerging countries, economic growth and its main dynamics harm environmental quality by increasing natural resource consumption (Danish et al., 2019). Especially the economic growth of resource-rich countries is associated with natural resource extraction that causes environmental degradation (Badeeb et al., 2020).

Although it is possible to come across studies dealing with the relationship between the agriculture sector, growth, financial development, natural resources, globalization, and environmental pollution in the literature, the absence of a study that determines the effects of each variable on emissions in a model creates a gap in the relevant literature. Therefore, the primary priority of the study is to fill this gap. Accordingly, considering the importance of each of these variables for environmental quality and the agricultural sector development in emerging market economies is the novelty of the study. This initiative may be considered a necessity to focus on emerging market economies.

In the light of the explanations mentioned above, this study aims to make various contributions to the literature. First, this paper is the first attempt to investigate the relationship between agriculture sector development and carbon emissions in 10 big emerging market economies. Thus, this study gives an idea about whether these countries, which have undergone rapid industrialization, can gain an advantage in sustainable growth with the development of agriculture. Second, the variables whose impacts on CO2 emissions have been widely discussed recently are considered. This research also considers the importance of emerging markets, besides the freshness of the variables in the related literature. Therefore, while evaluating the agricultural sector development results, the effects of GDP, financial development, natural resources, and globalization on emissions are not neglected, and policy recommendations are discussed in more detail. Third, this paper contributes to the literature methodologically by adopting the panel quantile regression approach. This method is robust to outliers and skewed distributions while it provides the estimation in case of slope heterogeneity.

The rest of the study is structured as follows: Section 2 includes data descriptions, model specifications, and methodological explanations. Section 3 provides empirical results, and the last section is the conclusion.

METHODS

This paper aims to explain the determinants of CO2 emissions by focusing on agriculture sector development in 10 big emerging market economies (Argentina, Brazil, China, India, Indonesia, Mexico, Poland, South Africa, South Korea, and Turkey). For this purpose, the model is constructed by including the widely used variables in recent studies. The following model is developed by Balsalobre-Lorente et al. (2019) and Wang et al. (2020).

$$CO2_{it} = \alpha_0 + \beta_1 AGRI_{it} + \beta_2 GDP_{it} + \beta_3 FIN_{it} + \beta_4 NR_{it} + \beta_5 GLOB_{it} + \varepsilon_{it} \quad (1)$$

Where i and t denotes cross section (10 countries) and the time series (1990-2014), respectively. Each β indicates the slope coefficient of the explanatory variables and ε_{it} implies error correction term. *CO2* stands for CO_2 emissions metric tons per capita; *AGRI* denotes agriculture value added (% of GDP); *GDP* is gross domestic product per capita (constant 2010 US$); *FIN* is used as proxy for financial development and represents the domestic credit to private sector (% of GDP); *NR* denotes total natural resource rents (% of GDP), and finally *GLOB* is economic globalization index. While the economic globalization index is obtained from KOF Swiss Economic Institute, all other variables are provided from the World Development Indicators. The variables are included logarithmically in model.

The stationary of the series is tested in the first stage of the analysis. It is adopted the unit root test developed by Pesaran (2007). The basic equation for this test is as follows:

$$CIPS(N,T) = N^{-1} \sum_{i=1}^{N} (N,T) \quad (2)$$

The null hypothesis of the test expresses the existence of the unit root. This test is effective in the presence of both slope heterogeneity and cross-sectional dependence. After the stationarity test, panel quantile regression method is used to examine the effect of agriculture sector development, financial development, economic growth, natural resources rents and globalization to CO_2 emissions.

Panel quantile regression approach robust to outliers and skewed distributions, facilities the estimation of slope effects at various percentage points, and allows unobserved heterogeneity. Unlike standard OLS estimators, this method presents a more complete picture of conditional distribution. The panel linear regression Eq. (1) is formulated in matrix notation and quantile regression form as follows:

$$y_{it} = \alpha_i + \beta(q) x'_{it} + u_{it} \quad (3)$$

where i and t stand for the number of countries (10 big emerging countries) and time dimension (1990-2014), respectively. Also, y is dependent variable, x denotes all independent variables, and q implies all quantiles of the conditional distribution. Koenker (2004) estimates the Eq. (1) by solving the minimization problem:

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$$min_{\alpha\beta} \sum_{k=1}^{K} \sum_{t=1}^{T} \sum_{i=1}^{N} w_k \rho_{qk} (y_{it} - \alpha_i - \beta(q_k) x_{it}^{'}) \quad (4)$$

where ρ_{qk}= u(q – I(u<0)) is the piecewise linear quantile loss function provided by Koenker and Bassett (1978). The weights w_k control the relative influence of the τ quantiles (q_1, …, q_τ) on the estimation of the α_i parameters. One of the advantages of this approach is the introduction of a penalty term in minimization to address the computational problem of estimating a mass of parameters specifically (Albulescu et al., 2019). This method, called penalized quantile regression, takes the following form (Koenker, 2004):

$$min_{\alpha\beta} \sum_{k=1}^{K} \sum_{t=1}^{T} \sum_{i=1}^{N} w_k \rho_{qk} (y_{it} - \alpha_i - \beta(q_k) x_{it}') + \lambda P(\alpha) \quad (5)$$

Where $p(\alpha) = \sum_{i=1}^{N} |\alpha_i|$ is the penalty considered. Also, i denotes each country, T is the index for number of observations per countries, K implies quantiles, x stands for the matrix of explanatory variables, ρ_{qk} is the quantile loss function.

RESULT AND DISCUSSIONS

This study analyzes agriculture sector development, economic growth, financial development, natural resources, and globalization on CO2 emissions. For this purpose, a panel dataset was collected for ten big emerging market economies covering the 1990-2014 data period. Table 1 presents the summary statistics of all variables. As seen in Table 1, the skewness results are different from 0 for all variables except the AGRI, indicating that variables are asymmetric. Also, the data have fatter tails because most positive kurtosis values are higher than 3. Jarque-Bera results, which give information about the normal distribution, show that all series depart from normal distribution except the FIN. In the light of the results obtained from the series, it can be mentioned that there is heterogeneity, and thus the use of the quantile regression method is appropriate.

Table 1. Descriptive Statistics

Variable	Mean	Median	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Obs.
CO2	0.559	0.589	0.327	-0.292	2.009	0.001	250
AGRI	0.819	0.777	0.337	0.016	2.145	0.000	250
GDP	3.744	3.889	0.385	-0.968	3.010	0.022	250
FIN	1.601	1.557	0.349	-0.117	3.325	0.433	250
NR	0.211	0.442	0.727	-1.495	4.456	0.000	250
GLOB	1.623	1.651	0.122	-1.032	4.227	0.000	250

The CIPS panel unit root test, which considers heterogeneity, is applied in this study. This approach has tested the hypothesis that expresses the existence of unit root. Results are illustrated in Table 2. The unit root test for the series is calculated for all deterministic components for the robustness of the results. The results prove that all series are I(1). However, it is understood that the CO2 in the model with intercept, GDP and NR in the model with trend and intercept, and AGRI in the model without trend and intercept are I(0).

Table 2. Unit root test results

Variable	Intercept		Trend and Intercept		None	
	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.
CO2	-2.309*	-5.100***	-2.057	-5.177***	-0.806	-5.085***
AGRI	-2.020	-5.825***	-2.086	-5.925***	-1.649*	-5.792***
GDP	-1.890	-4.943***	-2.775*	-5.518***	-1.337	-5.332***
FIN	-0.665	-4.990***	-1.634	-5.129***	-0.827	-5.067***
NR	-2.005	-5.573***	-3.025**	-5.701***	-0.295	-5.567***
GLOB	-2.122	-5.207***	-2.399	-5.128***	-1.286	-5.236***

*, ** and *** denotes 10%, 5% and 1% statistically significance level, respectively.

Table 3 includes the OLS results with fixed effects and the quantile regression results. Random effects estimation results suggest that agriculture value-added has a negative impact on CO2 emissions. However, economic growth causes environmental degradation. Other explanatory variables have a statistically insignificant effect on pollution. OLS approaches are not robust as they only give estimates regarding the conditional mean. Therefore, the main focus of the study is panel quantile regression results in five quantiles (0.10, 0.25, 0.50, 0.75, 0.90). These quantiles are categorized as lower quantile (0.10), middle-lower quantile (0.25), middle quantile (0.50), middle-upper quantile (0.75), and upper quantile (0.90). Therefore, the heterogeneous effects of all explanatory variables on pollution are clearly presented. First, while the agricultural sector development is negative at all quantile levels, it is observed that the coefficient of this variable is statistically significant at lower, middle-lower, and upper quantile levels. This result is like Balsalobre-Lorente et al. (2019), Dogan (2016), and Mahmood et al. (2019), but is the opposite of Ullah et al. (2018), Gokmenoglu & Taspinar (2018), Dogan (2019), and Wang et al. (2020). Second, an increase in GDP per capita, which is used as an indicator of economic growth, causes pollution in all quantiles up to the upper quantile level (As seen in Shahbaz et al., 2013a). However, this positive effect decreases as the quantile level increases. Third, financial development only has an emission-reducing effect in the middle-upper quantile level (As seen in Shahbaz et al., 2013a; 2013b), while globalization has a negative impact on CO2 emissions both in the middle-upper and upper quantiles (As seen in Shahbaz et al., 2017b; Zaidi et al., 2019). Finally, the natural resource rents' coefficients are positive and statistically significant in all quantiles. This finding is in line with Hassan et al. (2018), Khan et al. (2020), and Balsalobre-Lorente et al. (2018).

First, the results confirmed that these countries would successfully combat climate change by providing added value to agriculture. This result is observed, especially for countries where carbon emissions are relatively lower (0.10 and 0.25 quantiles) or relatively upper (0.90 quantiles). Therefore, while climate change is a disadvantage for the agricultural sector, the steps to create agricultural value-added are a remedy for this negative impact. However, contrary to the expectations, it is interesting that economic globalization contributes to environmental quality in these countries. Accordingly, the existence of economic globalization compels countries to follow international environmental developments.

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Table 3. Panel quantile regression results (dep. var.: CO2)

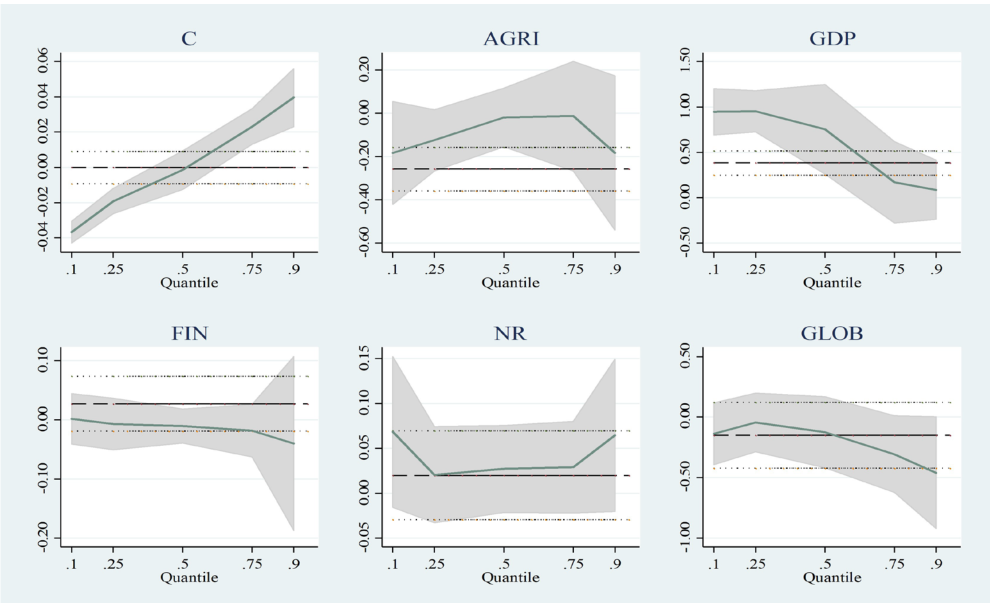
	OLS	QUANTILE REGRESSION				
Variable	**Random Effects**	**0.10**	**0.25**	**0.50**	**0.75**	**0.90**
AGRI	-0.257***	-0.183***	-0.123***	-0.018	-0.012	-0.182***
GDP	0.384***	0.947***	0.953***	0.755***	0.171***	0.087
FIN	0.027	0.001	-0.006	-0.010	-0.018*	-0.039
NR	0.020	0.068***	0.020*	0.027*	0.028***	0.064**
GLOB	-0.152	-0.140	-0.044	-0.125	-0.307***	-0.461***
CONS.	-0.000	-0.036***	-0.019***	-0.001	0.023***	0.039***

*, ** and *** denotes 10%, 5% and 1% statistically significance level, respectively.

Contrary to these results, economic growth and natural resource rents cause pollution at all quantile levels. Thus, it is confirmed that the ten big emerging countries that experienced rapid economic growth during the period under consideration inevitably faced pollution costs. In addition, although the resource rents are an essential revenue source for these countries, the environmental damage caused by the extraction of natural resources is felt more intensely. Finally, the results from financial development evoke a negative effect, albeit slightly. Therefore, it would be more appropriate for these countries to concentrate on other variables.

It is presented the changes in panel quantile regression coefficients in Figure 1. The x-axis implies the conditional quantiles of CO2 emission, and the y-axis expresses the coefficient values of the explanatory variables. The shaded areas denote the 95% confidence intervals of the estimations. This figure is an intuitive presentation of the changes in the coefficients of the explanatory variables whose effects are tested. The trends of these coefficients confirm the results obtained from the quantile regression.

Figure 1. Trends of Quantile Regression Estimates



CONCLUSION

This paper analyzes the nexus among CO2 emissions, agriculture sector development, financial development, economic growth, natural resources, and globalization in the top 10 emerging market economies using a panel quantile regression approach. Empirical results indicate that agriculture value-added has a negative impact on CO2 emissions in lower quantile, middle-lower quantile, and upper quantile levels. GDP and natural resources rents have a positive impact on pollution. Although this effect of natural resources rents increases gradually, it is very slight. Globalization contributes to environmental quality in middle-upper and upper quantiles. Finally, financial development has a negative impact on emissions in only the middle-upper quantile level. This study, which focuses on the function of the agriculture sector in combating climate change, also leads to important policy implications because of the explanatory variables selected by considering the structural features of these emerging countries with different levels of CO2 emissions.

Countries with lower, middle-lower and upper pollution levels should prioritize agriculture sector development and ensure this development by considering environmental quality as far as possible. The increase in agricultural value-added, which is considered the agriculture sector development, is inevitably linked to technological developments. Therefore, producing value-added in the agriculture sector is intertwined with technology, also called digital agriculture. Digital agriculture contributes to agricultural development mainly by providing fast and reliable results in efficient fertilization (according to the climate, soil structure, and agricultural product planned to be produced) and soil analysis. In this way, products with high value-added can be produced without risk. These countries can contribute to agricultural value-added and environmental quality through digitalization in agriculture. Therefore, technology support for the agricultural producer and the R&D investments and incentives of governments in this field is an essential tools. It is also beneficial for the agricultural producer to use technology and to be regularly directed towards the correct production and management techniques. However, all these digital trends should be realized by considering the environmental quality because modern production techniques are likely to impair air quality. Green transformation of agricultural technologies that require fuel should be ensured to prevent pollution. At the same time, carbon emissions should be prevented by crop rotation. In other words, given the technology factor, instead of accepting the agriculture sector as an alternative to the manufacturing sector, they should complement each other to ensure environmental quality.

REFERENCES

Acheampong, A. O., Adams, S., & Boateng, E. (2019). Do Globalization and Renewable Energy Contribute to Carbon Emissions Mitigation in Sub-Saharan Africa?. *Science of the Total Environment, 677,* 436-446.

Albulescu, C. T., Tiwari, A. K., Yoon, S. M. & Kang, S. H. (2019). FDI, and Environmental Pollution in Latin America: Replication and Extension using Panel Quantiles Regression Analysis. *Energy Economics, 84*, 104504. https://doi.org/10.1016/j.eneco.2019.104504.

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v21i2.25073

Al-Mulali, U. & Lee, J. Y. M. (2013). Estimating the Impact of the Financial Development on Energy Consumption: Evidence from the GCC (Gulf Cooperation Council) Countries. *Energy, 60*, 215-221.

Alper, A, & Onur, G. (2016). Environmental Kuznets Curve Hypothesis for Sub-Elements of the Carbon Emissions in China. *Natural Hazards, 82*, 1327-1340. https://doi.org/10.1007/s11069-016-2246-8.

Ardakani, M. K. & Seyedaliakbar, S. M. (2019). Impact of Energy Consumption and Economic Growth on CO_2 Emission using Multivariate Regression. *Energy Strategy Reviews, 26*, 100428. https://doi.org/10.1016/j.esr.2019.100428.

Badeeb, R. A., Lean, H. H. & Shahbaz, M. (2020). Are Too Many Natural Resources to Blame for the Shape of the Environmental Kuznets Curve in Resource-based Economies? *Resources Policy, 68*, 101694. https://doi.org/10.1016/j.resourpol.2020.101694.

Balsalobre-Lorente, D., Driha, O. M., Bekun, F. V., & Osindina, O. A. (2019). Do Agriculture Activities Induce Carbon Emissions? The BRICS Experience. *Environmental Science and Pollution Research, 26*, 25218-25234.

Balsalobre-Lorente, D., Shahbaz, M., Roubaud, D. & Farhani, S. (2018). How Economic Growth, Renewable Electricity and Natural Resources Contribute to CO_2 Emissions? *Energy Policy, 113*, 356-367. https://doi.org/10.1016/j.enpol.2017.10.050.

Charfeddine, L. & Ben Khediri, K. (2016). Financial Development and Environmental Quality in UAE: Cointegration with Structural Breaks. *Renewable and Sustainable Review, 55*, 1322-1335. https://doi.org/10.1016/j.rser.2015.07.059.

Cherniwchan, J. (2012). Economic Growth, Industrialization, and the Environment. *Resource and Energy Economics, 34*(4), 442-467. https://doi.org/10.1016/j.reseneeco.2012.04.004.

Danish, Baloch, M. A., Mahmood, N. & Zhang, J. W. (2019). Effect of Natural Resources, Renewable Energy and Economic Development on CO_2 Emissions in BRICS Countries. *Science of The Total Environment, 678*, 632-638. https://doi.org/10.1016/j.scitotenv.2019.05.028.

Dogan, E. & Seker, F. (2016). Determinants of CO_2 Emissions in the European Union: The Role of Renewable and Non-renewable Energy. *Renewable Energy, 94*, 429-439.

Dogan, E., Seker, F. & Bulbul, S. (2017). Investigating the Impacts of Energy Consumption, Real GDP, Tourism and Trade on CO_2 Emissions by Accounting for Cross-sectional Dependence: A Panel Study of OECD Countries. *Current Issues in Tourism, 20*(16), 1701-1719. https://doi.org/10.1016/j.renene.2016.03.078.

Dogan, N. (2016). Agriculture and Environmental Kuznets Curves in the Case of Turkey: Evidence from the ARDL and Bounds Test. *Agricultural Economics, 62,* 566-574. https://doi.org/10.17221/112/2015-AGRICECON.

Dogan, N. (2019). The Impact of Agriculture on CO_2 Emissions in China. *Panoeconomicus, 66*(2), 257-271.

Duxbury, J. M., Harper, L. A. & Mosier, A. R. (1993). Contribution of Agro-Ecosystems to Global Climate Change. In. Harper, L. A. (Ed.), *Agriculture Ecosystem Effects on*

Trace Gases and Global Climate Change. ASA Special Publication No. 55. American Society of Agronomy, Madison, WI, 1-18.

Esteve, V. & Tamarit, C. (2012). Threshold Cointegration and Nonlinear Adjustment between CO_2 and Income: The Environmental Kuznets Curve in Spain, 1857-2007. *Energy Economics, 34*, 2148-2156. https://doi.org/10.1016/j.eneco.2012.03.001.

Farhani, S. & Shahbaz, M. (2014). What Role of Renewable and Non-renewable Electricity Consumption and Output is Needed to Initially Mitigate CO_2 Emissions in MENA Region? *Renewable and Sustainable Energy Reviews, 40*, 80-90. https://doi.org/10.1016/j.rser.2014.07.170.

Gokmenoglu, K. K. & Taspinar, N. (2018). Testing the Agriculture-induced EKC Hypothesis: The Case of Pakistan. *Environmental Science and Pollution Research, 25*, 1-13.

Gorus, M. S. & Aslan, M. (2019). Impacts of Economic Indicators on Environmental Degradation: Evidence from MENA Countries. *Renewable and Sustainable Energy Reviews, 103*, 259-268. https://doi.org/10.1016/j.rser.2018.12.042.

Hassan, S. T., Xia, E., Khan, N. H. & Shah, S. M. A. (2018). Economic Growth, Natural Resources, and Ecological Footprints: Evidence from Pakistan. *Environmental Science and Pollution Research, 26*, 2929-2938.

IMF. (2017). World Economic Outlook: Gaining Momentum?. Retrieved from: https://www.imf.org/~/media/Files/Publications/WEO/2017/April/pdf/c2.ashx.

Jalil, A. & Mahmud, S. F. (2009). Environmental Kuznets Curve for CO_2 Emissions: A Cointegration Analysis for China. *Energy policy, 37*(12), 5167-5172. https://doi.org/10.1016/j.enpol.2009.07.044.

Jebli, M. B., Youssef, S. B. & Ozturk, I. (2016). Testing Environmental Kuznets Curve Hypothesis: The Role of Renewable and Non-renewable Energy Consumption and Trade in OECD Countries. *Ecological Indicators, 60*, 824-831. https://doi.org/10.1016/j.ecolind.2015.08.031.

Khan, A., Chenggang, Y., Hussain, J., Bano, S. & Nawaz, A. (2020). Natural Resources, Tourism Development, and Energy-Growth-CO_2 Emission Nexus: A Simultaneity Modeling Analysis of BRI Countries. *Resources Policy, 68*, 101751.

Kim, D. H., Suen, Y. B. & Lin, S. C. (2019). Carbon Dioxide Emissions and Trade: Evidence from Disaggregate Trade Data. *Energy Economics, 78*, 13-28. https://doi.org/10.1016/j.eneco.2018.08.019.

Koenker, R. & Bassette, G. (1978). Regression Quantiles. *Econometrica*, *46*, 33-50. https://doi.org/10.2307/1913643.

Koenker, R. (2004). Quantile Regression for Longitudinal Data. *Journal of Multivariate Analysis, 91*, 74-89.

Liu, M., Ren, X., Cheng, C. & Wang, Z. (2020). The Role of Globalization in CO_2 Emissions: A Semi-Parametric Panel Data Analysis for G7. *Science of the Total Environment, 718*, 137379. https://doi.org/10.1016/j.scitoenv.2020.137379.

Mahmood, H., Alkhateeb, t. T. Y., Al-Qahtani, M. M. Z., Allam, Z., Nawaz, A. &

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v21i2.25073

Furqan, M. (2019). Agriculture Development and CO_2 Emissions Nexus in Saudi Arabia. *PloS One, 14*(12), e0225865. https://doi.org/10.1371/journal.pone.0225865.

Nasir, M. A., Huynh, T. l. D. & Tram, H. T. X. (2019). Role of Financial Development, Economic Growth & Foreign Direct Investment in Driving Climate Change: A Case of Emerging ASEAN. *Journal of Environmental Management, 242*, 131-141. https://doi.org/10.1016/j.jenvman.2019.03.112.

Nasrollahi, Z., Hashemi, M. S., Bameri, S. & Taghvaee, V. M. (2020). Environmental Pollution, Economic Growth, Population, Industrialization, and Technology in Weak and Strong Sustainability: Using STIRPAT Model. *Environment, Development and Sustainability, 22*, 1105-1122. https://doi.org/10.1007/s10668-018-0237-5.

OECD. (2019). Towards Green Growth in Emerging Market Economies Evidence from Environmental Performance Reviews. *OECD Green Growth Papers 2019-01*.

Pata, U. K. & Aydin, M. (2020). Testing the EKC Hypothesis for the Top Six Hydropower Energy-Consuming Countries: Evidence from Fourier Bootstrap ARDL Procedure. *Journal of Cleaner production, 264*, 121699.

Pata, U. K. (2018). Renewable energy consumption, urbanization, financial development, income and CO_2 emissions in Turkey: testing EKC hypothesis with structural breaks. Journal of Cleaner Production, 187, 770-779. https://doi.org/10.1016/j.clepro.2020. 121699.

Sadorsky, P. (2010). The Impact of Financial Development on Energy Consumption in Emerging Economies. *Energy Policy, 38*(5), 2528-2535. https://doi.org/10.1016/j. enpol.2009.12.048.

Salahuddin, M., Gow, J. & Ozturk, I. (2015). Is the Long-run Relationship between Economic Growth, Electricity Consumption, Carbon Dioxide Emissions and Financial Development in GULF Cooperation Council Countries Robust?. *Renewable and Sustainable Energy Review, 51*, 317-326. https://doi.org/10.1016/j.rser.2015.06.005.

Shahbaz, M., Khan, S., Ali, A. & Bhattacharya, M. (2017b). The Impact of Globalization on CO_2 Emissions in China. *The Singapore Economic Review, 62*(4), 929-957.

Shahbaz, M., Nasir, M. A., & Roubaud, D. (2018). Environmental Degradation in France: The Effects of FDI, Financial Development, and Energy Innovations. *Energy Economics, 74,* 843-857. https://doi.org/10.1016/j.eneco.2018.07.020.

Shahbaz, M., Nasreen, S., Ahmed, K. & Hammoudeh, S. (2017a). Trade Openness-carbon Emissions Nexus: The Importance of Turning Points of Trade Openness for Country Panels. *Energy Economics, 61*, 221-232. https://doi.org/10.1016/j.eneco. 2016.11.008.

Shahbaz, M., Shahzad, S. J. H., Ahmad, N. & Alam, S. (2016). Financial Development and Environmental Quality: The Way Forward. *Energy Policy, 98*, 353-364. https:// doi.org/10.1016/j.enpol.2016.09.002.

Shahbaz, M., Solarin, S. A., Mahmood, H. & Arouri, M. (2013a). Does Financial Development Reduce CO_2 Emissions in Malaysian Economy? A Time Series Analysis. *Economic Modelling, 35*, 145-152. https://doi.org/10.1016/j.econmod. 2013.06.037.

Shahbaz, M., Tiwari, A. K. & Nasir, M. (2013b). The Effects of Financial Development, Economic Growth, Coal Consumption and Trade Openness on CO_2 Emissions in South Africa. *Energy policy, 61*, 1452-1459. https://doi.org/10.1016/j.enpol.2013. 07.006.

Shahzad, S. J. H., Kumar, R. R., Zakaria, M. & Hurr, M. (2017b). Carbon Emission, Energy Consumption, Trade Openness and Financial Development in Pakistan: A Revisit. *Renewable and Sustainable Energy Review, 70*, 185-192. https://doi.org/10.1016/j.rser.2016.11.042.

Soytas, U., Sari, R. & Ewing, B. T. (2007). Energy Consumption, Income and Carbon Emissions in the United States. *Ecological Economics, 62*(3-4), 482-489. https://doi.org/10.1016/j.ecolecon.2006.07.009.

Tamazian, A., Chousa, J. & Vadlamanati, K. (2009). Does Higher Economic and Financial Development Lead to Environmental Degradation: Evidence from BRIC Countries?. *Energy Policy, 37*(1), 246-253. https://doi.org/10.1016/j.enpol.2008.08.025.

Tiwari, A. K., Shahbaz, M. & Hye, Q. M. A. (2013). The Environmental Kuznets Curve and the Role of Coal Consumption in India: Cointegration and Causality Analysis in an Open Economy. *Renewable and Sustainable Energy Reviews, 18*, 519-527. https://doi.org/10.1016/j.rser.2012.10.031.

Ullah, A., Khan, D., Khan, I. & Zheng, S. (2018). Does Agricultural Ecosystem Cause Environmental Pollution in Pakistan? Promise and Menace. *Environmental Science and Pollution Research, 25*(14), 13938-13955. https://doi.org/10.1007/s11356-018-1530-4.

Wang, L., Ving, X. V., Shahbaz, M. & Ak, A. (2020). Globalization and Carbon Emissions: Is There Any Role of Agriculture Value-added, Financial Development, and Natural Resource Rent in the Aftermath of COP21?. *Journal of Environmental Management, 268*, 110712. https://doi.org/10.1016/j.jenvman.2020.110712.

Yao, S., Zhang, S. & Zhang, X. (2019). Renewable Energy, Carbon Emissions and Economic Growth: A Revised Environmental Kuznets Curve Perspective. *Journal of Cleaner Production, 235*, 1338-1352. https://doi.org/10.1016/j.jclepro.2019.07.069.

You, W. & Lv, Z. (2018). Spillover Effects Economic Globalization on CO_2 Emissions: A Spatial Panel Approach. *Energy Economics, 73*, 248-257. https://doi.org/10.1016/j.eneco.2018.05.016.

Zaidi, S. A., H., Zafar, M. W., Shahbaz, M. & Hou, F. (2019). Dynamic Linkages between Globalization, Financial Development and Carbon Emissions: Evidence from Asia Pacific Economic Cooperation Countries. *Journal of Cleaner Production, 228*, 533-543. https://doi.org/10.1016/j.jclepro.2019.04.210.

https://journal.uinjkt.ac.id/index.php/etikonomi
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Bangladesh and SAARC Countries: Bilateral Trade and Flaring of Economic Cooperation

Md. Abu Issa Gazi[1*], Abdullah Al Masud[2], Razuan Ahmed Shuvro[3], Abu Ishaque Hossain[4], Muhammad Khalilur Rahman[5]

[1]School of Management, Jiujiang University, China
[2]Department of Management Studies, University of Barishal, Bangladesh
[3]Faculty of Business Administration, Zhejiang Gongshang University, China
[4]Department of Business Administration, International University of Scholars, Bangladesh
[5]Faculty of Entrepreneurship and Business, Universiti Malaysia Kelantan, Malaysia
E-mail: [1]maigazi@yahoo.com, dr.issa@jju.edu.cn, [2]masud_ru_bd@yahoo.com, [3]shuvro_ru@yahoo.com, [4]abuishaquehossain96@gmail.com, [5]khalilur.r@umk.edu.my

[*)]Corresponding Author

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Abstract

The primary purpose of this study is to observe the economic and international trade relationships between Bangladesh and SAARC countries during the Fiscal Years 2015-2016 to 2020-2021. This research uses panel data to examine the relationship between the nature and direction of exports and economic growth. The researcher found that economic cooperation with SAARC countries impacted economic growth, but there was insufficient export adaptation. The study also showed that economic relations have strengthened in recent epochs, and bilateral trade has increased compared to previous years with SAARC countries. The obtained results also showed that Bangladesh has suffered from a long-standing trade imbalance with India and is in a good position with Afghanistan, Sri Lanka, Bhutan, Maldives, Nepal, and Pakistan. Our findings are beneficial for international trade stakeholders and suggest that steps should be taken to increase exports to reduce the trade deficit. Concern authorities should be more aware of the expansion of trade facilitation and infrastructure development.

Keywords:

international trade, economic relations, export-import, trade deficit

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INTRODUCTION

In the age of globalization, all countries are interdependent. As regional economic and political interactions have gotten more entangled in globalization during the last two decades, there has been a developing tendency in regional economic and political relations. The mantra of increased regional cooperation is driving the global economy. More attention has been placed on trade in particular. For instance, the EU, APEC, and SAARC can all be referenced. SAARC was formed to enhance South Asian countries' cooperation, harmony, peace, security, economic development, and sociopolitical-cultural connections. In economic development, prosperity, and regional cooperation, Bangladesh has always been a faithful friend to its neighbors (Gazi, 2021). The South Asian Association for Regional Cooperation (SAARC) is an expression of the people of South Asia's determination to work together to solve their common problems in a spirit of friendship, trust, and understanding based on mutual benefits, mutual respect, justice, and the advantages of partnership. Since its inception, Bangladesh has been a member of the SAARC (South Asian Association for Regional Cooperation) (ITC by Country Report, 2021). In 1985, regional integration and cooperation effort in South Asia was launched with the establishment of SAARC. Among the eight countries that make up SAARC (SAARC 2020) are Afghanistan, Bangladesh, Bhutan, India, Nepal, the Maldives, Pakistan, and Sri Lanka (SAARC, 2020). Afghanistan became the eighth member of the South Asian Association for Regional Cooperation (SAARC) in April 2007 at the 14th SAARC summit in New Delhi. This partnership's goal is to strengthen economic, political, and cultural ties between the two countries (Sampathkumar & Rajeshkumar, 2016). A South Asian free trade agreement would help in boosting trade in the region (Jain, 1999; Ewing-Chow & Islam, 2015). All the countries in the region have a vital interest in improving market access to global markets (Rahapakse & Arunatilake, 1997).

There have been a slew of investigations into South Asia's regional economic integration and trade. Regional policy initiatives, particularly in trade, have aided the trend toward regional integration "(Mehdi et al., 2012; Kabir, 2017). SAARC member states agreed in 1993 to promote economic and trade integration and other forms of cooperation. According to Rahman et al. (2006), removing trade barriers and fundamental rigidity caused by opposing dogmatic relations can significantly increase intra-SAARC trade. Pakistan has always benefited from bilateral trade with Bangladesh (ITA, 2022; Kumar, 2010). Hossain (2009) revealed that Bangladesh's export potential to South Asia and India is widely acknowledged. Bangladesh is India's largest South Asian trading partner, and India is Bangladesh's second-largest trading partner. Since its independence, Bangladesh has been suffering from historic trade imbalances with India (Gazi et al., 2014; Irum, 2013; Akhter, 2022). It has been observed that Bangladesh imported more than $20 million worth of goods from the country in the previous fiscal year to Afghanistan. In FY20, Bangladesh had $15.04 million in bilateral trade with the country, with imports slightly outnumbering exports. Pharmaceutical products account for 88 percent of Afghanistan's exports (Raihan & Ashraf, 2017). Bangladesh and Nepal have

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a special economic relationship. Relations have improved, and the relationship's primary goal is to expand economic ties and commerce (Ahmed & Islam, 2021). Sunil (2021) found that bilateral trade was favorable to Nepal until 2014 when a reduction in lentil exports resulted in a trade imbalance (Liu & Li, 2014). NPR 954 million was exported, and NPR 5.29 billion was imported in the fiscal year 2019-2020. The bilateral trade volume reached $49.65 million, with Bangladesh's exports to Bhutan being $7.56 million versus $42.09 million in imports.

According to data from the Export Promotion Bureau, Bangladesh's item shipments to Bhutan earned $6.89 million in 2020 and 2021, up 58.03 percent from $4.36 million the previous year (SASEC, 19 September 2021). Ali (2022) found that bilateral trade between the two countries is estimated to be valued at roughly $7 million per year. Sri Lanka's exports to Bangladesh were USD 133 million in 2018, while Bangladesh's imports totaled USD 37 million. The two countries' present trade agreements are still partially restricted (Zaheer, 2013). Both countries maintain a list of sensitive products that are not eligible for tariff reductions (Economy Watch, 2020). SAFTA (South Asian Free Trade Area) has sanctioned 925 products in Sri Lanka, whereas SAFTA has sanctioned 993 products in Bangladesh (Moazzem et al., 2014). Furthermore, according to SAPTA inter-regional import numbers, Pakistan (39.6%) had the most significant increases, followed by India (30%), Nepal (35.2%), Sri Lanka (12%), Bhutan (17%), and the Maldives and Bangladesh (both at a periphery level) (Mukherji, 2000; Morrison, 2015). Ali & Talukder (2009) found that, given the region's low bilateral and intra-original trade shares and limited trade with South Asian nations, the benefits of free trade agreements are likely to be minor. Taguchi & Rubasinghe (2019) state that the trade agreement should encourage trade creation between countries.

According to Hossain & Kibria (2001), Bangladesh's export and import of goods worldwide have expanded, particularly with South Asian countries in the region. Bangladesh's exports climbed from USD 83 million in 1995 to USD 86 million in 1999 (years after the SAFTA agreement), while imports within the SAARC region decreased from USD 1151 million in 1995 to USD 1054 million in 1999 (Deepika & Neena, 2014). De (2013) and De et al. (2013) looked at several barriers to increasing potential bilateral commerce between India, Bangladesh, and Pakistan. The potential gains arising from regional commercial cooperation among the SAARC countries would not be significant under the current circumstances (Rahman & Ibon, 2019). According to Bhowmick & Kamal (2020), India's most prominent trade ally in South Asia is Bangladesh, with bilateral trade increasing steadily throughout the last decade. In the fiscal year 2018–19, exports of goods and services to Bangladesh totaled USD 9.21 billion, while Bangladesh's exports to India are estimated to be USD 1.04 billion.

Many researchers on Bangladesh and international trade have done a great deal of research on both. In the world economy and trade, much research has been done on Bangladesh's various achievements, possibilities, and problems. There a lot of studies on bilateral trade relations and economic cooperation, especially between Bangladesh and the SAARC countries. However, they are not as a whole but separately for each country. No one conducted a single study on Bangladesh's bilateral trade and economic cooperation with all SAARC countries.

This study contributes to the field of knowledge in a variety of ways. First, previous research looked at bilateral trade between Bangladesh and India (Islam, 2019; Gazi et al., 2014; Sikdar et al., 2006); Bangladesh and China (Gazi, 2021); Bangladesh and Pakistan (Mufti & Ali, 2021); and Bangladesh and Sri Lanka (Nufile, 2019). In a previous study, authors individually examined the direct economic relations and international trade trends among the SAARC countries. However, for the time being, we have focused on the bilateral trade and economic cooperation between Bangladesh and the SAARC countries. Second, research scholars (Bhattacharya, 2004; Rather & Gupta, 2014) proposed that SAARC countries' trade with Bangladesh be conducted in the future because previous research scholars measured mostly individual country trade scenarios. In this context, the current study gathered data from SAARC countries to verify Bangladesh's economic cooperation and bilateral trade. Third, the current study used export imports and economic cooperation flaring as a research focal point. In contrast, previous research used only export-import as a foundation to survey economic and trade relations separately (Yadav et al., 2016).

This research has a dominant approach that prioritizes regional economic development over and above regional collaboration. One of the novelties of this study is that researchers have been able to shed light on the state of trade between Bangladesh and SAARC countries in a single study. There has been no conclusive study on international trade between Bangladesh and SAARC countries. The following objectives have been set for this study. First, this research examines the economic cooperation between Bangladesh and the SAARC countries. Second, this research will also evaluate the bilateral trade between Bangladesh and the SAARC countries.

METHODS

In order to achieve the study's objective, the descriptive research approach was used. To further examine the study's stated objectives, quantitative research approaches were used in conjunction with them. According to the researchers, the panel data approach was used to examine current export and import situations. As a result, the researchers used panel data because the cross-section changes with time series throughout the study. Panel data gives more relevant data, greater freedom and efficiency, greater variety, and less collinearity than other types of data (Al-Taani, 2013). The research was conducted over five years. The panel data includes data and information on exports and imports for 2015-2016 through 2019-2020. The data and information used in this study are purely secondary. This study follows the studies of Zaheer (2013), Sampathkumar & Rajeshkumar (2016), and Gazi et al. (2021) but uses a different estimation method.

In order to prepare this research study, the authors reviewed a variety of sources, including the Bangladesh Economic Review, Bangladesh Bank Economic Data, and government documents. All the data was acquired and retrieved from the UNCTAD

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(United Nations Conference on Trade and Development) 2020 and 2021 editions and databases from the SAARC, the IMF, the OECD, the SAFTA, and the SAPTA organizations. Aside from these sources, information was obtained from the official websites of the Bangladesh Bureau of Statistics, Bangladesh Bank, National Board of Revenue (NBR), and Export Processing Zone (EPZ). Afterward, the researchers stated that they reviewed related research publications published in international journals to conceptualize the current status of economic cooperation and consensual commerce between Bangladesh and SAARC countries and convey the qualities of this cooperation in the present study.

Economic cooperation worries about the flaring of international trade collaboration. The variables in this study were adapted to the investigation setting based on a review of the literature. For this study, export-import is employed as the main focal point of the SAARC countries' trade interaction with Bangladesh. A probing investigation was used in this paper, and data was obtained descriptively from Bangladesh. The information for this study came from various websites, reports, and government departments that deal directly with the export-import business.

RESULT AND DISCUSSIONS

According to the Bangladesh Economic Review (2020), the COVID-19 pandemic has hampered economic activity around the world, particularly impacting countries' international trade, particularly in the developing world. Total export earnings for 2018-2019 were USD 40535.04 million, a 10.55 percent increase over the previous fiscal year (BB, 2021). The United States' export earnings for 2019-2020 was USD 3674.09 million, representing a disheartening 16.93 percent decrease from the prior fiscal year. The International Trade Administration said coronavirus outbreaks hampered export growth by 18.21 percent in March 2020 compared to the same month the previous year.

Table 1. Export Performance (Goods) for FY 2020-21 July-June Value in Million US$

Products	Proposed Export Target of 2020-21	Export Performance for July-June. 2020-21	Export Performance for July-June. 2019-20	% Change of export Performance Over Export Target	% Change of export performance July-June. 2020-21 Over July-June. 2019-20
A. Primary Commodities	1644.00	1505.51	1318.21	-8.42	14.21
B. Manufactured Commodities	39356.00	37252.80	32355.88	-5.34	15.13
Total (A+ B)	41000.00	38758.31	33674.09	-5.47	15.10

Source: Export Promotion Bureau

However, since the beginning of 2021, the export profits have increased by 82.86 percent, reaching USD 520.01 million in April of that year. The change in export performance from July to June 2020-21 compared to July to June 2019-20 is 15.10

percent (Table 1). The results from Table 2 show that export earnings deteriorated by only 2.50% in June 2020 compared to the identical month of the previous FY. Export performance for June-2021 totaled a 31.77% change in export performance from June-2021 through June 2020. A total of 17.99% of frozen fish, 4.49% of pharmaceuticals, 2.86% of handicrafts, and 8.10% of raw jute and jute products maintained their growth.

Table 2 Export performance for the month of June-2021(in Million US$)

Export target for June. 2021	Export performance for June-2021	% Change of export performance over export target	Export performance for June 2020	% Change of export performance June-2021 Over June. -2020
3670.00	3577.49	-2.52	2714.95	31.77

Source: Export Promotion Bureau

Bangladesh's import-export trade had a minimal impact on the epidemic's early stages, but it had a catastrophic impact on export trade in the medium term, particularly between late 2020 and early 2021, converting it into an import-dependent trade rather than an export. Table 3 reveals that total export revenue for 2015-16 was USD 33441 million, total import expenses were USD 39901 million, and total trade shortfalls were USD 6460 million. In fiscal years 2016-17, 2017-18, and 2018-19, export earnings were USD 34019 million, USD 36205 million, and USD 39604 million, respectively, while import expenses were USD 43491 USD 54463 million, and USD 55439 million. It was USD 32830 million (export) and USD 50691 million (import) in the fiscal year 2019–20 (import). The massive trade deficits in the fiscal years 2017-18 and 2019–20, which totaled USD 18258 million and USD 17861 million, respectively, are a warning indication. On the other hand, Bangladesh's total export earnings in the fiscal year 2019–20 were higher than the total export earnings in the fiscal years 2020–21, but the country's trade balance in the fiscal year 2020–21 was in deficit due to higher imports than exports in the fiscal year 2020–2021.

Table 3. Export, Import and Trade Balance

Particulars	Fiscal Year					
	2015-16	2016-17	2017-18	2018-19	2019-2020	2020-2021
Exports f. o. b(m.$)	33441	34019	36205	39604	32832	25272
Imports f. o. b(m.$)	39901	43491	54463	55439	50690	37067
Trade Balance(m.$)	-6460	-6472	-18258	-15835	-17858	-11795

Source: BBS, Finance Division, Bangladesh Bank and Economic Review (2021)

According to Table 4, Bangladesh is the leading exporter to the United States because of the ongoing global epidemic, followed by Germany and the United

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Kingdom. Bangladesh exported goods to the United States totaling 4515.60 million USD in the fiscal year 2020–21, decreasing the previous year's figure of 4515.60 million USD. Globally, export commerce fell dramatically in fiscal years 2020–2021 compared to 2019–2020, falling by 26.15 percent from the previous fiscal year. Table 4 further shows that Bangladesh's total merchandise export price was USD 34257.18, USD 34655.90, and USD 36668.17 million in 2015-16, 2016-17, and 2017 18, respectively. Every year, export revenues have increased, but not in an anticipated way.

Table 4. Country Wise Export Scenario of Top Ten Countries in the World (In million US$)

Countries	Fiscal Year					
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-2021***
USA	6220.65	5846.64	5983.31	6876.29	5832.39	4518.60
UK	3809.70	3569.26	3989.12	4169.31	3454.88	2567.69
Germany	4988.08	5475.73	5890.72	6173.16	5099.19	3966.77
France	1852.16	1892.55	2004.97	2217.56	1703.58	1282.96
Belgium	1015.33	918.85	877.90	946.93	723.43	461.36
Italy	1385.67	1462.95	1559.92	1643.12	1282.81	906.05
Netherlands	845.92	1045.69	1205.37	1278.69	1098.68	870.84
Canada	1112.88	1079.19	1118.72	1339.80	1000.49	759.95
Japan	1079.55	1012.98	1131.90	1365.74	1200.78	794.69
Others	11947.24	12352.06	12906.24	14524.44	12278.86	9733.41
Total	**34257.18**	**34655.9**	**36668.17**	**40535.04**	**33675.09**	**25862.32**

Source: Export Promotion Bureau, NBR *up to February 2021

According to the findings, Bangladesh's export revenues are dropping as a result of the epidemic that has ravaged the country in recent years. Every fiscal year, the majority (almost 69 percent) of the generated export money comes from the countries listed above, with the remaining export profits from the rest of the globe accounting for only 31 percent of total export earnings. The total export value for the fiscal year 2018–19 was 40535.04 million dollars, increasing the previous year. However, due to the COVID-19 problem, the export value decreased in the fiscal year 2019–20 compared to the previous year. Export revenue was USD 33674 million, a 16.93 percent decrease from the previous fiscal year. It should also be noted that overall export revenue for 2020–2021 was USD 25862.32 million, a decrease from the previous fiscal year (FY 2019–2020).

Table 5 shows that the propensity of the Bangladeshi economy to become more export-oriented by lowering its reliance on imports is becoming more robust over time. If we look at the numbers for imports and exports over the last few years, we can see that this is the case. On the other hand, China comes in top place, and India comes in second place among the nations Bangladesh is mainly reliant on imports. Bangladesh imported USD 10383 million from the United States and commodities worth USD 6424 million from India 2020–2021. However, it is hoped that this number will be lower than in recent years. Import expenses totaled USD 39304 million in 2019-20, representing an 8.56 percent decrease from the previous fiscal year. Food grain import expenses have climbed by 7.76 percent, while consumer goods import expenses have increased by 5.38 percent. Table 5 shows that total import payments totaled USD 43122 million, USD 47005 million, USD 58865 million, and USD 59915 million for 2015-2016, 2016-2017, 2017-2018, 2018-2019, according to the International Monetary Fund.

Table 5. Country-Wise Import of Top Ten Countries in the World (In million US$)

Countries	2015-16	2016-17	2017-18	2018-19	2019-2020	2020-2021*
India	5722	6336	8941	8242	6663	6424
China	12582	13292	15937	17265	14360	10383
Singapore	1203	2113	2255	2274	1883	1429
Japan	2075	2031	2422	2254	2092	1557
Hong Kong	827	726	976	614	382	186
Taiwan	1004	990	1129	1175	1084	602
S. Korea	1417	1483	1907	1618	1525	809
USA	1134	1358	2160	2370	2839	1405
Malaysia	1184	1040	1342	1520	1623	971
Others	15974	17636	22096	22583	22334	16303
Total	**43122**	**47005**	**59165**	**59915**	**54785**	**40069**

Source: Economic Review 2020, BB and NRB; *Revised, ** up to February 2020

Bangladesh exported commodities to Afghanistan, Bhutan, India, Nepal, Maldives, and Sri Lanka valued at BDT 573392, 299003, 88479027, 3522280, 363852, and 7895387 thousand in 2019-20, according to the SAARC countries of Afghanistan, Bhutan, India, Nepal, Maldives, and Sri Lanka. This year, Bangladesh did not sell to Pakistan, and Afghanistan did not import from Bangladesh. Bhutan, India, Nepal, Maldives, Pakistan, and Sri Lanka were among the countries from which Bangladesh imported goods in 2019–20, with import expenses totaling BDT 7615669, 656980680, 894055188667, 67253576, and 15899623 thousand dollars. According to the document, Bangladesh imported the most significant quantity from India (see details in Table 6). Kumar (2020) shows that Pakistan and Bangladesh are found close trade competitors in South Asia in short-run.

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Table 6. The Direction of Export and Import by SAARC (South Asian Association for Regional Co-Operation) Countries by Broad Commodities

Countries		Financial Year ('000' Taka)				
		2015-16	2016-17	2017-18	2018-19	2019-20
Afghanistan	Export	160633	334345	363101	396017	573392
	Import	-	-	-	-	-
Bhutan	Export	204709	272261	359600	635551	299003
	Import	3248881	4348245	6306272	9396974	7615669
India	Export	48887900	56166414	76172584	107101238	88479027
	Import	463775976	573552283	776828017	752025415	656980680
Nepal	Export	216878	2481296	3734049	3252348	3522280
	Import	3527	668629	1123618	1579668	894055
Maldives	Export	226933	250600	442260	563423	363852
	Import	12092	831436	342879	3947377	188667
Pakistan	Export	3490997	5139166	6071777	19522708	-
	Import	55821336	51984631	63997201	67782466	67253576
Sri Lanka	Export	2181072	3600046	2610094	3964988	7895387
	Import	9063862	12521639	12635914	17743621	15899623

Source: BBS, Statistical Yearbook Bangladesh 2020

The Bangladesh Bureau of Statistics and Export Promotion Bureau in Table 7 shows that Bangladesh has a large trade deficit with India despite having one of the highest export volumes among the SAARC members. It was USD 1,164,944,481.62 in the period July-May 2020-2021, while it was USD 6853493.34, USD 6,172,057.27, USD 52,922,968.51, USD 5,445,514.27, USD 78,424,558.40, and USD 43,243,291.02 in the period July-May 2020-2021 from Afghanistan, Bhutan, India, Nepal, Maldives, Pakistan, and Sri Lanka, respectively.

Table 7. Region (SAARC) Wise Export (Goods) For the Month of July-May 2020-21

SAARC Countries	Export amount (USD)
Afghanistan	6853493.34
Bhutan	6,172,057.27
India	1,164,944,481.62
Nepal	52,922,968.51
Maldives	5,445,514.27
Pakistan	78,424,558.40
Sri Lanka	43,243,291.02

Source: Export Promotion Bureau, Bangladesh

Table 8. Exports, FOB from SAARC Countries USD in Million

Countries	2016	2017	2018	2019	2020	Total
Afghanistan	15464.93	7641.50	7819.99	7335.04	6796.43	45057.89
Bangladesh	43706.34	50692.14	57863.73	58120.36	50402.74	260785.31
Bhutan	496.83	480.22	771.80	775.33	769.80	3293.98
India	346826.27	419339.47	485218.86	454177.09	350394.95	2055956.64
Nepal	6584.79	8045.68	10129.80	10187.49	8408.29	43356.05
Maldives	1848.34	2028.53	2404.51	2341.00	1409.13	10031.51
Pakistan	6796.43	58958.00	60958.78	52218.09	47193.60	226124.9
Sri Lanka	18194.88	20136.24	21464.012	19050.66	15464.93	94310.722
Total	**439918.81**	**567321.78**	**646631.482**	**604205.06**	**480839.87**	**2738917.002**

Source: Direction of Trade Statistics, IMF

Table 8 shows the total exports of the SAARC region to other countries from 2016 to 2020. The total value of SAARC countries' exports was USD 2738917.002 million. Additionally, the growth rate in exports increased by 8.51 percent between 2016 and 2020. South Asian Association for Regional Cooperation states that India is the largest exporter. In the SAARC countries, the percentage component of India's exports changed from 75.06 percent in 2016-2020 to 79.65 percent in 2016-2020, an increase from 75.06 percent in 2016-2020.

Table 9. Imports, CIF from SAARC Countries USD in Million

Countries	2016	2017	2018	2019	2020	Total
Afghanistan	1127.83	1065.70	1286.55	2360.99	2373.55	8214.62
Bangladesh	34562.28	35953.41	39677.72	41549.57	36317.85	188060.83
Bhutan	259.98	261.84	352.55	330.95	236.22	1441.54
India	250436.50	287712.18	318229.74	323834.28	287045.44	1467258.14
Nepal	744.54	1376.01	1278.33	1466.70	1345.96	6211.54
Maldives	274.61	412.14	540.86	284.39	235.74	1747.74
Pakistan	22379.55	23827.84	25213.86	24360.98	22550.14	118332.37
Sri Lanka	10157.98	10806.25	11618.32	11553.86	10207.64	54344.05
Total	**319943.27**	**361415.37**	**398197.93**	**405741.72**	**360312.54**	**1845610.83**

Source: Source: International Monetary Fund (IMF)

Table 9 demonstrates that the total import expenditures of SAARC countries increased from US$ 319943.27 million in 2016 to US$ 360312.54 million in 2020, an increase of a factor of two. In 2017, import costs totaled USD 361415.37 million, USD 398197.93 million in 2018, and USD 405741.72 million in 2019. These costs were incurred in the years 2017, 2018, and 2019. Overall, SAARC's worldwide export

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and import data reveal that the total value of exports was USD 2738917.002 million. According to the statistics, the total value of import expenses was USD 1845610.83 million, indicating a favorable trade balance for the last five years throughout the world. India has accounted for 79.50 percent of SAARC members' total global imports in the last five years. Bangladesh is the second-largest importer among the SAARC countries, behind India. The mutual comparative advantage between Bangladesh and the SAARC countries drives international trade between the two countries.

As seen in Table 10, Bangladesh's export earnings from SAARC countries are not optimal. During the last five years, total export revenue totaled USD 606246 million. It was USD70076 million in FY 2015-2016, USD110027 million in FY 2016-2017, USD126164 million in FY 2017-2018, and USD177841 million in FY 2018-2019, respectively. Bangladesh earns USD122138 million from exports in the fiscal year 2019-2020. Bangladesh gained export revenue of USD 2296 million from Afghanistan, USD 1773 million from Bhutan, USD 377035 million from India, USD 13220 million from Nepal, USD 93924 million from Maldives, USD 38010 million from Pakistan, and USD 79988 million from Sri Lanka.

Table 10. The Direction of Export by SAARC Countries (In million USD)

Countries	Financial Year					Total
	2015-16	2016-17	2017-18	2018-19	2019-20	
Afghanistan	363	396	573	526	438	2296
Bhutan	205	272	360	637	299	1773
India	48903	56213	76173	107101	88645	377035
Nepal	217	2481	3734	3252	3536	13220
Maldives	14716	18072	19526	24070	17540	93924
Pakistan	3491	5139	6072	19523	3785	38010
Sri Lanka	2181	27454	19726	22732	7895	79988
Total	70076	110027	126164	177841	122138	606246

Source: BBS, Statistical Yearbook Bangladesh (2020)

Table 11 reveals that Bangladesh imported USD 5480650 million from SAARC nations over the last five years. Bangladesh spent 511601 million dollars, 1286138 million dollars, 1568723 million dollars, and 1101996 million dollars on imports in 2015-2016, 2016-2017, 2017-2018, and 2018-2019, respectively. Bangladesh bought USD 1012192 million from SAARC countries in FY 2019-2020. Bangladesh imported 176339 million dollars, 27667 million dollars, 3223189 million dollars, and 4271 million dollars, USD 807529 million, USD 265039 million, and USD 976616 million from Afghanistan, Bhutan, India, Nepal, Maldives, Pakistan, and Sri Lanka, respectively, in FY 2015-16, 2016-2017, 2017-2018, 2018-2019, and 2019-2020.

Table 11. Direction of Import by SAARC Countries (In million USD)

Countries	Financial Year					Total
	2015-16	2016-17	2017-18	2018-19	2019-20	
Afghanistan	24723	39844	32799	35167	43806	176339
Bhutan	-	4348	6306	9397	7616	27667
India	463777	573555	776828	752048	656981	3223189
Nepal	4	669	1124	1580	894	4271
Maldives	12	157269	212229	218278	219741	807529
Pakistan	14021	51985	63997	67782	67254	265039
Sri Lanka	9064	458468	475440	17744	15900	976616
Total	511601	1286138	1568723	1101996	1012192	5480650

Source: BBS, Statistical Yearbook Bangladesh-2020

Furthermore, Table 12 shows that Bangladesh has enormous trade deficits with SAARC countries every year. Bangladesh's total trade imbalance was USD 4874404 million over the last five years, with total exports and imports of USD 606246 million and USD 5480650 million, respectively. The trade deficits with SAARC countries were 441525 million dollars, 1176111 million dollars, 1442559 million dollars, 924155 million dollars, and 4874404 million dollars in FY 2015-2016, 2016-2017, 2017-2018, 2018-2019, and 2019-2020, respectively. The most significant trade imbalance was USD1442559 million in FY 2017-2018 (Table 12).

Table 12. Total Export, Import and Trade Balance (In million USD)

FY	Export	Import	Total Trade Balance
2015-16	70076	511601	(-441525)
2016-17	110027	1286138	(-1176111)
2017-18	126164	1568723	-(1442559)
2018-19	177841	1101996	(-924155)
2019-20	122138	1012192	(-890054)
Total	**606246**	**5480650**	**(-4874404)**

Source: Author's Analysis

South Asia has become a region that has successfully integrated itself into the global economy. South Asia's Association for Regional Cooperation (SAARC) will be strengthened if India and Bangladesh work together more closely (OEC, 2022). According to the BBS (2020) report, import payments to SAARC nations totaled USD 6823.2 million in FY 2018-2019 and USD 6086.6 million in FY 2017-2018, an increase of 12.1 percent in currency terms. The present study revealed that from 2011 to 2020, Pakistan's exports to Bangladesh fell from USD 947.23 million to USD 583.44 million. Since Bangladesh imports from

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Pakistan, its market share has decreased by 8.4 percent, which indicates that Pakistan's export competitiveness has decreased in the Bangladesh market. Bilateral commerce between India and Bangladesh has consistently increased over the last decade, with Bangladesh's exports tripling to USD 1 billion in 2018–2019. In 2019–2020, India's exports to Bangladesh totaled USD 8.2 billion, while imports totaled USD 1.26 billion (MEA, 2021).

OEC (2022) observed that Afghanistan received $5.8 million in Bangladeshi exports in 2018. Bangladesh's most important exports to Afghanistan are industrial fatty acids, Oils, and Alcohol ($2.85 million), Ground Nuts ($2.62 million), and Paper Containers ($127 thousand) (Hasnat et al., 2017). Bangladesh's exports to Afghanistan have climbed by 1.64 percent each year over the last 23 years, from $3.99 million in 1995 to $5.8 million in 2018. Bangladesh exported $8.64 million worth of goods to the war-torn country in FY21, up 50% from the previous fiscal year. According to the 2019 Observatory of Economic Complexity (OEC) data, Bangladesh exports to the Maldives increased at an annualized rate of 19.4% during the last 23 years (1995-2018), rising from $59.9k in 1995 to $3.53M in 2018. The Maldives, on the other hand, raised its annualized rate of export to Bangladesh by 13.1% in 2018, from $125k to $2.14M. Sri Lanka's sensitive list includes USD 6.2 million in imports from Bangladesh, or 23.8 percent of total imports (ITA, 2022; Das, 2007). Bangladesh's sensitive list includes USD 77.6 million in imports from Sri Lanka, or 62% of total imports. As a result, removing sensitive lists may be more beneficial to Sri Lanka.

The current study's findings show that India is Bangladesh's most important trading partner in the South Asian region. A few studies also found the same results, i. e. Prabir and Bhattacharyay, 2007; Gazi et al., 2021; Pitigala, 2005; Rashed & Ashraf, 2016). A study found that Bangladesh is unduly reliant on India due to the unbalanced trade arrangement between the two countries, which has been a source of substantial economic and political concern. Islam (2019) discovered that India has a much stronger position in global trade than Bangladesh. India vigorously dominates trade ties, resulting in a massive and persistent trade deficit with India. At a more granular level, the paper discovers that Bangladesh has a competitive edge in some product lines, whereas India has competitive advantages in many product categories.

The study found that export earnings have increased even during this ongoing pandemic compared to previous years, comforting Bangladesh (Table 1 & 2). In the overall analysis, the picture of import-export trade is not favorable for Bangladesh. Trade deficits have been observed in each of the past years, showing that the trade deficit has decreased in FY 2020–21 as compared to FY 2019–20 (table-3). Bangladesh's bilateral trade shows that the USA is number one in exports, the UK is number two, and Germany is number three. Sadly, Bangladesh does not make significant exports to any of the SAARC countries, so there is no SAARC country in the list of top 10 countries. On the other hand, Neighboring India tops the list in terms of imports, which is why it has the most significant trade deficit with India (Table 4 & 5). Several researchers, including Newfarmer & Pierola (2007), Raihan & Kim (2016), and Deepika & Neena (2014), discovered less or more significant similar results, which corroborated the findings of the present study.

A comparative picture of import-export trade between the SAARC countries shows that trade is balanced with Afghanistan, Nepal, and the Maldives. However, trade deficits with Pakistan, India, and Sri Lanka have always existed (Table-6, 7). According to the IMF, India is the largest exporter among SAARC countries, but its exports are slowly increasing (Table 8). On the other hand, the volume of imports from these countries has also increased. The picture of bilateral trade between SAARC countries shows that India is the largest importer from Bangladesh and India is the largest exporter to Bangladesh. Sri Lanka is the second-largest importer from Bangladesh, followed by Maldives (Table 10, 11 &12). Several studies, including Ahmed & Islam (2019); Ali (2022); Baysan et al. (2006); and Singh (2021), supported the same conclusions and findings.

CONCLUSION

The current study aimed to examine the bilateral trade relations and economic cooperation of SAARC countries with Bangladesh over six years using panel data (2016–2021). Bangladesh has served as a bridge between its neighbors throughout its history. Most notably in the formation of SAARC, which it has done since its independence. Bangladesh has long advocated for regional peace and prosperity. A successful economic partnership has always aided in developing various trade-friendly policies, just as Bangladesh was the first to play an entrepreneurial role in forming SAARC. The SAARC countries have traditionally worked as an alliance to improve mutual collaboration, economic development, and bilateral trade among South Asian countries. Bangladesh has good economic and trade links with the SAARC countries.

According to data analysis, Bangladesh exports considerably more commodities to all SAARC countries than it imports, according to data. Bangladesh has a negative net export to most of its neighbors, suggesting that it imports more from them than it exports. The great bulk of Bangladesh's net exports is negative, implying that the country imports more from its neighbors than it sells. Despite accounting for a small portion of global trade, the region suffers from significant tariff obstacles. As a result, preferential trade liberalization is more likely to divert trade to SAARC countries. One of the primary constraints to expanding intra-SAARC commerce and trade that needed to be addressed was transaction costs. A long-standing trade exists. There has long been a trade deficit with India, which should be reduced in quantity even if it cannot be eliminated. In addition, Bangladesh needs to look at countries that have more export trade opportunities, such as the Maldives, Afghanistan, Nepal, Sri Lanka, Pakistan, and Bhutan, which have opportunities to export more Bangladeshi products. At the same time, Bangladesh needs to reduce its import dependence on SAARC countries and the world. The goal should be to set "more exports, limited imports" to develop domestic industries.

The government should look into the implications of current business among SAARC countries. Bangladesh products should have secured market access to SAARC countries. All non-tariff and para-tariff restrictions must be removed. Different restrictions on regular Bangladeshi items imposed by SAARC nations should be phased off over time. The bad list of SAARC countries should not include Bangladeshi export quality

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products. Safeguard provisions in the Free Trade Agreement should protect Bangladesh's infant industries. The regulations of provenance should be made more beneficial than the SAARC countries' trade agreement because Bangladesh's manufacturing industry is gradually increasing. Bangladesh's manufacturing industry, particularly the small and medium business (SME) sector, should be expanded to address the competitive market environment. In their export promotion activities, the Export Promotion Bureau and trade groups should focus on improving the movement of goods and services and infrastructure development. On both sides of the border, infrastructure facilities at land customs stations should be enhanced. Infrastructure improvement should be undertaken in a coordinated manner. If infrastructure improvements are made in one border area, but blockages remain in the other, the benefits will be lost. SAARC countries and Bangladesh may negotiate a trade and investment framework agreement and a dual tax avoidance agreement to promote economic collaboration. In general, Tahir et al. (2019) recommends SAARC countries to increase the inflows of resources in the form of aid and foreign direct investment to achieve higher economic growth.

According to the Economic Complexity Index, Bangladesh is the world's 54th largest export economy and the 123rd most complicated economy. Asia's economies are too weak to support regional integration. Supportive collaboration should be introduced for the rapid growth of intra-South Asian trade because of the more substantial trade relations between SAARC countries. Concerning authorities should deeply understand the issue. Government and policymakers should utterly analyze the merits of current business and economic cooperation with SAARC countries. All SAARC member countries should have guaranteed access to the market for Bangladeshi products. The Export Promotion Bureau and the trade authorities should be more vigilant in developing infrastructure to increase exports and improve trade facilitation and economic cooperation. Hopefully, SAARC nations' economic relationship will undoubtedly strengthen in the future as intra-regional business activity rises. Besides that, Bangladesh should encourage foreign direct investment to increase the export (Majumder et al., 2022).

REFERENCES

Ali, E. (2022). Bangladesh, Maldives Taking Bilateral Relations to a New Height. *Bangladesh Post*. Retrieved from: https://bangladeshpost.net/posts/bangladesh-maldives-taking-bilateral-relations-to-a-new-height-77480.

Ali, E. & Talukder, D. K. (2009). Preferential Trade among the SAARC Countries: Prospects and Challenges of Regional Integration in South Asia. *JOAAG, 4*(1), 47-59.

Al-Taani, K. (2013). The Relationship between Capital Structure and Firm Performance: Evidence from Jordan. *Journal of Finance and Accounting, 1*(3), 41-45. https://doi.org/10.11648/j.jfa.20130103.11.

Ahmed, B., & Islam, M.T. (2019). Bangladesh–Nepal Trade Relations: Understanding the Influence of Economic Diplomacy. *Jadavpur Journal of International Relations*, *23*(1) 105–119. https://doi.org/10.1177/0973598419828024.

Baysan, T., Panagariya, A., & Pitigala, N. (2006). Preferential Trading in South Asia. *World Bank Policy Research Working Paper No. 3813*.

Bhattacharya, S. K. (2004). Does Bangladesh Benefit from Prefential Trade with India? A Gravity Analysis. *Economic and Political Weekly, 39*(48), 5152-5162.

Bhowmick, S., & Kamal, S. M. (2020). India-Bangladesh Partnership in Post-Pandemic Economic Recovery. *ORF Special Report No. 119*.

De, P., Raihan, S., & Ghani, G. (2013). What Does MFN Trade Mean for India and Pakistan? Can MFN be a Panacea? *World Bank Policy Research Working Paper 6483*.

Das, D. K. (2007). South Asian Free Trade Agreement: Prospects of Shallow Regional Integration. *CSGR Working Paper 218/07*.

Deepika, K., & Neena, M. (2014). Export-Led Growth in India: Cointegration and Causality Analysis. *Journal of Economics and Development Studies*, *2*(2), 297-310.

Ewing-Chow, M., & Islam, Md. R. (2015). South Asian Free Trade Agreement and the Possibility of Regional Intregration within the SAARC: A Historical, Legal, and Economic Analysis. *Asian Journal of Comparative Law, 2*, 1-21. https://doi.org/10.1017/S2194607800000077.

Gazi, M. A. I. (2021). Foreign Trade: An Analysis of Bilateral Trade between Bangladesh and China. *International Journal of Information, Business and Management, 13*(1), 93-106.

Gazi, M. A. I., Sarker, M. M. H., & Hossaon, M. (2014). Bangladesh and International Trade: a Case Study on Bangladesh-India Bilateral Business. *Banglavision, 13*(1), 217-224.

Hossain, M. F., & Kibria, C. G. (2001). Impact of SAPTA on Export and Import of Major Member Countries: A Trial of Alternative Quantitative Analysis. *Journal of Business Research*, *3*(4), 78-102.

Hasnat, M. A., Kamrul, I. T., & Abdullah, M. T. (2017). The Bilateral Trade Relation in the World: China Perspectives. *International Journal of Economics, Business and Management Research*, *1*(4), 73-86.

Hossain, M. S. (2009). South Asian Free Trade Area: Implications for Bangladesh. *MPRA Paper No. 18517*.

Irum, S. (2013). South Asian Association for Regional Cooperation (SAARC): Its Role, Hurdles and Prospects. *IOSR Journal of Humanities and Social Science*, *15*(6), 1-9.

Islam, A. M. (2019). Bangladesh Trade with India: Trends and Patterns. *Athens Journal of Business & Economics, 5*(2), 123-140. https://doi.org/10.30958/ajbe.5-2-2

ITA. (2022). *Pakistan - Country Commercial Guide, International Trade Administration*. Retrieved from: https://www.trade.gov/country-commercial-guides/pakistan-trade-agreements

Jain, S. C. (1999). Prospects for a South Asian Free Trade Agreement: Problems and Challenges. *International Business Review, 8*(4), 399-419. https://doi.org/10.1016/S0969-5931(99)00014-1.

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v21i2.24353

Kabir, S. (2017). Analysis of Bilateral Trade between Bangladesh and China. *Journal of Economics and Sustainable Development, 8*(16), 10-18.

Kumar, A. (2010). Changing Dynamics of Sino-Bangladesh Relations, South Asia Analysis Group. Retrieved from: http//www. Southasiaanalysis.org/papers14/paper1345.html.

Kumar, R. (2020). South Asia: Multilateral Trade Agreements and Untapped Regional Trade Integration. *International Journal of Finance and Economics, 26*(2), 2891-2903. https://doi.org/10.1002.ijfe.1941.

Mukherji, I. N. (2000). Charting a Free Trade Area in South Asia: Instruments and Modalities. *Proceeding the Second Conference of the South Asia Network of Economic Research Institute (SANEI)*, August 28-29, Katmandu.

Liu, A., & Li, D. (2014). Growth of China's Urban Middle Class: It's Impacts on the Social and Economic Development. *Working Paper.* Middlesex University Business School.

Majumder, S. C., Rahman, M. H., & Martial, A. A. A. (2022). The Effects of Foreign Direct Investment on Export Processing Zones in Bangladesh using Generalize Method of Moments Approach. *Social Sciences & Humanities Open, 6*(1), 100277. https://doi.org/10.1016/j.ssaho.2022.10027.

Mehdi, S., Zaroki, S. & Shahryar. N. (2012). The Study Examining the Effect of Export Erowth on Economic Growth in Iran, *Business Intelligence Journal*, *5*(1), 21-30.

Moazzem, K. G., Islam, M., & Raz, C. S. (2014). Bilateral Free Trade Agreements (FTAs) Opportunities and Challenges for Bangladesh - Framework Issues. *CPD Working Paper 107*.

Morrison, W. M. (2015). China-US Trade Issues. *Congressional Research Service (CRS) Report No. 7-5700.*

Mukherji, R., & Pandey, D. (2014). The Relationship between the Growth of Exports and Growth of Gross Domestic Product of India. *International Journal of Business and Economics Research*, *3*(3), 135-139.

Nufile, A. A. M. (2019). An Analysis of the Trade Relationship of Sri Lanka with Bangladesh after Trade Liberalization. *Journal of Business Economics*, *1*(1), 78-82.

OEC (2022). Bangladesh (BGD) and Afghanistan (AFG) Trade. Retrieved from: https://oec.world/en/profile/bilateral-country/bgd/partner/afg.

Pitigala, N. (2005). What Does Regional Trade in South Asia Reveal about Future Trade Integration? Some Empirical Evidence, *World Bank Policy Research Working Paper 3497*. Washington DC, the World Bank

Prabir, D., & Bhattacharyay, B.N. (2007). Prospects of India–Bangladesh Bilateral Economic Cooperation: Implications for South Asian Regional Cooperation, *ADBI Discussion Paper 78*.

Raihan, S., & Ashraf, F. (2017). Review of Bangladesh's Engagement in Preferential Trading Arrangements. *Country Study Series No.1 for the Development Account project Enhancing the Contribution of Preferential Trade Agreements to Inclusive and Equitable Trade*. Bangkok: ESCAP

Rahapakse, P., & Arunatilake, N. (1997). Would a Reduction in Trade Barriers Promote Intra-SAARC Trade? A Sri Lankan Perspective. *Journal of Asian Economics, 8*(1), 95-115. https://doi.org/10.1016/S1049-0078(97)90009-9.

Rahman, S. H., & Ibon, W. F. (2019). Bangladesh's Trade with Asia. *The Bangladesh Development Studies, 42*(1), 1-22.

Rahman, M. M., & Kim, C. (2016). Prospects for Economic Integration of BIMSTEC: Trade and Investment Scenario. *International Journal of u- and e- Service, Science and Technology, 9*(4), 235-248.

Rahman, M., Shadat, W. B., & Das N.C. (2006). Trade Potential in SAFTA: An Application of Augmented Gravity Model. *Tradw Working Papers 22296.* East Asian Bureau of Economic Research..

Raihan, S., & De, P. (2013). India-Pakistan Economic Cooperation: Implications for Regional Integration in South Asia. *Working Paper*. Commonwealth Secretariat. London.

Rashed, M. S., & Ashraf, U. N. (2016). Doing Business in and with China: The Challenges are Great, but so are the Opportunities. *Global Journal of Management and Business Research: B Economics and Commerce*, *16*(2), 11-18.

Sikdar, C., Raa,T.T., Mohnen, P., & Chakraborty, D. (2006). Bilateral Trade between India and Bangladesh: A General Equilibrium Approach, Economic Systems Research, Vol. 18, No. 3, 257–279.

Sampathkumar, T., & Rajeshkumar, S. (2016). Causal Relationship between Export and Economic Growth: Evidence from SAARC Countries. *IOSR Journal of Economics and Finance (IOSR-JEF)*, *7*(3). 32-39. https://doi.org/10.9790/5933-0703013239.

Sunil, K. C. (2021). *Nepal-Bangladesh Relations: Beyond Bilateralisms*, AIDIA. Retrieved from: https://www.aidiaasia.org/research-article/nepal-bangladesh-relations-beyond-bilateralisms

Taguchi, H., & Rubasinghe, D. C. I. (2019). Trade Impacts of South Asian Free Trade Agreements in Sri Lanka. *South Asia Economic Journal, 20*(1), 1-18.

Tahir, M., Estrada, M. A. R., Afridi, M. A. (2019). Foreign Inflows and Economic Growth: An Empirical Study of the SAARC Region. *Economic Systems, 43*(3-4), 100702. https://doi.org/10.1016/j.ecosys.2019.100702.

Yadav. S. K. S., Ali. N. M., & Nedelea, A. M. (2016). Formal Trade between India and Bangladesh: An Empirical Analysis. *Ecoforum*, *5*(2), 23-34.

Zaheer, R. (2013). The Economic Performance of SAARC7 Member Countries. *Research on Humanities and Social Sciences*, *3*(5), 201-2014.

Zahoor Ahmad Rather, Dr. Deepika Gupta. (2014). India-Bangladesh Bilateral Trade: Problems and Prospects. *International Affairs and Global Strategy*, *22*, 42-48.

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Do Tax Policies in Nigeria Have Similar Implications for the Manufacturing Sector Output?

Musa Abdullahi Sakanko[1*], Jeremiah Nshe Manomi[2], Abubakar Ijoko[3], Usman Abdulkareem Audu[4]

[1,2]Department of Economics, University of Jos, Plateau State Nigeria
[3]Department of Economics, Nigeria Army University Biu, Borno State, Nigeria
[4]Department of Economics, University of Abuja, Abuja Nigeria
E-mail: [1]sakanko2015@gmail.com, [2]nshemanomi@gmail.com, [3]abuijoko@gmail.com, [4]usman.abdulkareem@gmail.com

[*)]Corresponding Author

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Abstract
The study examines whether tax policies in Nigeria have similar implications on the manufacturing sector's output during the 1994Q1-2020Q4 period using the ARDL bounds testing approach. The bounds testing result suggests the presence of cointegration between tax policies and the manufacturing sector output. Further, the estimation results demonstrate that company income tax (CIT) and import tax are positively related to manufacturing sector output. In contrast, value-added tax (VAT) has a negative effect on the manufacturing sector output, both in the short- and long-term. In addition, the results of the Granger causality test indicate a unidirectional causal relationship running from tax policies to the manufacturing sector output and not vice versa. Thus, policies and measures are recommended to prioritize the CIT and import tax, review the assortment in the VAT, and ensure accountability and transparency in the tax system.

Keywords:
ARDL, manufacturing, tax policy

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INTRODUCTION

The fastest way a country can attain sustainable economic growth and development is neither through its vast human or material resources but through enterprise development, technological innovation, and industrial capacity (Olamade et al., 2020). To realize sustainable economic growth and development, the governments of various developing countries often adopt different measures and approaches to propel the economy's growth and development.

However, it is impossible to achieve sustainable growth and development without a viable manufacturing sector. Also, evidence suggests that the manufacturing sector tends not to be feasible without effectively utilizing tax revenue to create an enabling environment for firms to thrive, specifically through providing good and quality infrastructures such as electricity, hospitals, good roads, et cetera. Theoretically, it is conceived that tax is negatively related to investment because it causes an impairment in the economy. Typically, high tax rates discourage new investment and entrepreneurship investment expansion. For instance, company profit tax is statutorily levied on incorporated organizations. The burden and incidence are generally seen to be distributed to the entire participants in the production value chain, thus directly impacting every participant. However, evidence also suggests that by lowering marginal tax rates or replacing the federal income tax with a consumption tax, the work effort, saving, and investment can be increased, consequently leading to a significant increase in firms' productivity (Hammed, 2018).

Similarly, it is argued that if governments grant firms some incentive, it directly leads to a decline in company income tax rates. That policy will generally attract investment, accumulation of capital, and innovation (Engen & Skinner, 2008), leading to an increase in output. Empirically, some authors, including Yoke & Chan (2018) and Okpe (2018), argued that tax policy has an adverse implication on the manufacturing sector. On the contrary, some other studies indicate a positive relationship between tax policy and manufacturing (see Adefeso, 2018; Ewubare & Ozo-Eson, 2019; Oladipo et al., 2019).

Over time, available statistics on manufacturing output growth and tax policies (including company income tax, import tax, and value-added tax) in Nigeria present an exciting relationship between manufacturing sector output and tax policy. Specifically, a cursory look at statistics illustrates the revenue accrued from company income tax (CIT), import tax, and value-added tax (VAT) from 1994 until 2020. There is an increase in the real term. The country's manufacturing sector output growth has maintained a fluctuating trend during the same periods (see Figure 1).

Evidence suggests that the slow performance of the manufacturing sector in Nigeria is due in part to the absence of the harmonization and default in the coordination of tax policy, multiplicity of the tax system, and inappropriate networking in the tax administration (National Bureau of Statistics [NBS], 2020). In addition, the Federal Ministry of Finance (2013) opined that multiple tax systems, lack of taxation power clarification, and tax revenue accountability also play a significant role in the poor and sluggish growth of the manufacturing sector. Besides that, this policy will also lead to a reduction in the capacity and output of the manufacturing sector (Tomola et al., 2012).

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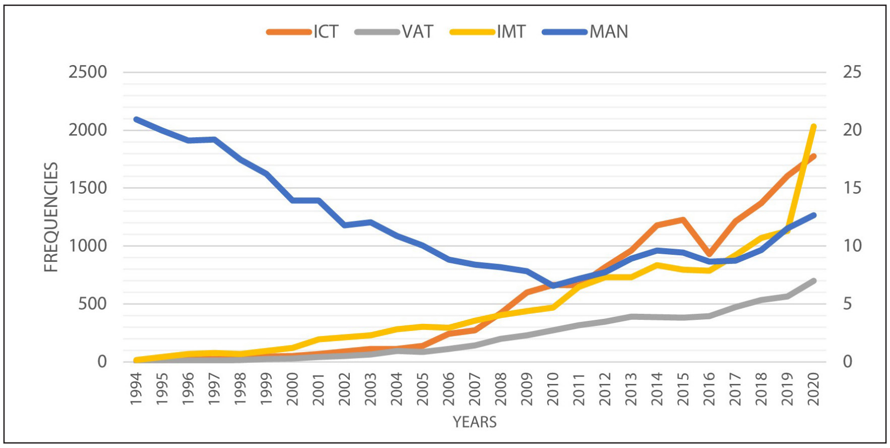
Some studies argue that several factors mainly cause the slow performance of the sector. The factors are inadequate electricity supply, smuggling of foreign products, exchange rate depreciation, interest rate, corruption, trade policies, decayed infrastructures, technological backwardness, and absence of access to credit facilities (Adewuyi, 2006; Agwu et al., 2017; Loto, 2012; Rasheed, 2010).

Figure 1. Relationship between Tax Policies and Manufacturing Sector in Nigeria



Source: Authors computation extracted from excel (2022)

Despite the unclear nature of the relationship between tax policies and manufacturing sector output in Nigeria, most empirical studies focused on the effect of fiscal policy, corporate tax, and value-added tax on the manufacturing sector. Moreover, researchers did not deem it essential to identify whether the tax policies have similar implications for manufacturing sector output. To the best of the researchers' knowledge, the current study failed to explore the combined effect of tax policies (company income tax, value-added tax, and import tax) on the manufacturing sector in Nigeria. Hence, an attempt to investigate whether tax policies (company income tax, value-added tax, and import tax) in the country have similar implications on the manufacturing sector.

The present study is built on the Keynesian theory of government intervention in the economy, which Wagner, peacock, and Solow further detailed. The idea assumed that government involvement in the economy could ensure the effective and efficient distribution of goods and services. Besides that, the government must provide the needed structures and facilities to promote the growth of the manufacturing firms through fiscal policies such as tax, government spending, subsidy, and monetary policies while lowering the interest rate, foreign exchange, loans, Central bank advances, et cetera (Okpe, 2018). Wagner's law of expanding state activities suggests that government spending in the economy can engender industrialization and economic development. In summary, the theory buttressed that government involvement in the manufacturing sector through infrastructure, credit facilities, subsidies, and cheap foreign exchange, tends to increase manufacturing sector output contribution to economic growth and development.

Over time, several empirical studies have been conducted to explore the effect of tax and fiscal policies on the manufacturing sector. Some studies illustrate that corporate tax and manufacturing sector output are positively related in Nigeria (Adefeso, 2018; Ewubare & Ozo-Eson, 2019; Hammed, 2018; Oladipo et al., 2019), and some others indicate a negative relationship (Okpe, 2018). Eze & Ogiji (2013) suggest that public expenditure is positively related to the manufacturing sector. Also, Ezejiofor et al. (2015) demonstrate a significant positive relationship between tax and the performance of Nigerian manufacturing companies. In addition, Arikpo et al. (2017) show that tax revenue has a significant positive effect on the manufacturing sector output in Nigeria from 1982 to 2014. Moreover, Etim et al. (2020) conclude that personal income tax and petroleum profit tax are positively related to manufacturing sector output in Nigeria from 1985 to 2018. Also, Ogu & Kem (2020) indicate that, while CIT positively affects the manufacturing sector output, customs and excise duty are negatively related to manufacturing sector output.

Furthermore, Yoke & Chan (2018) employed a panel regression approach to examine the effect of VAT on manufacturing sector performance in the Association of Southeast Asian Nations (ASEAN) countries. The results suggest that VAT has an adverse effect on manufacturing performance. In addition, Andabai (2019) employed the Granger causality to investigate the relationship between tax collection and manufacturing sector output in Nigeria. The result demonstrates that CIT, VAT, and personal income tax Granger cause manufacturing sector output in Nigeria.

Clearly, a survey of the literature illustrates that, while empirical studies on the relationship between fiscal policy (taxation) and manufacturing output in Nigeria abounds, there is a dearth of such studies which examine the combined effect of tax policies on the output of the manufacturing sector in the country. In addition, the estimation techniques adopted in most of these studies are found to be less robust than the Autoregressive distributed lag (ARDL) bounds testing approach used in the present study. Therefore, the current research is significant and contributes to the existing literature by examining whether tax policy (CIT, import tax, and VAT) has a similar implication on the manufacturing output in Nigeria using rich quarterly datasets spanning from 1994Q1 to 2020Q4. Lastly, by assessing the specific effects of tax policies on manufacturing output, the study is expected to provide practical insight into fiscal policy-making in Nigeria.

METHODS

Based on the nature of the study, quarterly time-series data covering the period from 1994Q1 to 2020Q4 are adopted. The choice of the period was guided by the availability of data for tax policies. Data were collected from the Central Bank of Nigeria (CBN) annual statistical bulletin, National Bureau of Statistics (NBS), Nigeria Custom service (NCS), and the World Bank's World Development Indicators (WDI). Specifically, the data on company income tax and value-added tax were sourced from CBN bulletin, while the data on exchange rate, interest rate, and manufacturing output were collected from WDI. Also, the data on import duties are sourced from NCS.

A functional relationship from this research shows in equation (1) to examine the relationship between manufacturing output and tax policies.

$$MAN = f(CIT, VAT, IMT, EXR, INT) \quad (1)$$

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Where: MAN is manufacturing sector output, company income tax is CIT, VAT denotes value-added tax, IMT represents import duties, EXR denotes the exchange rate, and interest is INT. The model in equation (1) is re-written in an explicit form to estimate the relationship.

$$MAN_t = \beta_0 + \beta_1 CIT_t + \beta_2 VAT_t + \beta_3 IMT_t + \beta_4 EXR_t + \beta_5 INT_t + \mu_t \qquad (2)$$

Where β_0 is constant/intercept, β_1 to β_5 presents the parameter estimates or slope of the variables; μ is the error term or random variable, which accounts for the effect of other variables.

Using the ARDL approach is using the model by Pesaran et al. (2001). This research uses the ARDL bounds testing approach to test the long-run relationship between the manufacturing sector, CIT, VAT, import tax, interest rate, and exchange rate. First, the stationarity properties of the series are observed using the ADF and Phillips-Perron unit root tests. This is done to ascertain that none of the variables is stationary at I(2). Secondly, the ARDL model is estimated using the automatic optimal lag specifications based on the Akaike information criterion (AIC). This is followed by bounds testing to check for a co-integrating relationship between the dependent and the explanatory variables. The ARDL form of the model specified for this study is given as:

$$\begin{aligned}\Delta MAN_t = {} & c_0 + c_1 t + \pi_1 CIT_{t-1} + \pi_2 VAT_{t-1} + \pi_3 IMT_{t-1} + \pi_4 EXR_{t-1} \\ & + \pi_5 INT_{t-1} + \sum_{i=1}^{p} \gamma_i \, \Delta\mathrm{MAN}_{t-i} + \sum_{j=1}^{q} \delta_j \, \Delta\mathrm{CIT}_{t-j} + \sum_{k=1}^{r} \theta_k \, \Delta\mathrm{VAT}_{t-k} \\ & + \sum_{l=1}^{s} \emptyset_l \, \Delta\mathrm{IMT}_{t-l} + \sum_{k=1}^{\mathrm{t}} \theta_k \, \Delta\mathrm{EXR}_{t-k} + \sum_{l=1}^{\mathrm{u}} \emptyset_l \, \Delta\mathrm{INT}_{t-l} + \varepsilon_t\end{aligned} \qquad (3)$$

$$\begin{aligned}\Delta MAN_t = {} & c_0 + c_1 t + \pi_1 CIT_{t-1} + \pi_2 VAT_{t-1} + \pi_3 IMT_{t-1} + \pi_4 EXR_{t-1} + \pi_5 INT_{t-1} \\ & + \sum_{i=1}^{p} \gamma_i \, \Delta\mathrm{MAN}_{t-i} + \sum_{j=1}^{q} \delta_j \, \Delta\mathrm{CIT}_{t-j} + \sum_{k=1}^{r} \theta_k \, \Delta\mathrm{VAT}_{t-k} + \sum_{l=1}^{s} \emptyset_l \, \Delta\mathrm{IMT}_{t-l} \\ & + \sum_{k=1}^{\mathrm{t}} \theta_k \, \Delta\mathrm{EXR}_{t-k} + \sum_{l=1}^{\mathrm{u}} \emptyset_l \, \Delta\mathrm{INT}_{t-l} + ECM_{t-1} + \varepsilon_t\end{aligned} \qquad (4)$$

Where c_0 is the intercept, c_1 is the slope of the time trend, π_1 *is* slope of one lag period of CIT, π_2 is slope of VAT, π_3 denote the slope of IMT, π_4 and π_5 give the slope of *EXR* and *INT. p,q, r, s,t,* and u are the periods of the differenced term of the response variable and the regressors, respectively, and ECM_{t-1} and ε_t is the error correction term and error term. The error correction term measures the speed of adjustment when disequilibrium occurs in the short-run to ascertain equilibrium in the long-run. Therefore, the lag structure of this model are: $ARDL(p,q,r,s,t,u)$.

RESULT AND DISCUSSIONS

The summary of the descriptive statistics of the variables in this study shows in Table 1. The descriptive statistics show that the average growth rate of manufacturing sector output during the period was 11.84, with a standard deviation of 4.24. In addition, the mean score of CIT is 544.36, LVAT is 2.02, while the average of LIMT is 11.48, EXR is 115.37, and INT is 18.26. CIT has the highest deviation, followed by EXR. Furthermore, the Skewness property indicates that MAN, EXR, and INT spread from the right-hand side of the normal curve, while LVAT and LIMT spread to the left-hand side of the normal curve. Equally, the Jarque-Bera property suggests that the data are normally distributed. The positive values of the Kurtosis being greater than 1 indicate a higher or too peak distribution.

Table 1. Descriptive Statistics

Variables	N	Mean	Std. Dev	Skewness	Kurtosis	Jarque-Bera
MAN	108	11.835	4.241	0.854	2.444	14.517***
CIT	108	544.357	549.501	0.732	2.223	12.374***
LVAT	108	2.021	0.638	-0.588	2.090	9.860***
LIMT	108	11.477	0.499	-0.687	2.920	8.522**
EXR	108	115.365	48.936	1.930	6.077	109.685***
INT	108	18.258	2.473	0.746	3.412	10.784***

Source: Authors computation (2021) Significance at *** 1%, ** 5%, and * 10%

In addition to the summary statistics of the series, the pairwise correlation and covariance are also considered. The pairwise correlation is used to know the correlation among the variables, whether positive/negative, weak, moderate, or strong. The results are summarized in Table 2. The values reported in the bracket represent the coefficient of the covariance. The results demonstrate a positive but moderate correlation between exchange rate and the manufacturing sector and a positive but weak correlation between interest rate and the manufacturing sector. On the contrary, the results indicate a significant, strong, and negative correlation between tax policies (CIT, VAT, and import tax) and the manufacturing sector.

Table 2. Pairwise correlations and Covariance

Variables	EXR	ICT	INT	LIMT	LVAT	MAN
EXR	1.000 (2372.549)					
CIT	-0.093 (-2488.659)	1.000 (299155.1)				
INT	-0.167* (-20.061)	0.691*** (-930.955)	1.000 (6.059)			
LIMT	-0.331*** (-7.767)	0.848*** (230.387)	-0.625*** (-0.764)	1.000 (0.247)		
LVAT	-0.351*** (-11.141)	0.848*** (294.775)	-0.649*** (-1.015)	0.984*** (0.311)	1.000 (0.404)	
MAN	0.521*** (107.101)	-0.508*** (-1174.079)	0.447*** (4.648)	-0.829*** (-1.738)	-0.875*** (-2.346)	1.000 (17.821)

Source: Authors computation (2021) Significance at **** 1%, ** 5%, and * 10%*

The unit root test was conducted using the ADF and PP tests. The results are presented in Table 3. The probability value of the PP revealed that MAN, LVAT, LIMT, and EXR

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are integrated of order zero I(0) at 5 percent and 10 percent levels. On the other hand, ADF and PP indicate that CIT and INT are stationary after taking their first difference. The mixture of I(0) and I(1) justifies using the ARDL bounds testing for cointegration.

Table 3. Unit root results

Variable	LEVEL				FIRST DIFFERENCE			
	ADF	Order	PP	Order	ADF	Order	PP	Order
MAN	0.395	NS	0.132*	I(0)	0.644	NS	0.000***	I(1)
CIT	0.999	NS	0.991	NS	0.001***	I(1)	0.000***	I(1)
LVAT	0.234	NS	0.004***	I(0)	0.358	NS	0.000***	I(1)
LIMT	0.894	NS	0.112*	I(0)	0.000***	I(1)	0.000***	I(1)
EXR	0.159	NS	0.134*	I(0)	0.000***	I(1)	0.000***	I(1)
INT	0.645	NS	0.621	NS	0.000**	I(1)	0.000***	I(1)
Fisher chi-square	9.535		24.530**		163.505***		403.067***	
Choi Z-stat	1.068		1.036		9.024***		19.149***	

Notes: The NS denotes not stationary, I(0) and I(1) denotes stationary at level and first difference.
Source: Authors computation (2021) Significance at **** 1%, ** 5%, and * 10%*

The result of the bounds testing is reported in Table 4. The result demonstrates that the F-statistics value (5.543) is greater than the upper critical value at the 1 percent level. This result, therefore, confirms the presence of cointegration between manufacturing sector output, tax policy, exchange rate, and interest rate.

Table 4. Result of the Bounds Test

Test Statistics	Value	Significance	I(0)	I(1)
F-statistics	5.543	10%	2.08	3.00
K	5	5%	2.39	3.38
		1%	3.06	4.15

Source: Authors computation (2021)

Given the confirmation of the cointegration relationship between the variables, the ARDL model is estimated, considering the optimal lag length suggested by AIC. The long-run and short-run estimates of the selected model are summarized in panel A and panel B of Table 5, respectively. The long-run result shows that company income tax, import tax, and exchange rate significantly affect the manufacturing sector at a 1 percent level. In contrast, the value-added tax is negatively related to manufacturing sector output and significant at a 1 percent level. Specifically, a percent increase in the company income tax will raise manufacturing output by 0.005 percent in the long run. Also, an increase in imports by a percent will lead to the expansion of the manufacturing output by 11.758 percent. In addition, a unit increase in value-added tax will reduce manufacturing sector output by 16.517 percent. Moreover, a percent increase in the exchange rate will increase manufacturing sector output by 0.017 percent.

Table 5. Results of the ARDL Model

Panel A: Long-run Coefficients – Dependent variable is *MAN*		
Regressor	**Coefficient**	**t-statistic**
CIT_t	0.005	7.152***
$LIMT_t$	11.758	5.067***
$LVAT_t$	-16.517	-11.068***
EXR_t	0.017	3.421***
INT_t	0.057	0.688
Panel B: Short-run Coefficients – Dependent variable is *ΔMAN*		
Regressor	**Coefficient**	**t-statistic**
ΔCIT_t	0.004	6.795***
$\Delta LIMT_t$	4.807	5.499***
$\Delta LVAT_t$	-7.938	-7.980***
ΔEXR_t	0.000	0.263
ΔINT_t	-0.138	-2.978***
ECM_t	-0.312	-6.443***
R^2 = 0.620	R^{-2} = 0.575	DW = 1.685

Source: Authors computation (2021) Significance at **** 1%*

Similarly, the short-run result shows that company income tax, import tax, and exchange rate are positively related to the manufacturing sector output. In contrast, value-added tax and the interest rate significantly negatively impact the manufacturing sector's output. A percent increase in CIT will lead to a 0.004 percent reduction in the manufacturing sector output. Also, a one percent increase in the import tax will cause manufacturing sector output to increase by 4.807 percent. Further, a unit increase in value-added tax leads to a 7.935 percent decrease in the manufacturing sector output. In addition, a one percent increase in interest rate will lead to about a 0.057 percent reduction in the manufacturing sector output. The coefficient of determination (R^2) shows that the explanatory variables cause 62 percent of the variation in the manufacturing sector output. The coefficient of the error correction term lagged by one period was found to be correctly signed, statistically significant, and less than unity. This result suggests that about 31 percent of deviations will be corrected within a quarter.

Table 6. Diagnostic and Stability Tests

Tests	Statistics	Prob.
Normality	Jarque-Bera	0.000
Serial correlation	Breusch-Godfrey	0.191
Heteroscedasticity	Breusch-Pagan-Godfrey	0.325
Ramsey RESET	F-statistics	0.096
CUSUM	Stable	0.05
CUSUMQ	Stable	0.05

Source: Authors' Computation (2021)

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The results of the diagnostic and model stability tests reported in Table 6 indicate that the ARDL model does not have problem of serial-correlation, functional form, normality and heteroscedasticity. In particular, the corresponding probability values of the Breusch-Godfrey serial-correlation Langrange Multiplier (ML) tests and Breusch-Pagan-Godfrey heteroscedasticity LM test (0.325) illustrate the absence of autocorrelation and heteroscedasticity. In addition, the Jarque-Bera test suggest that the errors are normally distributed, while the Ramsey RESET demonstrate that the model is well-specified. Lastly, the CUSUM and CUSUMSQ tests show that the coefficient of the ARDL model are stable.

Table 7. Pairwise Granger Causality Tests Result

Null Hypothesis	F-statistics
CIT does not Granger Cause MAN	3.597**
MAN does not Granger Cause CIT	0.841
LIMT does not Granger Cause MAN	2.235*
MAN does not Granger Cause LIMT	0.559
LVAT does not Granger Cause MAN	2.878*
MAN does not Granger Cause LVAT	0.391
EXR does not Granger Cause MAN	0.689
MAN does not Granger Cause EXR	1.557*
INT does not Granger Cause MAN	0.903
MAN does not Granger Cause INT	0.744

Source: Authors computation (2021) Significance at **** 1%, ** 5%, and * 10%*

The Granger causality procedure is adopted to determine the causal relationship between the series. The results of the Granger causality tests are reported in Table 7. The results demonstrate a unidirectional Granger causality running from company income tax, import tax, and value-added tax to the manufacturing sector output in Nigeria. This result validates the outcome of previous research (Andabai, 2019). In addition, the results indicate a unidirectional Granger causality from manufacturing sector output to exchange rate.

The estimation results reveal exciting implications. For instance, the positive relationship between company income tax and the manufacturing sector output in Nigeria, both in the long-run and short-run, aligns with the findings of several studies (see Adefeso, 2018; Andabai, 2019; Aziz & Sharifuddin, 2019; Ehinomen et al., 2017; Ewubare & Ozo-Eson, 2019; Hammed, 2018; Oladipo et al., 2019; Ubesie et al., 2020; Uwuigbe, 2016). However, Okpe (2018), and Uffie & Aghanenu (2019) found the contrary outcome. The positive relationship between CIT and manufacturing sector output implies that an increase in the company income tax rate can raise the manufacturing sector output. Since the increase in company income tax implies higher tax revenues to the government (other things being equal). It is expected that the effective utilization of tax revenues from CIT in providing public goods and services (such as roads, power, water, and security) will lower the cost of production, consequently leading to improved productivity in the manufacturing sector.

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In addition, the positive effect of import tax on manufacturing tax validates the empirical finding of several studies (Arogundade et al., 2015; Ogu & Kem, 2020). The outcome suggests that the increase in import tax will discourage the import of goods and services, leading to an increase in the manufacturing sector's demand, performance, and productivity. Furthermore, the results indicate that VAT has an adverse impact on manufacturing sector output both in the short- and long-term, thus confirming the findings of previous studies (Etim et al., 2020; Ewubare & Ozo-Eson, 2019; Oladipo et al., 2019; Yoke & Chan, 2018). Since consumers directly bear the VAT cost, the increased VAT will negatively affect the demand for goods, thus lowering the growth of the manufacturing output.

CONCLUSION

The study examined whether tax policies in Nigeria have similar implications for the manufacturing sector output in Nigeria during the 1994Q1-2020Q4 period using the ARDL bounds testing approach to cointegration. The bounds testing results demonstrate the presence of cointegration between manufacturing sector output and tax policies (VAT, CIT, and import tax) alongside interest and exchange rates. In addition, the estimation results indicate that company income tax and import tax have a positive effect on manufacturing sector output. In contrast, the value-added tax is negatively associated with manufacturing sector output. Furthermore, the Granger causality test results show a unidirectional causal relationship running from company income tax, import tax, and value-added tax to the manufacturing sector.

Therefore, the study recommends policies and measures to prioritize the company income tax and import tax as tax policy instruments to improve Nigeria's manufacturing sector's performance. In addition, accountability, transparency, and effective and efficient use of taxes collected to provide viable social infrastructures that will aid the growth of the manufacturing sector are advanced. Lastly, the government and the tax administrators are advised to review the diversity in the tax system, especially the VAT from the 7.5% benchmark, to reduce its adverse effect on individuals, companies, and government agencies.

REFERENCES

Adefeso, H. A. (2018). Government Tax Policy and Performance of Listed Manufacturing Firms in Nigeria: Evidence from Dynamic Panel Data Model. *Zagreb International Review of Economics & Business, 21*(1), 1-15. https://doi.org/10.2478/zireb-2018-0001.

Adewuyi, A. O. (2006). Trade Policy Reform and Technical Efficiency in Nigeria's Manufacturing sector. *Proceeding The African Econometrics Society (AES) Conference.*

Andabai, P. W. (2019). A Causality Investigation of Taxation and Manufacturing Sector Growth in Nigeria. *International Journal of Managerial Studies and Research*, *7*(10), 1-7.

Agwu, S. O, Ujunwa, A, Ezike, I. B, Chijioke, I. F & Ukemenam, A. (2017). Effects of Fiscal and Monetary Policies on the Nigerian Manufacturing Sector. *Journal of Finance and Investment Analysis, 6*(1), 1–10.

https://journal.uinjkt.ac.id/index.php/etikonomi
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Arikpo, F. O. Ogar, A., & Comelius, O. M. (2017). The Impact of Fiscal Policy in the Performance of the Manufacturing Sector in Nigeria. *Euro-Asian Journal of Economic and Finance, 5(1), 11-22.*

Arogundade, K. K., Obalade, A. A. & Ogumakin, A. A. (2015). The Infant Manufacturing Industry Argument on Tariff: the Nigeria Hypothetical Example. *International Journal of Academic Research in Business and Social Sciences, 5*(6), 1-10.

Aziz, N. A. & Sharifuddin, J. (2019). Effects of Government Incentives on the Performance of SMEs. *International Journal of Community Development & Management Studies, 3*, 43-55.

Ehinomen, C. O., Akindola, R., & Adeleye, S. (2017). The Impact of Taxation and Government Expenditure on the Industrial Sector Performance in the Nigeria Economic Recession. *International Journal of Research in Economics and Social, 7*(2), 186-199.

Emmanuel, F. O. & Oladiran, O. I. (2015). Effect of Government Capital Expenditure Manufacturing Sector Output in Nigeria. *Business and Economic Research, 5*(2), 136-152

Engen, E. & Skinner, J. (2008). Taxation and Economic Growth. *National Tax Journal, 49*(4), 617-642.

Ewubare, D. B. & Ozo-Eson, I. P. (2019). Effect of Taxation on Manufacturing Sector Output in Nigeria. *International Journal of Economics and Financial Management, 4*(4), *46-52.*

Etim, O. E., Mbobo, E. M., Ihenyen, C. J., & David, J. E. (2020). Taxation and Manufacturing Sector Output in Nigeria. *International Journal of Research and Innovation in Social Science, 4*(6), *240-249*.

Eze, O. R., & Ogiji, F. O. (2013). Impact of Fiscal Policy on the Manufacturing Sector Output in Nigeria: An Error Correction Analysis. *International Journal of Business and Management Review, 1*(3) *35-55.*

Ezejiofor, A. E., & Adigwe, P. K., & Nwaolisa, E. F. (2015). Tax as a Fiscal Policy and Manufacturing Company's Performance as an Engine for Economic Growth in Nigeria. *European Journal of Business, Economics and Accountancy, 3*(3), *1-12.*

Federal Ministry of Finance. (2013). *National Tax Policy.* Federal Ministry of Finance. Abuja.

Hammed A. A. (2018). Government Tax Policy and Performance of Listed Manufacturing Firms in Nigeria, *Zagreb International Review of Economics & Business, 21*(1), 1-15.

Loto, M. A. (2012). Global Economic Downturn and the Manufacturing Sector performance in the Nigerian Economy. *Journal of Emerging Trends in Economics and Management Sciences, 3*(1), 38-45.

National Bureau of Statistics. (2020). *Nigerian Gross Domestic Product.* NBS. Abuja.

Oladipo, O. A., Iyoha, O. F., Fakile, A. S., Asaleye, A. J., & Eluyela, D. F. (2019). Do Government Taxes Have Implications on Manufacturing Sector Output? Evidence from Nigeria. *Journal of Management Information and Decision Sciences, 22*(3), 181-190.

Olamade, O. O., Oyebisi, T. O., & Olabode, S. O. (2014). Strategic ICT-Use Intensity of Manufacturing Companies in Nigeria. *Journal of Asian Business Strategy, 4*(1), 1-17.

Olawumi, O. R. (2020). Nexus between Manufacturing Sub-Sector and Economic Growth in Nigeria: 1981-2018. *Port Harcourt Journal of History & Diplomatic Studies*, *7*(1), 171-189

Olorunfemi, S., Tomola, M. O., Adekunjo, F. O., & Ogunleye, E. O. (2013). Manufacturing Performance in Nigeria: Implication for Sustainable Development, *Asian Economic and Financial Review, 3*(9), 1195-1213.

Ogu, C., & Kem, P. O. (2020). Impact of Taxation on Industrial Performance in Nigeria. *Global Journal of Applied, Management and Social Sciences, 18*(1), 173-185.

Okpe, I. J. (2018). The Role of Government Policies on the Nigerian Manufacturing Sector. *International Journal of Advanced Studies in Economics and Public Sector Management, 6*(2),125-143

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, *16*(3), 289-326. https://doi.org/10.1002/jae.616

Rasheed, O. A. (2010). Productivity in the Nigerian Manufacturing Sub-Sector. *European Journal of Economics, Finance and Administrative Sciences, 6*(8), 1450-2275.

Sakanko, M. A. & Maria, A. (2017). Assessment of Lending Interest Rate on the Growth of Manufacturing Sector in Nigeria. *Sokoto Journal of Management Studies, 12(1), 47-69.*

Szirmai, A. (2009). Industrialization as an engine of growth in developing countries, *MERIT Working Papers 010,* United Nations University, Maastricht Economic and Social Research Institute on Innovation and Technology (MERIT).

Tomola, M. O., Adedisi, T. E. & Olawale, F. K. (2012). Bank Lending, Economic Growth and the performance of the Manufacturing Sector in Nigeria. *European Scientific Journal,* 8(3), 19-34.

Ubesie, C. M., Ananwude, A., Cyracus, E. N., & Emmanuel, E.. (2020). Does Fiscal Policy Tools have the Potential to Stimulate Performance of Manufacturing Sector in Nigeria? *Finance & Economics Review*, *2*(3), 33–51

Uffie, E. J., & Aghanenu, A. S. (2019). Fiscal Policy and Manufacturing Sector Output: the Nigerian Evidence. *International Journal of Research in Social Sciences, 9*(7), 13-25.

Uwuigbe, U. (2016). Tax Incentives and Growth of Manufacturing Firms in Nigeria. *The Social Science, 11*(7), 1338-1342.

Yoke, L. M. & Chan, S. (2018). The Impact of Value Added Tax on Manufacturing Performance in ASEAN. *International Journal of Business, Economics and Law, 17*(1), 7-15.

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Governance and Performance: Does Bank Risk Matter?

Estu Widarwati[1*], Sonia Karmila[2], Nunik Nurmalasari[3]
[1,2,3]STIE Sutaatmadja, Subang, West Java, Indonesia
E-mail: [1]wie2tdz@gmail.com, [2]soniakarmila354@gmail.com, [3]nuniknurmalasari90@gmail.com
[*)]Corresponding Author

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Abstract
Governance becomes a guideline for the banking management system and is essential for banking survival during regular economic crises. We investigate the impact of governance on performance in the Indonesians' conventional and examine the mediating role of bank risk in bank governance and performance relationship. The samples are 18 conventional banks listed on Indonesia Stock Exchange (IDX) from 2014 to 2021 and analyzed using panel data regression and the Sobel test. We find that the risk of state-own banks is higher than private and foreign banks, which could lead to lower performance. Then the results indicate that board size and board age impacted bank risk and performance. Banks should consider the board size for efficiency and the maximum standard of their directors' age based on arguments related to innovation-based work productivity in the competitive banking industry. Examining the differences in bank ownership and bank characteristics linked to bank risk needs the subsequent exploration of banking governance research. This result is strong evidence of mediation in this study.

Keywords:
governance, board, bank risk, Z-score, bank performance

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INTRODUCTION

Good performance is the driving force for the competitive advantage that every banking industry must have. It is closely related to the role of banks in the country's economy. The vital role played by the bank when it does not have a good performance will result in instability of the economic cycle and even stop the wheels of a country's economy. In other words, the banking sector is demanded to maintain healthy performance so that all processes in the economy in that country can run properly.

In conditions of economic instability, the role of banks is crucial, namely policymakers for economic security. The sluggish world economy in 2019 pushed some central banks in several countries to make some economic stability policies, such as lowering benchmark interest rates to keep the country's economy from slowing down. The Indonesia Central Bank also has lowered its benchmark interest rate four times to continue to boost the domestic economy. Even though the world economy is slowing down, Indonesia's banking show stable performance but is still not optimized yet based on the inefficiency of the bank and decreasing net income margin (NIM). However, there is good growth in the capital adequacy ratio (CAR).

Various factors influence financial performance, and one of them is governance. Since the global crisis in 2008 triggered the financial crisis that caused many companies, including banks, to fail, many researchers have developed a determinant model of performance and identified that the weakness of governance implementation is one of the leading causes. A survived company during the crisis period has emphasized good (Francis et al., 2012), which encourages the urgency of corporate governance reform in various industries, including the banking sector. The global financial crisis has highlighted the need for strengthening of governance mechanisms of financial institutions. Weaknesses in the bank governance structures contribute to bank insolvency (Dedu & Chitan, 2013) and have been identified as the critical determinants of the recent financial crisis (Abid et al., 2021).

The factors that cause the weak governance of the bank include the lack of relationship between shareholders and management, weak direction and control exercised by the board in managing assets, debts, and even operating the bank system. The management works and is too free in making important decisions for the bank's sustainability. The management does not apply the principles of good governance in conveying business developments and financial reports to shareholders and creditors. This argument is considered an opportunity for irresponsible parties to do things outside the company's interests. Therefore, this impact is a reduced level of investor confidence in the company.

Lukviarman (2016) explains that the concept of a governance system is related to a set of logical subsystems and associated feedback loops that affect every company's strategic decision-making process. The tools of a dynamic governance system will support the implementation of a governance model. The governance model is a framework and decision-making process designed for the growth and sustainability of companies in their

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environment. Moreover, top management characteristics are considered to dominate a governance system adopted by the company. The governance system consists of three main components: governance structure, governance process, and governance outcome, where the understanding of governance systems and models will later help companies in operationalizing governance. Especially in organizational processes, governance systems and models need to be implemented as a unit so that later they can interact better and provide optimal results.

Improving bank performance will protect stakeholders' interests and increase compliance with applicable regulations. That applies in general to the banking industry. Banks must implement good governance as a guideline in their business activities. Boards are the central part of governance to monitor and advise management, protecting the interests of shareholders both in standard economic times and crises (Adams & Ferreira, 2007). The number of boards is essential for better bank governance. Adams & Mehran (2012) and Aebi et al. (2012) have observed that board size is positively related to Tobin Q, respectively ROE, claiming that increasing the board size generates added value due to the growing complexity of banks over time. Thus, better monitoring and advising of managers are enabled.

However, increasing the number of board members may lead to coordination, control, and flexibility problems in the decision-making process, such as the finding of Andres & Vallelado (2008). A lack of supervision within the institution, which is the responsibility of the bank's board of commissioners, and wrong investment decisions can reduce investor confidence in the bank. Therefore, banks need to implement a sound governance system to minimize bank risk (Pathan, 2009; Dedu & Chitan, 2013) and create an excellent performance to achieve the expected goals and objectives effectively and efficiently.

The importance of analyzing the performance within the bank is closely related to seeing the extent to which a bank can carry out its financial management properly and see the bank's resilience to bank financial risks. One of the risks that banks often face is insolvency risk, which means that the bank's assets cannot cover its liabilities and debts. Therefore, exploring performance using a risk approach is preferable based on the argument that Government is related to an attitude if someone makes a decision that some risks must be taken or faced later. Besides, the limited human thinking power regarding future perceptions includes seeing the risks that can occur without realizing it.

Banks are expected to continue to perform well, be resistant to insolvency risks, and avoid the risk of bankruptcy. The implementation of good governance can help banks minimize risks for the better. The Z-score is commonly used to assess the risk and stability as a whole and is better known as the time-varying Z-score method. According to Cihák & Hesse (2007), the greater the z-score of a bank, the healthier or more avoid the risk of insolvency. Conversely, the smaller the z-score a bank has, the more vulnerable it will be to problems with insolvency risk.

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Governance becomes a guideline for managers in banking to implement a sound system for managing the bank. Through good governance, managers will make financial decisions that benefit all parties (stakeholders). However, research concerning the role of governance mechanisms ineffective bank risk control is limited. Furthermore, very little is known about the role of governance in the banking sectors of developing economies. Banks are an industry engaged in finance, giving, and receiving money from the public, so good governance is needed. The bank regulatory requirements may induce the "agent problem" between shareholders, who wish to maximize the value of investments, and the regulator, who seeks financial stability for each entity and the reduction of the systemic risk (Jensen & Meckling, 1976).

Governance becomes a determinant for banks to continue developing and survive even when a crisis occurs, both from the bank's internal and external environment. The management holds a significant role in adopting and implementing good governance, considering that the other stakeholders, such as shareholders or debt holders, cannot impose effective governance in banks (Dedu & Chitan, 2013).

Governance is crucial for the banking industry sector. Implementing Good Corporate Governance (GCG) in banking is one of the aspects that is considered to be related to the risk level of the banking sector. Moreover, its application in Indonesia has been regulated in the Financial Services Authority Regulation concerning the Implementation of GCG for Commercial Banks. Based on the results of Indonesian Banking Development Institute (LPPI) research in 2016-2018, the composite value of GCG at banks in Indonesia is lower than the expected average composite value of 1 (one) regarding the standard of Indonesia Central Bank about the implementation of GG for commercial banks. Therefore there is a need for improvement and innovation in governance implementation in Indonesian banking.

The topic of governance is still relevant to be explored after the findings of Zhuang et al. (2001) that strengthening governance is essential for sustainable performance, significantly minimizing risk in times of crisis. This research follows El-Chaarani (2014), focusing on the linkage of governance to bank risk. It explores new the role of bank risk as moderation between governance and performance in Indonesian banking. It is based on the importance of the bank's role as a mediator in the financial market so that bank risk must control through factors that can determine its magnitude, including board size and age of directors.

Some internal attributes of governance will impact performance related to the governance system. The governance system in Indonesia uses two board structures (a two-tier board system), consisting of a board of commissioners and a board of directors. One of the most analyzed variables in governance study is board size because it is not clear the effect of its performance (Arosa et al., 2013). Board size is the number of members who hold board positions in a company and is fundamental to the company's success. Board size is the size of the Board of Commissioners and the Board of Directors in the board structure within the bank. The bigger the board size, the better the extent of supervision, control, and management carried out within the company. Large boards

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are less effective than smaller boards, and limited board size may increase performance (Sheikh et al., 2011). According to research conducted by Adams & Mehran (2003), a large board size will improve company performance and provide more control over management. It is in line with research results from Bhatt & Bhatt (2017) show that board size positively affects company performance. The board with high links to the external environment improves access to resources, which positively impacts performance.

However, according to Guo & Kga (2012) and Abid et al. (2021), the greater the size of the board, the less effective it will be because it will create a less conducive climate. Their research shows that the board size harms bank value and performance. Large boards may be less efficient due to difficulty in solving the agency problem among the members of the boards (Arosa et al., 2013). Thus the effect of board size is a trade-off between benefit and cost.

The other critical analysis of governance is board age. Age in the world of work has stereotypes that develop in the community. Many think that the older a person is at work, he will do unsatisfactory results. The lower the productivity level will reduce his work quality compared to his younger colleagues. The latter is often assumed that young workers will be more productive, full of creativity and bright ideas, and more aggressive at work. Age has a role in improving decision quality because taking risks behavior of boards may change according to their age (Wiersema & Bantel, 1992). We use the board of directors' age as a component in determining governance in Indonesians' banking. It is closely related to the level of one's productivity at work. Directors are individuals who manage within the company, so productivity levels are expected to be high to create good company performance. Research conducted by Bhatt & Bhatt (2017) shows that the age of directors positively affects performance. Meanwhile, the results of research by Shuying et al. (2017) find that board age's negative effect on innovation capability leads to decreasing performance. Then first, we test the hypothesis that there is an effect of board size and board age on bank performance.

Furthermore, the importance of analyzing the governance within the bank is closely related to the extent to which a bank can carry out its financial management properly and see the bank's resilience to bank financial risks. One of the risks that banks often face is insolvency risk, which means that the bank's assets cannot cover its liabilities and debts. Bank governance, both board size and board age may change the decision quality in taking the risk. Then secondly, we test the hypothesis that banks' governance influences banks' risk. The role of board characteristics determines bank performance through the trade-off between the advantages and disadvantages of their monitoring and advising roles (Fernandes et al., 2018).

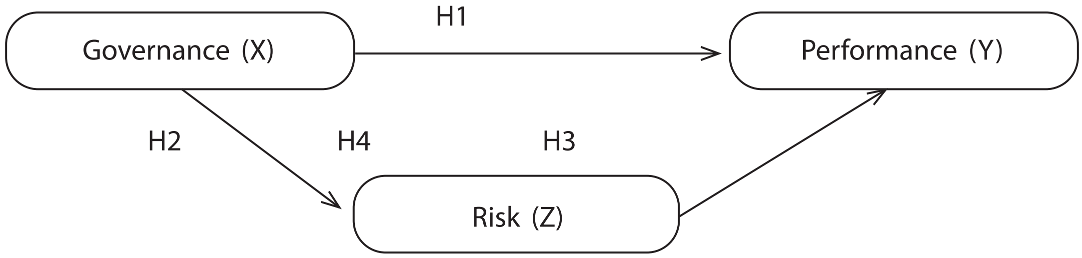
Kakar et al. (2021) show that the primary goal is to increase profitability and optimize performance. The cost of risk can arise on the way to completing this objective. Banks can manage and control the risk because the risk can cause a bank deficit. Therefore bank faces various types of risk, such as insolvency risk. Then thirdly, we test the hypothesis that bank risk impacts bank performance. We explore the mediating role of bank risk in governance and performance relationships. It is based on the argument that an influential role of the board will reduce the level of bank risk and improve bank performance. Fourthly, we test the hypothesis that bank risk has a mediation role in governance and bank performance relationship. To control our model, we use bank size as a control variable to better explain the results.

Therefore, our study analyzes the mediating role of bank risk in the governance and bank performance relationship from 2014 to 2021. The research formulates problems related to board size and board age's influence on bank performance. Also, both affect the bank risk and the mediated role of bank risk. It is expected to have the practical implication that the banking industry can optimize the governance structure, especially the number and the age of the board, as a strategic decision for minimalizing bank risk. This study helps determine some factors that help improve bank governance and help control bank risk and management risk for increasing return on assets. Furthermore, this research is also expected to reference the Government's consideration of bank performance strategy through good governance structure according to bank board and the level of bank risk.

METHODS

This study investigates the impact of governance on Indonesians' bank performance with bank risk as a mediation variable. We explore yearly data of conventional banks listed on the Indonesia Stock Exchange (IDX) for the 2014-2021 period. Analyzed data by assessing and deepening the literature relating to research, online searching, and other websites linked to data needs. Our sample based on board profile of 18 bank namely Bank Rakyat Indonesia Agro Niaga Tbk, Bank MNC International Tbk, Bank Central Asia Tbk, Bank Bukopin Tbk, Bank Mestika Dharma Tbk, Bank Negara Indonesia (Persero) Tbk, Bank Tabungan Negara (Persero) Tbk, Bank Danamon Indonesia Tbk, Bank Pembangun Daerah Jawa Timur Tbk, Bank QNB Indonesia Tbk, Bank Mandiri (Persero) Tbk, Bank CIMB Niaga Tbk, Bank of India Indonesia Tbk, Bank Tabungan Pensiunan Nasional Tbk, Bank Mega Tbk, Bank OCBC, Bank Pan Indonesia Tbk, and Bank Woori Saudara Indonesia 1906 Tbk. We exclude bank mergers or acquisitions and incomplete data for variables. Our study focuses on the new role of bank risk that mediates the relation between governance and bank performance, so we use the relevant measurement of each data in bank reports.

Figure 1. Research Model



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According to James & Joseph (2015), the study employs return on asset (ROA) as a proxy of bank performance as a dependent variable because it signifies the actual productivity of the bank. Then we used Z-score as insolvency risk for measuring the bank risk that follows Dedu & Chitan (2013). Our independent variable is governance proxied by board size according to Guo & Kga (2012) which is the number of directors and commissaries member, then directors' age measured by average director age according to Bhatt and Bhatt (2017). Based on previous research, we use the control variable as bank size, which is measured by the total asset of the bank (Dedu & Chitan, 2013; James & Joseph, 2015).

Figure 1 shows the research model from this research. The empirical model of this study relates to our aim of examining the mediation role of bank risk on the relationship between governance and bank performance. We build four hypotheses as explained, and we develop the following equations of an empirical model for both direct and indirect effects:

Regression X-Y

$$PRFOMit = \beta_0 + \beta_1 \, BRDSZE_{it} + \beta_2 \, AGEBRD_{it} + \beta_3 \, BSIZE_{it} + e \quad (1)$$

Regression X-Z

$$BRISKit = \beta_0 + \beta_1 \, BRDSZE_{it} + \beta_2 \, AGEBRD_{it} + \beta_3 \, BSIZE_{it} + e \quad (2)$$

Regression Z-Y

$$PRFOMit = \beta_0 + \beta_1 \, BRISK_{it} + \beta_2 \, BSIZE_{it} + e \quad (3)$$

Regression X-Z-Y

$$PRFOMit = \beta_0 + \beta_1 \, BRDSZE_{it} + \beta_2 \, AGEBRD_{it} + \beta_3 \, BRISK_{it} + \beta_2 \, BSIZE_{it} + e \quad (4)$$

Symbol *it* represents Bank and time; respectively, PRFORM is bank performance proxied by Return on Asset (ROA), BRISK is bank risk measured by time-varying Z-score as a proxy of insolvency risk. BRDSZE is the board size, namely the sum of the bank's commissioners and directors members, AGEBRD is the director's age, and BSIZE reflects the bank size as measured by LN assets.

We use panel data regression to test the impact of governance on bank risk and bank performance, especially common effect and fixed effect. We also do the Sobel test to explore the mediating role of bank risk in governance and bank performance relationship.

RESULT AND DISCUSSIONS

Descriptively, our analysis in Table 1 shows bank performance data by *Return On Asset* (ROA) and bank risk measured by Z-score as insolvency risk. The result showed a decrease in the bank performance of Indonesians' conventional Bank, especially during covid 19 in 2020-2021, and it creates higher bank risk as seen in increased Z-score value. We analyze the data and find that Indonesia's conventional banking performance measured by ROA had been good based on the expected value of central bank regulation of all banks thought few. Furthermore, we find that state-owned banks have higher performance (ROA) than private banks and foreign banks.

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There was a significant fluctuation in the average z-score of conventional banks in Indonesia from 2014 to 2021. In 2019, the average z-score decreased from 288.29 (2018) to 180.24. The decrease in the average z-score may have been caused by an increase in capital adequacy ratio, which was not accompanied by increasing in ROA, which tended to decline. Furthermore, based on the sample of state-own bank, private bank, and foreign bank, each still shows instability performance during 2014-2021 based on its z-score, but the data shows that the average insolvency risk of state-own banks is higher than private banks and foreign banks risk.

The result of descriptive data of bank governance refers to the composition of the board size in banking is stated regulation of Indonesia Central Bank concerning the Implementation of Good Governance for commercial banks where the commissioners' board is at least three people. Our data show that most of the samples have the same members board according to the regulations. Implementing the commissioners' board composition and directors in each Indonesians' conventional bank of 2014-2021 has referred to this rule.

Table 1. Descriptive Statistics Year by Years of ROA and Z-Score

Years	Banks	Statistics	ROA	Z-Score
2014	18	Mean	2.39	118.24
		St.dev	1.43	124.41
2015	18	Mean	1.97	265.91
		St.dev	4.10	433.99
2016	18	Mean	0.71	131.83
		St.dev	4.84	101.83
2017	18	Mean	1.61	161.99
		St.dev	1.87	159.00
2018	18	Mean	2.19	288.29
		St.dev	1.12	516.66
2019	18	Mean	1.91	180.24
		St.dev	1.23	171.42
2020	18	Mean	0.78	204.59
		St.dev	1.95	403.02
2021	18	Mean	0.53	286.87
		St.dev	2.93	307.77

This table presents the descriptive statistics of bank performance and risk, ROA is the return on assets (%), and Z score is bank insolvency risk.

The number of boards in conventional bank Indonesia has fluctuated every year, and the average boards size during the 2014-2021 period was 14 boards member in each bank. The governance analysis in terms of board age is closely related to one's performance, showing that the average age of directors of conventional banks in Indonesia during the 2014-2021 period is 46-63 years old. Moreover, although the average age of conventional bank directors each year is still in perspective productive age of Indonesia,

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namely 15-64 years, it tends to be the last formative age. Generally, the sample of this study is dominated by private banks. Table 2. presents the descriptive statistical analysis of bank governance and bank risk.

Table 2. Descriptive Statistical Analysis of Bank Governance and Bank Risk

	RISK (LN Z-SCORE)	BOARD SIZE	DIRECTORS AGE
Mean	4.559944	13.67361	53.79458
Median	4.620532	14.00000	53.36000
Maximum	7.696170	25.00000	62.80000
Minimum	-0.214265	6.000000	46.25000
Std. Dev.	1.332544	4.182598	3.005006
Observations	144	144	144

Source: Authors data, 2022

The results of the complete statements of 144 showed the max value of the board size is 25 people, while the minimum amount is 6 people. The board age has a mean of 54 years old. The max value of average board age is 63 years, while the min value is 46 years. Our data shows that state-own banks have more boards than private banks and foreign banks. Then the private banks have the older boards than other banks and it could create more risk for they're operational. According to Hambrick & Mason (1984) is concerned with older executives that avoid risk more. Our descriptive analysis results that the average of capital adequacy ratio in Indonesians' conventional banking increase during pandemic crisis 2020-2021 and the state-own banks have higher assets also a better performance of ROA than other banks. The regressions result in Table 3 run the cross-section weight of common effect and fixed effect for the four equations of bank governance, bank risk, and bank performance.

Model (1) shows that board size as a governance proxy directly affects bank performance, so our hypothesis is accepted, which means the high number of boards leads to low bank performance. Guo & Kga (2012) that find a negative impact of boards size on performance. According to the agency theory argument, the conflict between shareholders and managers gives an idea of how to monitor the conflict and increase the firm's performance, which means good corporate governance increases banks' efficiency. Most researchers believe that large board size is increased the banks monitoring power. However, it is devalued by a lack of communication and decision-making inefficiency (Rahman & Islam, 2018) is relevant to our finding that board size in Indonesians' banking makes bank performance lower. It follows Adams & Mehran (2012), who stated that the larger the board size provides more supervision and control over management. The research results conducted by Bhatt & Bhatt (2017) explain that governance, which is proxied by board size, has a significant effect on performance, including the risk. Fernandes et al. (2021) conclude that different governance characteristics have different relevant for banks' risk-taking continget on the economic environment being one of stability or crisis.

Table 3. Regression Result

	Research Model			
	Model (1) regression X - Y	**Model (2) regression X - Z**	**Model (3) regression Z - Y**	**Model (4) regression X-Z-Y**
Dependent Variable *Bank Performance (ROA)*				
Mediation Variable *Bank Risk (BRISK)* Z-Score			0.5536* (0.0915)	0.4379* (0.0724)
Independent Variable *Governance* Boards Size *(BRDSZE)* Directors' Age *(AGEBRD)*	-0.1483* (0.0469) 0.1507* (0.0427)	0.0759* (0.0222) 0.0775* (0.0283)		-0.1347** (0.0565) -0.0745 (0.0735)
Control Variables *Bank Size(BSIZE)*	-0.1508 (0.0504)	0.0091** (0.0047)	0.0049 (0.0063)	-0.0429 (0.0473)
Year dummies	Not Included	Not Included	Not Included	Not Included
Constant	Included	Included	Included	Included
Method	FE GLS	CE GLS	CE GLS	FE GLS
Adjusted R-squared	0.5872*	0.1115*	0.2205*	0.6679*

This table presents the results of panel data regression of the research model. The dependent variable is bank performance proxied by return on asset (ROA); the independent variable is governance proxied by board size (BRDSZE) and age of directors AGEBRD); BRISK is bank risk measured by Z-score as insolvency risk level. The control variables are bank size(BSIZE) measured by Ln asset. The values in parentheses are standard errors. *significant 1% ; **significant 5%

Meanwhile, we have substantial evidence that board age impacts performance, and the hypothesis for directors' age proxy of governance is accepted. This result is consistent with Arioglu (2021), that also found a positive impact of board age diversity and company performance. But, it is not in line with Goll & Rasheed (2005) that not find the impact of board age on performance. The data show that there is no fixed government regulation that stipulates the bank itself regulates an age limit for who occupies a position of directors and regulations regarding the age of a person at work according to the needs of the bank. However, most of the directors are still in the productive working age range in its implementation. Although it is dominated by directors aged <63 years, several directors are still over the productive age limit in Indonesia, namely> 63 years. The impact of people getting older also affects one's performance at work. However, the other side of the increasing age of directors indicates that their experience is getting better, a wiser attitude that helps make better decisions for the company. Malek et al. (2021) state that age diversity should examined based on the inclusion of different generations to the board, and not just the average number of directors' age. Khidmat et al. (2020) state that the director's diversity reduces the managerial entrenchment on the one hand, while, through networking, increases the resources of the firms on the other side.

Table 3 shows that bank governance proxied by board size directly impacts bank risk positively, and our result is the same as the finding of Rahman &Islam (2018).

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Our hypnotic accepts that a large board size increases the bank's monitoring power and makes decisions making efficiency, leading to lower costs, and bank could minimize the insolvency risk. The addition and reduction of the number of boards affect the insolvency risk index. Every time there is an addition of one board, it will increase the z-value. It means that each different number of boards will increase the insolvency risk index of the bank so that it will decrease the sustainability of the bank's performance and vice versa. Our findings show there is strong evidence board age positively impacts to bank risk. This result is in contrast with Berger et al. (2014) that conclude the increased board age makes a lower bank risk-taking. Increasing board size on the board's structure will increase the management, supervision, and control of the broader power, referring to the inefficiency of a large board in Indonesia's conventional banking.

As expectation, the age of directors also affect the insolvency risk index (z-score) of the bank. It is what makes the old or young director's age measure able to be used as an absolute measure to assess a person's good or bad performance at work. Even though the elderly directors experience a decline in physical skills, this will be replaced by the benefits of a more extended work experience compared to young workers who still need time to create a good track record to generate trust in the company.

Therefore, table 3 shows that our hypothesis about the effect of bank risk on bank performance found positive signs in our study according to model (3). According to Cihák and Hesse (2007), the greater the z-score of a bank leads to the healthier or avoid the risk of insolvency. Banks are expected to continue to perform well and be resistant to insolvency risks and avoid the risk of bankruptcy. The implementation of good governance can help companies minimize risks for the better. The Z-score is commonly used to assess the risk and stability as a whole and is better known as the time-varying Z-score method. Furthermore, we find an indirect relationship between bank governance, bank risk, and bank performance which bank risk and board size have a significant effect.

We do the Sobel test to test the mediating role of bank risk in governance and bank performance relationship and the result shows that bank risk as significant mediation in board size and bank performance which z-test value is 2,9763. The number of board increases the bank risk and will decrease the stability of bank performance because the lack of communication and decision-making inefficiency. We also find substantial evidence of bank risk as mediation in the relationship of board age and bank performance which z-test value is 2,4947. The old or young director will determine the level of bank risk liked to their innovation and experience in decision-making. Our findings show no strong evidence about the control effect of bank size in the relationship of bank governance, bank risk, and bank performance.

CONCLUSION

Good banking governance help banks move effectively and efficiently to create a good performance, especially in finance, and reduce the bank risk. Good governance could minimize banking risks, one of which is insolvency. The results show that board numbers and board age affect the bank's performance and risk directly and indirectly. The banks must pay attention to the number of boards linked to the efficiency of communication and effective coordination that leads to lower costs. Then, a bank should consider the maximum age standards of directors. It is related to innovation-based work productivity needed in the competitive banking industry, especially during times of crisis. The study also finds the significant role of bank risk in bank governance and bank performance relationship. Unfortunately, we do not find strong evidence of a significant bank size role as a control variable. It explained the argument that bank size does not control the influence of governance on bank financial performance proxied by the risk of insolvency. The Government is advised further to emphasize implementing good governance for banks. More supervision and evaluation of the banking industry are carried out regularly, and the need to confirm sanctions for banks that do not implement good governance. So these banks will pay more attention to governance that later can maintain the stability of their performance and improve it.

This study is limited to testing governance proxied by board size and board age and its link to the bank performance measured by ROA and using insolvency risk as mediation. This study finds that board size and board age as a proxy for governance determines the magnitude of Indonesia's banking performance. Then, bank risk significantly mediates the relationship between board size as governance measurement and bank performance. However, this study's limitations on governance proxies should be noted. CEO duality, board meeting, risk management framework, and others are proxies for governance that should be combined with board size and director's age so that observations can be broader and research results can better cover all aspects of governance. Besides, the focus of this research, which is only on conventional banking, requires a more general exploration through further research on Islamic banking with adjustments to the governance structure to reflect the overall governance of Indonesian banking to obtain broader generalizable results. Subsequent research should explore the other proxy of bank risks, such as credit risk or market risk, for a clear explanation of the role of bank risk in governance and bank performance.

REFERENCES

Adams, R. B., & Ferreira, D. (2007). A Theory of Friendly Boards. *Journal of Finance, 62*(1), 217–250. https://doi.org/10.1111/j.1540-6261.2007.01206.x.

Adam, R. B., & Mehran, H. (2003). Is Corporate Governance Different For Bank Holding Companies? *FRBNY Economic Policy Review, 9*(1), 123-142.

Adams, R. B. & Mehran, H. (2012). Bank Board Structure and Performance: Evidence for Large Bank Holding Companies. *Journal of Financial Intermediation*, *21*(2), 243-267.https://doi.org/10.1016/j.jfi.2011.09.002.

Aebi, V., Sabato, G. & Schimd, M. (2012). Risk Management, Corporate Governance, and Bank Performance in the Financial Crisis. *Journal of Banking & Finance*, *36*(12), 3213-3226. https://doi.org/10.1016/j.jbankfin.2011.10.020.

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v21i2.24364

Abid, A., Ali, AG., Hussain, N., & Khuong, N. D. (2021) Risk Governance and Bank Risk-Taking Behavior: Evidence from Asian Banks. *Journal of International Financial Markets, Institutions & Money, 75(*6), 1-19 https://doi.org/10.1016/j.intfin.2021.101466.

Andres, P. & Vallelado, E. (2008). Corporate Governance in Banking: The Role of The Board of Directors. *Journal of Banking & Finance, 32*(12), 2570-2580. https://doi.org/10.1016/j.jbankfin.2008.05.008.

Arioglu, E. (2021). Board Age and Value Diversity: Evidence from a Collectivistic and Paternalistic Culture. *Borsa Istanbul Review, 21*(3), 209-226. https://doi.org/10.1016/j.bir.2020.10.004.

Arosa, B., Iturralde, T., & Maseda, A. (2013). The Board Structure and Firm Performance in SMEs: Evidence from Spain. *Investigaciones Europeas de Direccio y Economia de la Empresa, 19(3), 127-13*. https://doi.org/10.1016/j.iedee.2012.12.003.

Berger, A. N., Kick, T. & Schaeck, K. (2014). Executive Board Composition and Bank risk-Taking. *Journal of Corporate Finance, 28,* 48-65 https://doi.org/10.1016/j.jcorpfin.2013.11.006.

Bhatt, P. R., & Bhatt, R. R. (2017). Corporate Governance and Firm Performance in Malaysia. *The International Journal of Business in Society, 17*(5), 896–912. http://dx.doi.org/10.1108/CG-03-2016-0054.

Cihak, M., & Hesse, H. (2007). Cooperative Banks and Financial Stability. *Journal of International Monetary Funds, 07*(2), np. http://dx.doi.org/10.5089/9781451865660.001

Dedu, V., Chitan, G. (2013). The Influence of Internal Corporate Governance on Bank Performance – an empirical analysis for Romania. *Procedia-Social Behavioral Sciences, 99,* 1114-1123. https://doi.org/10.1016/j.sbspro.2013.10.585.

El-Chaarani, H. (2014). The Impact Of Corporate Governance on The Performance of Lebanese Banks. *The International Journal of Business and Finance Research*, *8*(5), 35-46.

Fernandes, C., Farinha, J., Martins, F. V., & Mateus, C. (2021). The Impact of Board Characteristics and CEO Power on Banks' Risk-Taking: Stable versus Crisis Periods. *Journal of Banking Regulation, 22*, 319-341. https://doi.org/10.1057/s41261-021-00146-4.

Francis, B. B., Hasan, I., & Wu, Q. (2012). Do Corporate Boards Matter During the Current Financial Crisis? *Review of Financial Economics, 21,* 39–52. https://doi.org/10.1016/j.rfe.2012.03.001.

Goll, I., & Rasheed, A. A. (2005). The Relationships between Top Management Demographic Characteristics, Rational Decision Making, Environmental Munificence, and Firm Performance. *Organization Studies, 26*(7), 999–1023 https://doi.org/10.1177%2F0170840605053538.

Guo, Z., & Kga, U. K. (2012). Corporate Governance and Firm Performance of Listed Firms in Sri Lanka. *Procedia - Social and Behavioral Sciences, 40*, 664–667. https://doi.org/10.1016/j.sbspro.2012.03.246.

Hambrick, D. C., & Mason, P. A. (1984). Upper Echelons: The Organization as Reflection of Its Top Managers. *Journal of Management Reviews, 9* (2), 193-206. https://doi.org/10.5465/amr.1984.4277628.

Jensen, M. C., & Meckling, WH (1976) Theory of the Firm: Managerial Behavior, Agency Cost, and Ownership Structure. *Journal of Financial Economics, 3,* 305-360. https://doi.org/10.1016/0304-405X(76)90026-X.

Josephine, B. J., & Joseph, C. (2015). Corporate Governance Mechanisms and Bank Performance: Resources-based View. *Procedia Economics and Finance, 31,* 117-123. https://doi.org/10.1016/S2212-5671(15)01138-7.

Karar, S. K., Ali, J., Bilal, M., Tahir, M., Bahadar, N., Bukhari, H., Ullah, S., & Aziz, T. (2021). Corporate Governance, Risk Management, and Bank Performance: Does Type of Ownership Matter? *Journal of Financial Risk Management*, *10*(03), 342-346. https:// doi.org/10.4236/jfrm.2021.103020.

Khidmat, W., Khan, M. A., & Ullah, H. (2020). The Effect of Board Diversity on Firm Performance: Evidence from Chinese Listed Companies. *Indian Journal of Corporate Governance, 13*(1), 9-33. https://doi.org/10.1177/0974686220923793.

Lukviarman, N. (2016). *Corporate Governance*. GRP Strategic Seri, PT. Era Adicitra Intermedia. Solo.

Malek, M., Che-Ahmad, A., & Saidin, S. F. (2021). Director's Age Diversity and Firm Performance: A New Perspective. *Asian Journal of Finance and Accounting, 13*(2), 89-106. https://doi.org/10.5296/ajfa.v13i2.18707.

Pathan, S. (2009). Strong Boards, CEO Power, and Bank Risk-Taking. *Journal of Banking & Finance, 33*(2), 1340-1350. https://doi.org/10.1016/j.jbankfin.2009.02.001.

Rahman, Md. A., & Islam, J. (2018). The Impact of Corporate Governance on Bank Performance: Empirical Evidence from Bangladesh. *Global Journal of Management and Business Research C Finance, 18* (8), 49-54.

Sheikh, N. A., Wang, Z., & Khan, S. (2011). The Impact of Internal Attributes of Corporate Governance on Firm Performance: Evidence from Pakistan. *International Journal of Commerce and Management, 23*(1), 38-55. https://doi.org/10.1108/10569211311301420.

Shuying, W., Shuijuan, Z., & Bobo, l. (2017). Effect of Diversity on Top Management Team to The Bank Innovation Ability Based on The Nature of Ownership Perspective. *Procedia Engineering, 174,* 240-245. https://doi.org/10.1016/j.proeng.2017.01.126.

Wiersema, M. F., & Bantel, K.A. (1992). Top Management Team Demography dan Corporate Strategic Change. *Academy of Management Journal, 35*(1), 91-121. https://doi.org/10.2307/256474.

Zhuang, J., Edward, D., & Capulong, M. V. A.. (2001). *Corporate Governance and Finance in East Asia: A Study of Indonesia, Republic of Korea, Malaysia, Phillippines and Thailand*. The Asian Development Bank. Philippines.

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The Impact of Paternalistic Leadership on Innovative Work Behavior: A Test of Mediation Model

Tayaba Patel[1], Haroon Bakari[2*]
[1,2]Sindh University Campus Thatta, Pakistan
E-mail: [1]tayaba.patel@gmail.com, [2]haroon.bakari@usindh.edu.pk
[*)]Corresponding Author

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Abstract

Leadership is a paramount factor in enhancing employee innovation and creativity. This study aims to test the impact of paternalistic leadership (PL) on employees' innovative work behavior (IWB) and to check the mediating role of employee Psychological Safety (PS). This study has employed a convenience sampling technique to collect data through questionnaires from 317 employees working in the Textile and IT industries. This research uses Partial Least Square Structural equation modeling (PLS-SEM). Findings suggest that paternalistic leadership was positively related to innovative work behavior and psychological safety mediated this link. This study is among very few studies that have tested the paternalistic leadership style in the innovation context of Pakistan. Practitioners' significant contribution is knowing that paternalistic leadership will enhance employee innovative work behavior through psychological safety. Moreover, data from the textile and software industries also increased the relevance and originality of this study.

Keywords:
paternalistic leadership, innovative work behavior, psychological safety, textile designs, software industry

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INTRODUCTION

Pakistan is a developing country that strives to improve its exports and curtail budget deficits. 50% of Pakistan's exports are comprised of Cotton and textile products. The share of the textile sector in the country's Grand National Income is 8.5%, and it has a 40% share of jobs in the overall employment sector which comprises 59 million workers in Pakistan (Majeed et al., 2019). The textile sector in Pakistan also has a 9.5% share of the gross domestic product (GDP), and Pakistan also contributes 5% to the global spinning capacity (Majeed et al., 2019).

Moreover, as per the data available on the website of the Pakistan Software Export Board (PESB), Pakistan is experiencing rapid growth in the export of Information Technology (IT) and Information Technology Enabled Services (ITeS). For example, compared to other countries in Southeast Asia, Pakistan experienced a 71% growth in IT and ITeS exports from 2013 to 2016. In contrast, during the same period, Indian and Sri Lankan growth rates in IT exports were 40% and 19.9%, respectively. A similar pattern was observed from 2016 to 2107.

However, the global Textile sector is rapidly changing such that the focus is being put on innovative ideas which promote climate-friendly production of textile goods (Huang, 2018). The academic literature acknowledges the importance of innovativeness in the Pakistani textile sector for competitive advantage and employment creation in Pakistan (Wadho et al., 2019). For example, though Wadho et al. (2019) investigated the innovation of young textile firms, research evidence on the determinants of innovative work behavior (IWB) of Textile designers and R&D staff is scarce. A recent study by Javed et al. (2017), analyzing the data of 180 employee supervisor dyads, found that inclusive leadership of line supervisors creates employee psychological safety (PS) and thus relates to their IWB. However, this study has several limitations: they did not measure data from specific textile designers and R&D staff. Instead, they collected data from small and medium enterprises in the textile sector.

In contrast, this study has approached major textile firms and met with R&D and Designs executives, experts, and employees to formulate a conceptual framework that delineates their IWB. Although the link between inclusive leadership and IWB has been tested in a variety of studies (Javed et al., 2019; Javed et al., 2017; Qi et al., 2019), none of these studies have tested the role of paternalistic leadership (PL) in innovative behavior link in Pakistani context. PL is based on the notion that organizations should treat the employee as fathers treat their children in a family by maintaining discipline, showing authority, and benevolence (Farh & Cheng, 2000; Wang et al., 2018; Liao et al., 2017). Academic journals have recently called for academic research on the determinants and outcomes of PL in the workplace (Jackson, 2016). Pakistan is also a collectivistic society with solid human values, and PL may be more relevant in the Pakistani context (Hofstede, 1983).

Wang et al. (2019) found support for the relationship between PL and employee creativity through the mediation of organizational identification. They also suggested

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checking the mediating role of PS in PL and the creativity link. Bing (2004) shows that the boss in an organization performs the role similar to the father in the family. A father works as an authoritative figure and is also supportive of his children, and the boss should treat their employees similarly. Leaders are supposed to maintain discipline and care for the well-being of employees, while employees are supposed to obey their leaders unquestionably (Pellegrini & Scandura, 2008). Pellegrini & Scandura (2008) has defined PL as composed of authoritarianism, benevolence, and morality.

There is great debate regarding the relevance of PL with either Western or Non-western cultures. Paternalistic leaders may be significantly relevant to collectivistic societies. Because in these societies, the mutual obligation is an essential element of cultural values rather than individualistic culture (Hofstede, 1980; Jackson, 2016; Uhl-Bien & Maslyn, 2005). Pakistan is also a collectivistic society with a culture of mutual respect, payback, and gratitude. PL may be an essential leadership style for positive organizational outcomes. A recent review of literature on PL has supported its relevance for collectivistic societies such as China and Pakistan (Farh & Cheng, 2000). IWB refers to the "intentional generation, promotion, and realization of new ideas within a work role, group or organization aiming to benefit role performance of the group, or the organization" (Janssen, 2000). Janssen (2000) conceptualized it as a multi-dimensional construct consisting of interrelated dimensions such as "Idea generation, Idea promotion, and Idea realization"(Van der Vegt & Janssen., 2003).

Leaders increase job resources and positive energy in employees, supplementing their intrinsic motivation that may lead to innovative behavior (Janssen, 2004). PL is the concept that refers to the leader behavior that replicates parents in the family. Paternalistic leaders foster their authority, morality, and benevolence to motivate employees to promote extraordinary behaviors. Cheng et al. (2002) tested PL in the Taiwanese context and found that Principals of PL are measured in terms of authoritarianism, morality and benevolence were positively related to teachers' organizational citizenship behavior. Wang et al. (2019) tested PL in the banking sector in China. Structural equation modeling results found a positive relationship between moral and benevolence leadership and employee creativity.

Tian & Sanchez (2017) tested PL with two dimensions. They merged moral leadership and benevolent leadership into one construct and authoritarian leadership as a separate dimension. They surveyed 60 technology-based organizations in China and collected data from employees, supervisors, and peers. Results found a positive relationship between PL (authoritarian and moral leadership) and IWB. Authors suggest that PL is a highly relevant leadership style that may promote innovative employee behavior in technology-based organizations; they also stressed the need to test this variable in other cultures such as Pakistan.

PS refers to people's perception regarding the outcomes of interpersonal risk-taking in the organizational context (Edmondson & Lei, 2014). It is further described as the ability to invest the total energy in the workplace without fear of loss or injury (Chang et al., 2013). The concept of PS is indebted to the social system that mainly provides different support mechanisms, trust, and cordial relationships (Chang et al., 2013). PS is developed when individuals experience trusting and supportive relationships that help them in times of uncertainty and risk (Chang et al., 2013). Such an environment of psychological safety promotes individual innovative behaviors (Chang et al., 2013). Results suggest that PL positively relate to employee trust in their leaders (Cheng, Shieh, & Chou, 2002).

PS refers to individuals' concerns about the repercussion of taking interpersonal risks stemming from interaction with others in the workplace (Edmondson & Lei, 2014). People take risks at the workplace by engaging in voice behavior, whistleblowing, or change and innovation-related behaviors. In such situations, they need an environment that ensures their safety against such risks. Research suggests that leaders play a pivotal role in developing employee PS, enhancing employee risk-taking behaviors such as voice, whistleblowing, and innovation. For example, Malik & Nawaz (2018) found that ethical leadership enhances employee PS, which fosters employee whistleblowing intention. Research also suggests that inclusive leadership is positively related to PS (Nembhard & Edmondson, 2006) that further engages employees' creative tasks (Carmeli et al., 2010), IWB (Javed et al., 2017). In this Chinese context, PL has been found to be positively related to PS (Chong, 2013). This study proposes that in the collectivist culture of Pakistan too, PL, a father-like leadership style, will be positively related to employee PS. As PL entails leader behavior that promotes familial feelings in organizational relationships, it is believed that this leadership style would substantially impact PS.

Research suggests that whenever employees present new ideas in the workplace, other people, such as coworkers, may confront them (Janssen & Giebels, 2013). However, through their moral and benevolent leadership style, paternalistic leaders create an environment where employees are free from risk, intimidation, and uncertainty and engage in extraordinary work such as organizational citizenship behavior (Chou et al., 2005). Research suggests that PL enhances employee PS, further strengthening employees' ability to voice their ideas (Singh et al., 2013). Erkutlu & Chafra (2016) collected data from the hospitality sector and found a positive relationship between PS and benevolent leadership. Furthermore, at a higher level of PS, benevolent leadership was strongly related to employee well-being (Erkutlu & Chafra, 2016). Tian & Sanchez (2017) tested the interaction between benevolent and authoritarian leadership to know how this interaction relates to innovative behavior. Using data from Chinese technology-based organizations, they found that this interaction positively related to employee affective trust that further strengthened innovative behavior.

Based on the above literature review, this study intends to show whether PL will lead to employee IWB in Pakistan's the textile and software industries. This study also aims to check mediating role of PS while answering the calls for research (Javed et al., 2021; Javed et al., 2017; Wang et al., 2019). A study explored the role of collaborative efforts in enhancing the performance of the R&D sector in American and Chinese cultures

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and also acknowledged the role of Paternalistic leadership in the R&D sector, especially in Asian cultures (Zhang et al., 2019). Therefore, this study develops a conceptual framework (figure 1.) to fill the research gap identified through critical analysis of various empirical studies reviewed above. This study is novel in that it checks the mediating role of psychological safety between PL and IWB, answering the call of researchers such as Wang et al. (2019). Methodologically, this study is a substantial contribution as it tests its hypotheses through PLS-SEM (Hair et al., 2017).

Furthermore, no study from around the globe might have tested the role of paternalistic leadership in innovation literature using psychological safety as a mediator. Pakistan is a collectivistic society with strong benevolent values, and PL may be more relevant in the Pakistani context (Hofstede, 1983). Moreover, Pellegrini & Scandura (2008) argue that Paternalistic leadership is an area of research that is "emerging and fascinating." There is great debate regarding its validity and generalizability from various cultures. Aycan et al. (2013) used cross-cultural data from 6 countries belonging to individualistic and collectivist cultures. They found paternalistic leadership styles converging with other leadership styles like transformational, authoritarian, and nurturing task leadership. They also found paternalistic leadership was strongly related to task performance in high power distance countries than in low power distance cultures. Authors realize that there is a dearth of research from developing countries. More research examines the impact of paternalistic leadership on employee outcomes and attitudes. Those researches will further add to the understanding of paternalistic leadership (Aycan et al., 2013).

METHODS

This study has utilized positivist philosophy to make a law like generalizations (Saunders et al., 2016). Using a deductive approach, we have collected quantitative data through structured questionnaires distributed online and via paper and pencil. Data were collected from textile designers and R&D sector employees of the textile and software industries. A convenience sampling technique was used to collect data. Employees were approached through relevant HR departments or executives after seeking prior permission. Support from the Pakistan Software Export board was sought for the data collection from the software industry.

Paternalistic leadership is defined as leader behavior representing a family environment where the supervisor takes care of their subordinates like the one the family head does in the family and expects obedience in return (Aycan, 2006). Paternalistic leadership was measured with a three-dimensional scale developed by (Farh et al., 2000) that contained 26 items. Sample items include: "My supervisor devotes all his/her energy to taking care of me" (Benevolent Leadership); My supervisor employs people according to their virtues and does not envy other's abilities and virtues (Moral Leadership); "My supervisor asks me to obey his/her instructions completely" (Authoritarian leadership). Innovative work behavior is defined as the intentional generation of valuable and novel ideas, getting support for those ideas, and implementing those ideas in the organizations (Janssen, 2000). IWB was measured using 9 item scale developed by (Janssen, 2000). Sample items include "I create new ideas for difficult issues." Psychological safety is defined as a condition where employees feel safe from any risk in an organizational setting during advocating and embracing any new idea or raising voices in the organization (Edmondson, 2004). Psychological safety was measured using a 5-item scale (Carmeli et al., 2010). Sample items include "I am able to bring up problems and tough issues." Information regarding the reliability and validity of the scales and statistical analysis techniques is supplied in the results section of this study.

The theoretical framework of this study is shown in Figure 1. Paternalistic leadership is measured through its three dimensions: authoritarian leadership, benevolent leadership, and moral leadership. Paternalistic leadership is the independent variable of the study. The dependent variable is innovative work behavior. Psychological safety is a mediator between paternalistic leadership and innovative work behavior. Empirical paths that should be tested through structural equation modeling are from three dimensions to psychological safety and then psychological safety to innovative work behavior. Three mediation paths are also specified between the three dimensions of paternalistic leadership and innovative work behavior.

Figure 1. Conceptual Framework

In order to establish the validity and reliability of the model and test hypotheses, partial least square structural equation modeling was applied using Smart PLS software. PLS-SEM was applied using a two-step approach (Anderson & Gerbing, 1988). Preliminary analysis was conducted using SPPS software. A preliminary analysis indicated no missing values as online data collection has fewer chances of missing values (Hair et al., 2010). Paper and pencil questionnaires were also got filled in the presence of the research team, so every respondent was requested to make sure that no question was missed. They were also told about the confidentiality of the data.

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RESULT AND DISCUSSION

This section contains results. Frequency statistics are presented to show the demographic structure of the ample. Then hypotheses testing through a structural model is presented following a two-step approach (Anderson & Gerbing, 1988). Table 1 describes the characteristics of the sample. This sample comprised 317 respondents, including 147 females (46%). A considerable number of the respondents comprised those younger than 35 years (151; 48%). Two hundred fifty-seven respondents reported their experience as more significant than six years.

Table 1. Frequency Distribution

	Frequency	Percent
Gender		
Male	170	53.6
Female	147	46.4
Age		
Less than 25 years	31	9.78
26 to 30 years	46	14.5
31 to 35 years	75	23.7
36 to 40 years	86	27.1
41 to 45 years	53	16.7
46 years and above	26	8.2
Education Level		
Intermediate	38	12
Bachelor	177	55.8
Master	88	27.8
M.Phil./PhD	14	4.42
Experience		
Less than 1 year	27	8.52
1-5 years	55	17.4
6-10 years	121	38.2
11-20 years	107	33.8
21 years and above	7	2.21

A measurement model analysis was carried out to check the reliability and validity of the model (see Figure 2). The measurement model results are presented in Table 2 to report item reliability, internal consistency reliability, and convergent validity. Estimates of factor loadings, composite reliability, and average variance were extracted. Results indicate that values of factor loadings are more significant than 0.50, values of CR are more remarkable than 0.70, and values of AVE are all greater than 0.50, indicating good reliability and validity of the model (Fornell & Larcker, 1981; Hair et al., 2017).

Table 2. Outer Loadings, Composite Reliability, Average Variance Extracted

	Items	Outer loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)
Authoritarian Leadership (AL)	AL1	0.789	0.923	0.572
	AL2	0.724		
	AL3	0.711		
	AL4	0.776		
	AL5	0.786		
	AL6	0.744		
	AL7	0.756		
	AL8	0.766		
	AL9	0.749		
Benevolent Leadership (BL)	BL1	0.598	0.918	0.517
	BL10	0.623		
	BL11	0.631		
	BL2	0.731		
	BL3	0.786		
	BL4	0.799		
	BL5	0.676		
	BL6	0.681		
	BL7	0.798		
	BL8	0.753		
	BL9	0.717		
Innovative Work Behavior (IWB)	IWB1	0.745	0.891	0.509
	IWB2	0.765		
	IWB3	0.716		
	IWB4	0.688		
	IWB5	0.745		
	IWB6	0.688		
	IWB7	0.632		
	IWB8	0.618		
	IWB9	0.613		
Moral Leadership (ML)	ML1	0.618	0.798	0.501
	ML2	0.646		
	ML3	0.742		
	ML4	0.567		
	ML5	0.605		
	ML6	0.594		
Psychological Safety (PS)	PS1	0.708	0.859	0.550
	PS2	0.699		
	PS3	0.780		
	PS4	0.785		
	PS5	0.732		

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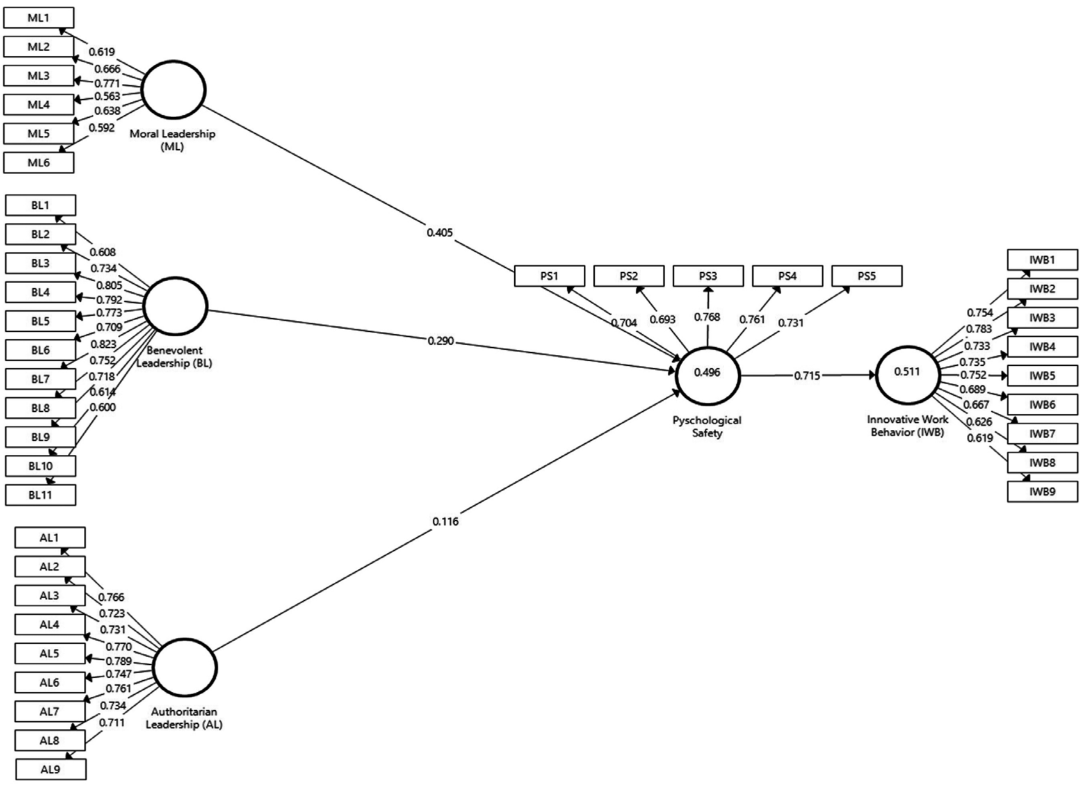
The Heterotrait-Monotrait ratio of correlations was calculated to assess the discriminant validity of constructs. Table 3 shows that all the HTMT values are less than 0.85, thus indicating the existence of discriminant validity (Henseler et al., 2014).

Table 3. Discriminant Validity (HTMT)

	1	2	3	4	5
Authoritarian Leadership (AL)					
Benevolent Leadership (BL)	0.451				
Innovative Work Behavior (IWB)	0.475	0.702			
Moral Leadership (ML)	0.436	0.769	0.755		
Psychological Safety (PS)	0.486	0.753	0.754	0.780	

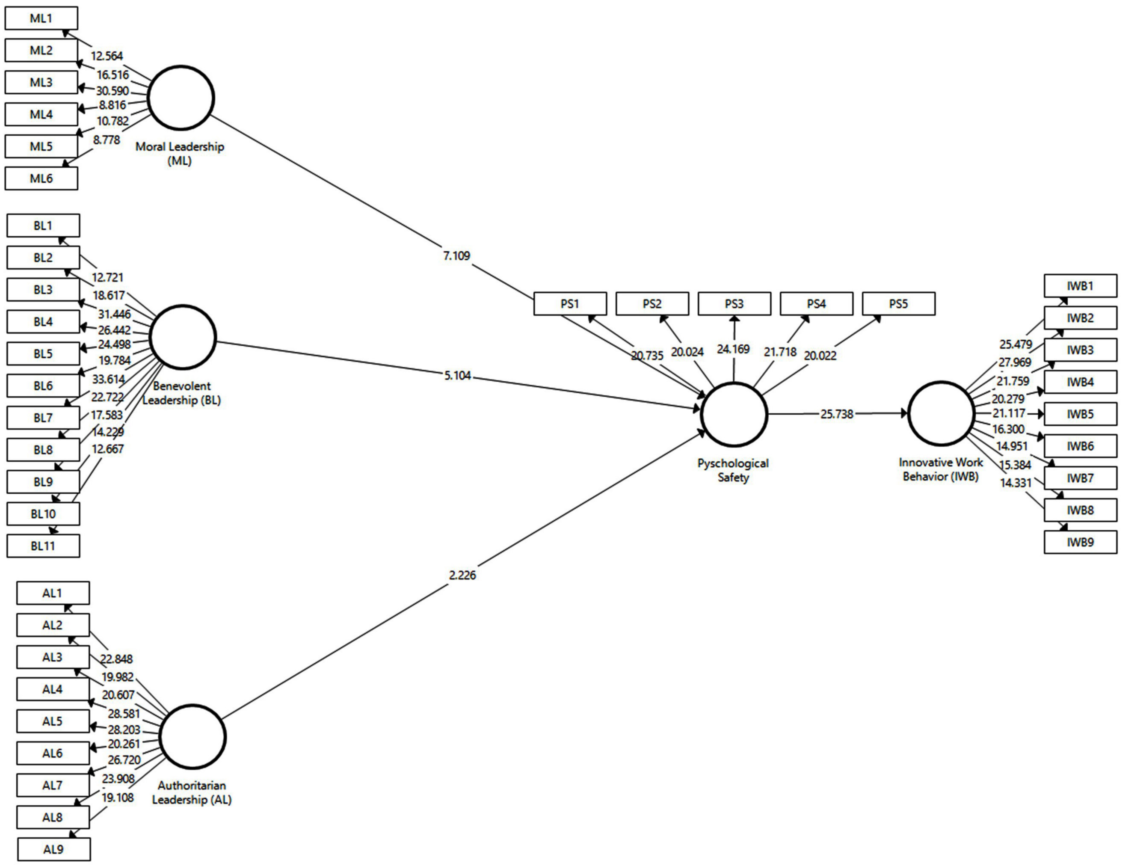
Figure 2. Measurement Model



Hypotheses are tested using structural model analysis (see Figure 3) through PLS-SEM using bootstrapping method (Hair et al., 2017). Results contained in Table 4 specify that AL has a direct positive and significant impact on PS (β =0.151, t-value=3.653, p<0.05). The relationship has a negligible effect size, F2= 0.058 (Wong, 2013). Regarding the second hypothesis, it is found that BL has a direct positive and significant impact on PS (β =0.354, t-value=7.526, p<0.05). F2 values of 0.157 indicate a moderate effect size for this relationship (Wong, 2013).

Moreover, ML has also direct positive and significant impact on PS (β =0.339, t-value=6.510, p<0.05). Hence supporting H3. F2 values of 0.153 indicate a moderate effect size for this relationship. Finally, it was also found that PS had a direct positive and significant impact on IWB (β =0.721, t-value=28.842, p<0.05). Hence supporting H4. F2 values of 1.081 indicate a large effect size for this relationship. Regarding mediating effects, it was found that PS mediated the relationship between AL and IWB (β = 0.109, t- value 3.606, p<0.05).

Figure 3. Structural Model



PS also mediated the relationship between BL and IWB (β = 0.255, t- value 7.097, p < 0.05). The values indicate positive and significant indirect effects. This result indicates support for H6. Finally, the mediating (indirect) effect of PS is also found between ML and IWB (β = 0.244, t- value 6.136, p < 0.05). This result indicates support for H7. The 95% confidence interval values presented in table 4 indicate that there is no zero between the upper and lower bound, thus confirming the significance of all paths (Preacher & Hayes, 2008). The present study model explains 50.7% of the total variance in PS while 52.0% in IWB, indicating that large level of R2 (Chin, 1998).

This study tested the impact of PL on PS and IWB. This study found that three dimensions of PL, Moral leadership, benevolent leadership, and authoritarian leadership, were positively related to PS (H1, H2, and H3, respectively). Results of H1 and H2

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are in line with established literature. Literature on PL has documented that moral and benevolent leadership styles create a psychologically safe environment that drives creative and innovative behaviors in the organizations. For example, Erkutlu & Chafra (2016) found a positive association between compassionate leadership and PS. Benevolent leadership has received greater attention from Asian researchers as it relates to the specific cultural context of Asian countries (Farh & Cheng, 2000). Chan & Mak (2011) also found compassionate leadership positively related to follower outcomes. Benevolent leaders show special care for their followers and have concerns about their individualized considerations, promoting feelings of being cared for and supported by the followers (Chan, 2017). Benevolent leaders are also concerned about the welfare of employees (Rao-Nicholson et al., 2016) and promote psychological well-being (Erkutlu & Chafra, 2016; Nazir et al., 2021). Therefore, the findings of this study add to the knowledge that benevolent leadership can also promote PS. Benevolent and moral leadership styles are correlated, and combined can promote positive behaviors in employees (Farh et al., 2000; Özçelik & Cenkci, 2014).

Table 4. Significance & Relevance of path coefficient

Relationships	Beta	Std Error	t value	p Values	LCI 5%	UCI 95%	f square	Effect size	Hypothesis
H1. AL → PS	0.151	0.041	3.653	0.000	0.067	0.228	0.058	Small	Supported
H2. BL → PS	0.354	0.047	7.526	0.000	0.261	0.439	0.157	Moderate	Supported
H3. ML → PS	0.339	0.052	6.510	0.000	0.237	0.435	0.153	Moderate	Supported
H4. PS → IWB	0.721	0.025	28.842	0.000	0.665	0.764	1.081	Large	Supported
H5. AL → PS → IWB	0.109	0.030	3.606	0.000	0.045	0.163	--	--	Supported
H6. BL → PS → IWB	0.255	0.036	7.097	0.000	0.188	0.326	--	--	Supported
H.7 ML → PS → IWB	0.244	0.040	6.136	0.000	0.169	0.320	--	--	Supported

However, the authoritarian leadership style has been found to be negatively related to employees' positive outcomes. This study, contrarily, finds AL positively related to PS. One reason for this finding might be that the patriarchal society of Pakistan is characterized by high power distance (Hofstede, 1983), where people having authority are justified in using the power and authority. However, future research must uncover the potential mechanism behind positive aspects of authoritarian leadership, if any, for high power distance countries. Moreover, as part of paternalistic leadership, authoritarian leadership is considered as the parent who scolds their children for rightful matters that ultimately benefit them. In the workplace context, in high power distance countries, the employee feels that their leaders, elders in organizations, have the right to use coercion to guide their behaviors in the right direction. This "stigma of authoritarian leadership" is best clarified by Lin et al. (2019). They argue that Western cultures promoting equity and autonomy consider authoritarian leadership harmful to employee development. However, collectivist

Asian cultures value communalism, obedience, and respect for authority. In such cases, authoritarian leadership can promote positive behaviors. This result is further supported by Lau et al. (2019). They conducted a three-way interaction of three dimensions of PL and responded to complexity in the PL model due to authoritarianism. They argued that AL could not be straightforwardly considered negative (Lau et al., 2019), which is an essential component of PL.

Apart from the varied impacts of the three dimensions of PL, some studies which used PL as a single factor have found it positively associated with positive attitudes such as affective commitment and job satisfaction (Ünler & Kılıç, 2019; Chai et al., 2020). Recent research has found a positive association of PL with other positive behaviors like organizational identification (Zhuang et al., 2022). Hypothesis 4 was related to a positive relationship between PS and IWB. Findings supported this hypothesis. Extant literature suggests that creativity and innovation are demanding, and thus employees are exposed to a greater risk of interpersonal conflicts (Janssen, 2000). IWB, thus, is fostered in an environment that provides a risk-free atmosphere to employees (Kanfer & Ackerman, 1989). Previous research has considered a climate that fosters psychological safety among employees as a critical element for enhancing innovative employee behaviors in organizations (Baer & Frese, 2003; Moake et al., 2019; Mansur et al., 2017). Other research has found positive effects on the psychological safety climate for employee IWB (Moake et al., 2019)

Hypotheses 5 to 7 concerned the mediation of psychological safety between the dimension of PL and IWB. Results again have supported the hypotheses. These findings also indicate the importance of psychological safety for predicting IWB at the workplace and translating the effects of positive leadership styles to foster IWB. For example, recent research from Pakistan also found psychological safety as a mediator between inclusive leadership and IWB (Javed et al., 2017). Although specific studies on this link, i.e., mediation of PS between PL and IWB, are scarce and could not be found. Wang et al. (2019) found support for the relationship between PL and employee creativity through the mediation of organizational identification. They checked job insecurity as a moderator between leadership and identification. Another study from Pakistan found a positive association between benevolent leadership and creativity with the mediation of voice behavior (Soomro et al., 2021). As voice behavior is also the reflection of people's psychological safety, it is safe to say that psychological safety can also work as a mediator between PL and IWB. They also suggested checking the mediating role of PS in PL and the creativity link. This study provides evidence about the mediation of PS between PL and IWB and contributes to the knowledge about their relationships.

CONCLUSION

Paternalistic leadership (PL) is an emerging leadership style and is also crucial for collectivist societies. There is a dearth of research regarding the role of paternalistic behavior in developing innovative work behavior (IWB) in the Pakistani context. This

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study is a significant contribution to the literature as it is the first study that employs PL in innovative behavior research. Secondly, it is the first study that has tested the innovative behavior of employees of the software industry who were neglected in prior research. The outcomes of this study will benefit practitioners and academics in terms of identifying factors that foster employee innovative work behavior (IWB) in the Textile and software industries. Both industries have a significant role in economic development in Pakistan.

REFERENCES

Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-step Approach. *Psychological Bulletin, 103*(3), 411-423. https://doi.org/10.1037/0033-2909.103.3.411.

Aycan, Z. (2006). Paternalism: Towards Conceptual Refinement and Operationalization. In Yang, K. S., Hwang, K. K., & Kim, U. (Eds.), *Scientific Advances in Indigenous Psychologies: Empirical, Philosophical, and Cultural Contributions,* pp. 445-466. Sage. London.

Aycan, Z., Schyns, B., Sun, J.-M., Felfe, J., & Saher, N. (2013). Convergence and Divergence of Paternalistic Leadership: A Cross-cultural Investigation of Prototypes. *Journal of International Business Studies, 44*(9), 962-969. https://doi.org/ 10.1057/ jibs.2013.48.

Baer, M., & Frese, M. (2003). Innovation is not Enough: Climates for Initiative and Psychological Safety, Process Innovations, and Firm Performance. *Journal of Organizational Behavior, 24*(1), 45-68. https://doi.org/10.1002/job.179.

Bing, S. (2004). *Sun Tzu was a Sissy: Conquer Your Enemies, Promote Your Friends, and Wage the Real Art of War*. Harper Collins. New York.

Carmeli, A., Reiter-Palmon, R., & Ziv, E. (2010). Inclusive Leadership and Employee Involvement in Creative Tasks in the Workplace: The Mediating Role of Psychological Safety. *Creativity Research Journal, 22*(3), 250-260. https://doi.org/10.1080/10400419.2010.504654.

Chai, D. S., Jeong, S., & Joo, B-K. (2020). The Multi-Level Effects of Development Opportunities, Pay Equity, and Paternalistic Leadership on Organizational Commitment. *European Journal of Training and Development, 44*(4/5), 405-424. https://doi.org/10.1108/EJTD-09-2019-0163.

Chan, S. C. H. (2017). Benevolent Leadership, Perceived Supervisory Support, and Subordinates' Performance. *Leadership & Organization Development Journal, 38*(7), 897-911. https://doi.org/10.1108/LODJ-09-2015-0196.

Chan, S. C. H., & Mak, W.-m. (2011). Benevolent Leadership and Follower Performance: The Mediating Role of Leader–Member Exchange (LMX). *Asia Pacific Journal of Management, 29*(2), 285-301. https://doi.org/10.1007/s10490-011-9275-3

Chang, H.-T., Hsu, H.-M., Liou, J.-W., & Tsai, C.-T. (2013). Psychological Contracts and Innovative Behavior: a Moderated Path Analysis of Work Engagement and Job Resources. *Journal of Applied Social Psychology, 43*(10), 2120-2135. https://doi.org/10.1111/jasp.12165

Cheng, B.-S., Huang, M., & Chou, L. (2002). Paternalistic Leadership and Its Effectiveness: Evidence from Chinese Organizational Teams. *Journal of Psychology in Chinese Societies, 3*(1), 85-112.

Cheng, B.-S., Shieh, P., & Chou, L. (2002). The Principal's Leadership, Leader-Member Exchange Quality, and the Teacher's Extra-role Behavior: The Effects of Transformational and Paternalistic Leadership. *Indigenous Psychological Research in Chinese Societies, 17,* 105-161.

Chin, W. W. (1998). Commentary: Issues and Opinion on Structural Equation Modeling *MIS Quarterly, 22*(1), VII-XVI.

Chong, Y. (2013). Paternalistic Leadership and Team Performance in China Teaching Hospitals: Examining Roles of Team Psychological Safety and Team Empowerment. (Unpublished PhD Dissertation). ISCTE University Institute of Lisbon, Lisboa, Portugal.

Chou, L. F., Cheng, B.-S., & Jen, C.-K. (2005). The Contingent Model of Paternalistic Leadership: Subordinate Dependence and Leader Competence. *Proceeding at the Annual Meeting of Academy of Management,* Honolulu, Hawaii.

Edmondson, A. C. (2004). Psychological Safety, Trust, and Learning in Organizations: A Group-level Lens. In Kramer, R. M., & Cook, K. S. (Eds). *Trust and Distrust in Organizations: Dilemmas and Approaches,* pp. 239-272. Russell Sage Foundation. New York.

Edmondson, A. C., & Lei, Z. (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. *Annual Review of Organizational Psychology and Organizational Behavior, 1*(1), 23-43. https://doi.org/10.1146/annurev-orgpsych-031413-091305.

Erkutlu, H., & Chafra, J. (2016). Benevolent Leadership and Psychological Well-being. *Leadership & Organization Development Journal, 37*(3), 369-386. https://doi.org/10.1108/lodj-07-2014-0129.

Farh, J.-L., & Cheng, B.-S. (2000). A Cultural Analysis of Paternalistic Leadership in Chinese Organizations. In Li, J. T., Tsui, A. S., & Weldon, E. (Eds). *Management and Organizations in the Chinese Context,* pp. 84-127. Palgrave Macmillan. London. https://doi.org/10.1057/9780230511590_5.

Farh, J.-L., Cheng, B.-S., & Chou, L.-F. (2000). A Triad Model of Paternalistic Leadership: The Constructs and Measurement. *Indigenous Psychological Research in Chinese Societies, 14*(1), 3-64.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.2307/3151312.

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v21i2.21602

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th ed.). Pearson Prentice Hall. New Jersey.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage. Thousand Oaks, CA.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A New Criterion for Assessing Discriminant Validity in Variance-based Structural Equation Modeling. *Journal of the Academy of Marketing Science, 43*(1), 115-135. https://doi.org/10.1007/s11747-014-0403-8

Hofstede, G. (1980). *Culture's Consequences: International Differences in Work-related Values*. Sage. Beverly Hills, CA.

Hofstede, G. (1983). National Cultures in Four Dimensions: A Research-based Theory of Cultural Differences among Nations. *International Studies of Management & Organization, 13*(1-2), 46-74. https://doi.org/10.1080/00208825.1983.11656358.

Huang, Y. (2018). Multi-Level Governance: Explaining the "climate-focused" behavior of Chinese exporting companies. *Public Policy and Administration, 34*(2), 165-188. https://doi.org/10.1177/0952076718766722.

Jackson, T. (2016). Paternalistic Leadership: The Missing Link in Cross-cultural Leadership Studies? *International Journal of Cross Cultural Management, 16*(1), 3-7. https://doi.org/10.1177/1470595816637701.

Janssen, O. (2000). Job Demands, Perceptions of Effort-reward Fairness and Innovative Work Behaviour. *Journal of Occupational and Organizational Psychology, 73*(3), 287-302. https://doi.org/10.1348/096317900167038.

Janssen, O. (2004). How Fairness Perceptions Make Innovative Behavior More or Less Stressful. *Journal of Organizational Behavior, 25*(2), 201-215. https://doi.org/10.1002/job.238.

Janssen, O., & Giebels, E. (2013). When and Why Creativity-related Conflict with Coworkers can Hamper Creative Employees' Individual Job Performance. *European Journal of Work and Organizational Psychology, 22*(5), 574-587. https://doi.org/10.1080/1359432x.2012.669524.

Javed, B., Abdullah, I., Zaffar, M. A., Haque, A. u., & Rubab, U. (2019). Inclusive Leadership and Innovative Work Behavior: The Role of Psychological Empowerment. *Journal of Management & Organization, 25*(04), 554-571. https://doi.org/10.1017/jmo.2018.50.

Javed, B., Fatima, T., Khan, A. K., & Bashir, S. (2021). Impact of Inclusive Leadership on Innovative Work Behavior: The Role of Creative Self-Efficacy. *The Journal of Creative Behavior, 55*(3), 769-782. https://doi.org/10.1002/jocb.487.

Javed, B., Naqvi, S. M. M. R., Khan, A. K., Arjoon, S., & Tayyeb, H. H. (2017). Impact of Inclusive Leadership on Innovative Work Behavior: The Role of Psychological Safety. *Journal of Management and Organization, 25*(1), 117-136. https://doi.org/10.1017/jmo.2017.3

Kanfer, R., & Ackerman, P. L. (1989). Motivation and Cognitive Abilities: An Integrative/Aptitude-treatment Interaction Approach to Skill Acquisition. *Journal of applied psychology, 74*(4), 657-690. https://doi.org/10.1037/0021-9010.74.4.657.

Lau, W. K., Li, Z., & Okpara, J. (2019). An Examination of Three-way Interactions of Paternalistic Leadership in China. *Asia Pacific Business Review, 26*(1), 32-49. https://doi.org/10.1080/13602381.2019.1674031.

Liao, S-H., Widowati, R., Hu, D-C., & Tasman, L. (2017). The Mediating Effect of Psychological Contract in the Relationship between Paternalistic Leadership and Turnover Intention for Foreign Workers in Taiwan. *Asia Pacific Management Review, 22*(2), 80-87. https://doi.org/10.1016/j.apmrv.2016.08.003.

Lin, T.-T., Cheng, B.-S., & Chou, L.-F. (2019). Paternalistic Leadership: An Indigenous Concept with Global Significance. In Yeh, K. H. (Ed). *Asian Indigenous Psychologies in the Global Context,* pp. 115-138. Palgrave Macmillan. Cham. https://doi.org/10.1007/978-3-319-96232-0_6.

Majeed, R., Haq, Z. U., Ishaq, M., Iqbal, J., & Ullah, Z. (2019). Do EU and US GSPs Matter for the Cotton and Textiles Products Exports of Pakistan? *Journal of International Trade Law and Policy, 18*(1), 2-18. https://doi.org/10.1108/jitlp-09-2018-0040.

Malik, M. S., & Nawaz, M. K. (2018). The Role of Ethical Leadership in Whistleblowing Intention among Bank Employees: Mediating Role of Psychological Safety. *Review of Integrative Business and Economics Research, 7*(S4), 238-252.

Mansur, J., Sobral, F., & Glodszmidt, R. (2017). Shades of Paternalistic Leadership Across Cultures. *Journal of World Business, 52*(5), 702-713. https://doi.org/10.1016/j.jwb.2017.06.003.

Moake, T. R., Oh, N., & Steele, C. R. (2019). The Importance of Team Psychological Safety Climate for Enhancing Younger Team Members' Innovation-related Behaviors in South Korea. *International Journal of Cross Cultural Management, 19*(3), 353-368. https://doi.org/10.1177/1470595819887192.

Nazir, S., Shafi, A., Asadullah, M. A., Qun, W., & Khadim, S. (2021). Linking Paternalistic Leadership to Followers Innovative Work Behavior: the Influence of Leader-Member Exchange and Employee Voice. *European Journal of Innovative Management, 24*(4), 1354-1378. https://doi.org/10.1108/EJIM-01-2020-0005.

Nembhard, I. M., & Edmondson, A. C. (2006). Making It Safe: the Effects of Leader Inclusiveness and Professional Status on Psychological Safety and Improvement Efforts in Health Care teams. *Journal of Organizational Behavior, 27*(7), 941-966. https://doi.org/10.1002/job.413.

Özçelik, G., & Cenkci, T. (2014). Moderating Effects of Job Embeddedness on the Relationship between Paternalistic Leadership and In-role Job Performance. *Procedia- Social and Behavoral Sciences, 150*, 872-880. https://doi.org/10.1016/j.sbspro.2014.09.096.

Pellegrini, E. K., & Scandura, T. A. (2008). Paternalistic Leadership: A Review and

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v21i2.21602

Agenda for Future Research. *Journal of Management, 34*(3), 566-593. https://doi.org/10.1177/0149206308316063.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models. *Behavior Researcch Methods, 40*(3), 879-891. https://doi.org/10.3758/brm.40.3.879.

Qi, L., Liu, B., Wei, X., & Hu, Y. (2019). Impact of Inclusive Leadership on Employee Innovative Behavior: Perceived Organizational Support as a Mediator. *PLoS One, 14*(2), e0212091. https://doi.org/10.1371/journal.pone.0212091.

Rao-Nicholson, R., Khan, Z., & Stokes, P. (2016). Making Great Minds Think Alike: Emerging Market Multinational Firms' Leadership Effects on Targets' Employee Psychological Safety After Cross-border Mergers and Acquisitions. *International Business Review, 25*(1), 103-113. https://doi.org/10.1016/j.ibusrev.2015.09.007.

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students* (7th ed.). Pearson Education Limited. Harlow, England

Singh, B., Winkel, D. E., & Selvarajan, T. T. (2013). Managing Diversity at Work: Does Psychological Safety Hold the Key to Racial Differences in Employee Performance? *Journal of Occupational and Organizational Psychology, 86*(2), 242-263. https://doi.org/10.1111/joop.12015.

Soomro, B. A., Memon, M., & Shah, N. (2021). Paternalistic Leadership Style, Employee Voice and Creativity among Entrepreneurs: Empirical Evidence from SMEs of a Developing Country. *Management Decision, 59*(2), 285-305. https://doi.org/10.1108/md-11-2018-1207.

Tian, Q., & Sanchez, J. I. (2017). Does Paternalistic Leadership Promote Innovative Behavior? The Interaction between Authoritarianism and Benevolence. *Journal of Applied Social Psychology, 47*(5), 235-246. https://doi.org/10.1111/jasp.12431.

Uhl-Bien, M., & Maslyn, M. (2005). Paternalism as a Form of Leadership: Differentiating Paternalism from Leader-Member Exchange. *Proceeding at the Meeting of the Academy of Management*, Honolulu, Hawaii.

Ünler, E., & Kılıç, B. (2019). Paternalistic Leadership and Employee Organizational Attitudes: The Role of Positive/Negative Affectivity. *SAGE Open, 9*(3), 1-14. doi:10.1177/2158244019862665

Van der Vegt, G. S., & Janssen, O. (2003). Joint Impact of Interdependence and Group Diversity on Innovation. *Journal of Management, 29*(5), 729-751. https://doi.org/10.1016/s0149-2063(03)00033-3.

Wadho, W., Goedhuys, M., & Chaudhry, A. (2019). Young Innovative Companies and Employment Creation: Evidence from the Pakistani Textiles Sector. *World Development, 117*, 139-152. https://doi.org/10.1016/j.worlddev.2019.01.002.

Wang, A-C., Tsai, C-Y., Dionne, S. D., Yammarino, F. J., Spain, S. M., Ling, H-C., Huang, M-P., Chou, L-F., & Cheng, B-S. (2018). Benevolence-Dominant, Authoritarianism-Dominant, and Classical Paternalistic Leadership: Testing Their Relationship with

Subordinate Performance. *The Leadership Quarterly, 29*(6), 686-697. https://doi.org/10.1016/j.leaqua.2018.06.002.

Wang, Y., Tang, C., Naumann, S. E., & Wang, Y. (2019). Paternalistic Leadership and Employee Creativity: A Mediated Moderation Model. *Journal of Management & Organization, 25*(1), 137-156. https://doi.org/10.1017/jmo.2017.8.

Wong, K. K.-K. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques using SmartPLS. *Marketing Bulletin, 24*(1), 1-32.

Zhang, G., Wang, X., & Duan, H. (2019). How Does the Collaboration with Dominant R&D Performers Impact New R&D Employees' Innovation Performance in Different Cultural Contexts? A Comparative Study of American and Chinese Large Firms. *Technological Forecasting and Social Change, 148,* 119728. https://doi.org/10.1016/j.techfore.2019.119728.

Zhuang, W.-L., Lee, C.-H., & Ma, C.-L. (2022). Hotel Employees' Voice Behavior: The Role of Paternalistic Leadership and Organizational Identification. *Sustainability, 14*(1). https://doi.org/10.3390/su14010256.

https://journal.uinjkt.ac.id/index.php/etikonomi
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Circular Economy Business Models in the Micro, Small, and Medium Enterprises: A Review

Astadi Pangarso[1*], Kristina Sisilia[2], Yahya Peranginangin[3]

[1,2]Business Administration Department, Telkom University, Indonesia
[3]Computer Engineering Department, Telkom University, Indonesia
E-mail: [1]astadipangarso@telkomuniversity.ac.id, [2]kristina@ telkomuniversity.ac.id, [3]yahyaperanginangin@ telkomuniversity.ac.id

[*)]**Corresponding Author**

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Abstract
MSME business should be built based on circular economy (CE)-based business models. The purpose of this article is to present a review of several articles that have been published in Scopus discussing the CE-based business model and MSMEs to find research gaps and future research agendas. It used some tools of the theoretical assay, such as bibliometric analysis, systematic literature review, theory, context, and characteristic methodology (TCCM). The paper outlines all findings of analyzed literature about CE's business model applied by MSME in the Scopus document until June 2021. The findings of this study provided more high-quality evidence about research and practical gaps regarding the CE-based business model and MSME, which needs more research focuses on market desirability in the future and more understanding of internal processes in MSME's case studies. The implication of this article is to provide a future research agenda based on a collection of research gaps as a basis for empirical research.

Keywords:
business model, micro, small, and medium enterprises, circular economy

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INTRODUCTION

A circular economy (CE) is an economic system with a closed loop from production to consumption based on the 3R (Reduce, Reuse, and Recycle) principle (Kirchherr et al., 2017). CE has become a crucial topic that has been widely researched at the end of this decade. It is a condition for realizing economic, social, and environmental sustainability (Geissdoerfer et al., 2017). CE is also related to new business models to realize sustainable development (Ghisellini et al., 2016).

Micro, small, and medium enterprises (MSMEs) play an important role in the economic progress of a country (Khurana et al., 2021). A common problem faced by MSMEs is related to changes in business models, particularly in responding to the dynamics of the business environment (Ramantoko et al., 2019). A business model is how a business organization creates and delivers value to its stakeholders (Teece, 2010; Zott & Amit, 2010). The dynamic of the business environment that MSMEs are currently facing is the pandemic of the novel coronavirus disease 2019 (COVID-19). It directly impacts the general decline in MSME business conditions (Syaifullah et al., 2021). Note that this pandemic is also related to CE. It is the good momentum for the broad implementation of CE in the business world (Ibn-Mohammed et al., 2021). The COVID-19 pandemic impacts the reduction of carbon emissions that positively affects the environment (Saadat et al., 2020). Entrepreneurs (including MSME business owners) could also have played a role in implementing the CE concept when the COVID-19 pandemic happened (Neumeyer et al., 2020). Therefore, the COVID-19 pandemic is also part of the background for the need of research on CE-based business models for MSMEs. According to the Organization of Economic Co-operation and Development, the main difference between SMEs and MSMEs is the number of workers. MSMEs are categorized as the smallest businesses with a few workers between 5 and 10 people. Gatto & Re (2021) and Cantú et al. (2021) published systematic literature review (SLR) CE-based business models for bioproduct enabler–barriers for the implementation of CE business models of SMEs in developing countries. However, this research is not for MSMEs. The circular economy has three levels: macro, meso, and micro. The macro level focuses on cities, regions, and nations. The meso level focuses on eco-industrial parks (Ghisellini. et al., 2016; Kirchherr et al., 2017; Prieto-Sandoval et al., 2018). Businesses run by SMEs are increasingly concerned about sustainability, as shown by several studies. SMEs are increasingly concerned with environmental protection so they try to carry out sustainable practices (Yadav et al., 2018), SMEs can gain financial positives through sustainability-related factors (Burlea-Schiopoiu & Mihai, 2019) such as innovation, training, and corporate social responsibility. In terms of stakeholder engagement, governmental policies also encourage SMEs to be more active in carrying out sustainable development business actions (Medina-Muoz & Medina-Muoz, 2000). The topic of sustainability in SMEs using circular economy business models is still rare, thus academics plan to solve the research and practical gaps from Scopus until June 2021. From now on, CE issues and business models will be scrutinized further. It is now being attacked for hurting

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ecosystem and society (Sauvé et al., 2016). In addition, CE is also said to achieve the UN's Sustainable Development goals, supporting the improvement of essential areas for planet earth and humanity. As a result, industry, particularly SMEs, will be under more pressure to adopt CE (also MSMEs). This includes the Circular Economic Action Plan 2015, which identifies 54 activities to achieve a carbon-neutral, resource-efficient, and competitive economy. Sitra, The Finnish Innovation Fund, created a repository containing 100 case studies describing how various Finnish companies are transitioning to incorporate the CE concept in their business models, including the SME business.

A literature review is the initial stage in creating a CE-based MSME business model. The literature review will yield results, data, and information relevant to scientific research on the CE-based business model in MSMEs. A literature review may reveal a research deficit. Existing research gaps inform future research goals, which may include CE-based business models for MSMEs. Geissdoerfer et al. (2017) stated that further research on CE-based business models is still needed. A thorough study agenda based on a collection of research gaps by Theory, Context, Characteristics, and Methodology (TCCM) has not been published as far as the authors are aware as of June 2021. This research gap informs the current study. Still little research on MSMEs' CE. As far as the authors are aware, from the Scopus indexed documents up to June 2021, Singh et al. (2018) examined the readiness of MSMEs in only India to implement the CE concept. Indexed scientific research publications, especially Scopus, belong to a reputable category, other than Web of Science (WoS) (Gatto & Re, 2021; Kirillova, 2017).

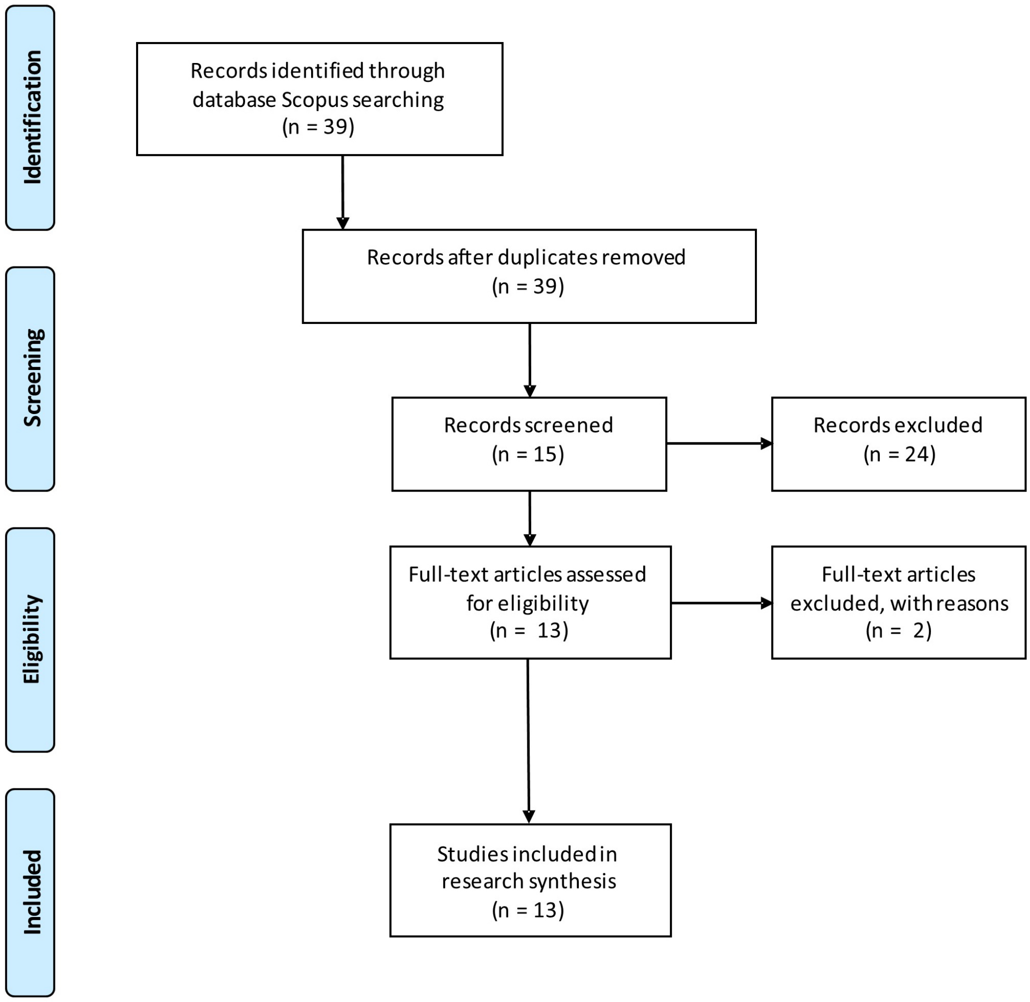
Scopus is a good source for quality scientific articles and professors. Rarely do we hear about CE, business models, or SMEs. The CE technique is now being developed in industry; scholarly literature is still in its infancy. It is argued that several barriers limit the transition of CE in business, and one of them is the absence of CE business model knowledge (Garcés-Ayerbe et al., 2019). This obstacle is even more significant for SMEs because SMEs have limited capacity and resources, thereby reducing their ability to overcome them (Álvarez et al., 2019; Wang. 2016). Access to information and gaps in barriers to CE business models at the micro-level, specifically in SMEs, will be an important reference for stakeholders. Using the SLR procedure, this research seeks to understand impediments, drivers, motivations, and best practices across CE business models at the SME level globally.

So, this study asks, "What are the research gaps and future research goals found in Scopus indexed documents about CE-based business models for MSMEs?" This study adds to the body of information concerning entrepreneurship in the context of MSME. With the help of TCCM analysis, it contributes to the development of CE-based business models. It also provides a solid foundation for more in-depth empirical research on CE-based business models for MSMEs.

METHODS

This study is uses the SLR method (Paul & Criado, 2020; Snyder, 2019). This study's data are secondary. Until June 2021, the document database utilized to acquire relevant literature is Scopus. The Scopus database was chosen as an alternative to WoS for authors to search. The research approach uses three sequences to address the research question: bibliometric analysis, SLR, and TCCM. The bibliometric analysis initiates SLR and aims to provide a scientific overview of previous research on CE-based business models for MSMEs. Bibliometric analysis uses the VOSviewer a user-friendly software program (van Eck & Waltman, 2010).

Figure 1. Systematic Literature Review Process



Source: Moher et al. (2009)

SLR is an integrative or systematic literature review used as a strategy to build literature review articles. SLR has the advantage of a structured review process, and is as transparent, replicable, and exhaustive as possible (Torraco, 2005). A SLR starts by arguing for a literature review and assessing the issue or problem to be studied. Then a body of material is picked and reviewed, sifted to ensure strengths and weaknesses,

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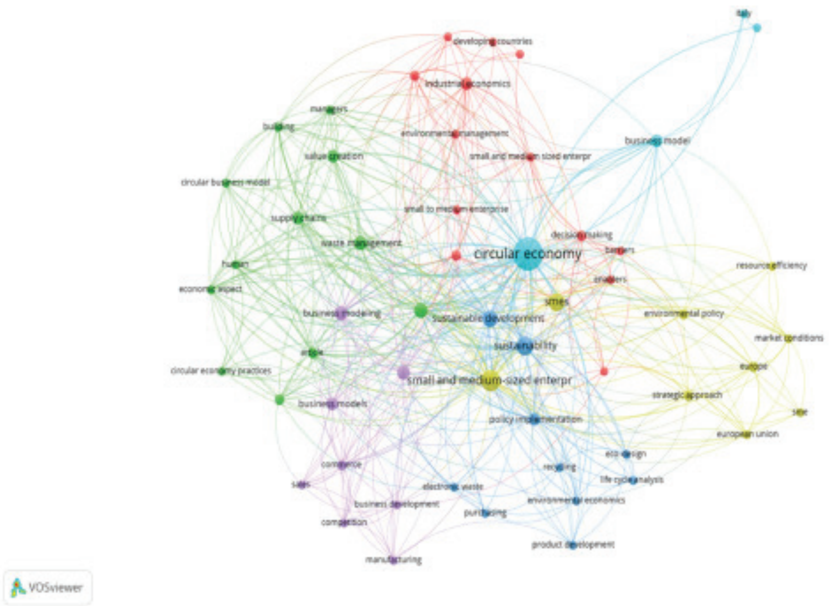
and then old and new ideas are merged to provide new formulations of topics or issues (Torraco, 2005). The SLR generates a new framework and perspective from an integrated review, critique and synthesis of literature on a topic (Torraco, 2005). For Kitchenham et al. (2009) SLR is a literature survey with defined research questions, a clear search and extraction process for data and presentation. SLR is concerned with finding, assessing and synthesizing evidence (Petticrew & Roberts, 2006) whose process requires a range of techniques to minimize bias and error so as to provide 'high quality' evidence. The SLR process with PRISMA guidelines produces scientific publication documents from the Scopus database for the CE business models for MSMEs worthy of further analysis (Liberati et al., 2009; Moher et al., 2009). Figure 1 depicts the PRISMA SLR procedure. Identification, screening, eligibility, and inclusion are all part of SLR. The search term package "business model" AND "circular economy" AND "small medium enterprise" OR "SME" OR "micro small medium enterprise" OR "MSME" identified 39 scientific research published documents indexed by Scopus until June 2021. During the screening stage, no duplicate research publications are found. For each document, the phrases "business model", "circular economy", and "SME/MSME" should be excluded from the title, abstract, and keywords. Twenty-four documents lack the phrases "business model," "circular economy," and "SME/MSME" in the title, abstract, or keywords. In the eligibility stage, 13 documents passed the screening and can be downloaded in full by the authors. Finally, the authors must download 13 papers for TCCM analysis. Pangarso et al. (2022) states that a literature review can be carried out with a literature count of less than 50.

The search also uses the phrase "small medium enterprise" (SME) with the consideration that SME is part of MSME and because there is only one previous research document (Palacio et al. 2021)) if the acronym "SME" is excluded in the search keywords. A Scopus search for the keywords "SME" OR "small medium enterprise" with business science subjects in English yields 15,495 documents from 1,949. For business science subjects in English, the Scopus indexed document search shows a total of 282 documents from 2003. The authors hypothesize that SME is the progenitor of MSME based on keyword searches in the Scopus database. It also underpins the term "SME" used in research data collecting.. Meanwhile, the analysis of SLR documents uses the TCCM framework (Pérez-Pérez et al., 2020). TCCM is a structured review domain-based framework, which aims to find research gaps and provide suggestions for future research agendas on the basis of the SLR documents.

RESULTS AND DISCUSSION

In Figure 2, Scopus indexed research publications for the keywords "business model" AND "circular economy" AND "small medium enterprise" OR "SME" OR "micro small medium enterprise" OR "MSME." VOSviewer employs co-occurrence analysis with a minimum of two keywords. The authors use co-occurrences to show how VOSviewer findings can indicate business model components and subjects.

Figure 2. Results of Data Processing Using VOSviewer for Scopus indexed Research Publications



As shown in Figure 2, six clusters group 58 topics related to the CE business models for SMEs/MSMEs based on color (green consists of 12 topics; purple comprises eight topics; blue consists of 10 topics; red comprises 13 topics; turquoise consists of six topics; yellow comprises nine topics). From Figure 5 for the largest circle, the CE topic is in the middle of the turquoise color. Of the total 58 topics, three topics are explicitly about circular business models (green, purple, and turquoise clusters). Figures 3a, 3b, and 3c below show specifically the three explicit clusters of business models.

Figure 3a. Processing Results of the VOSviewer Circular Business Model (Green Cluster)

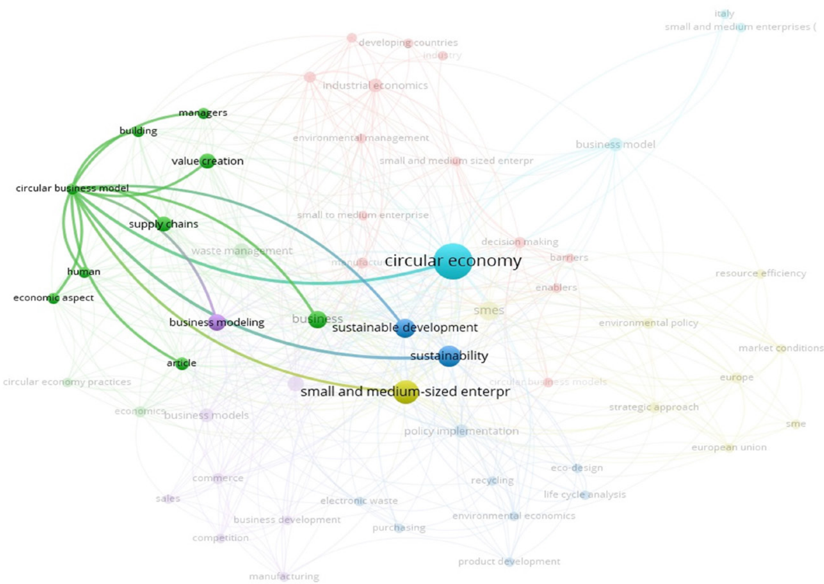


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Figure 3b. Processing Results of the VOSviewer Circular Business Model (Purple Cluster)

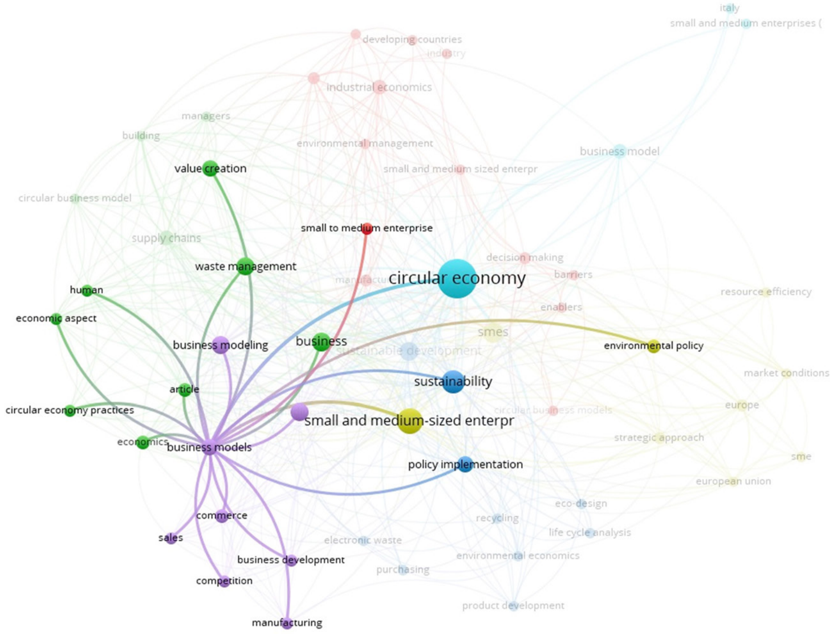
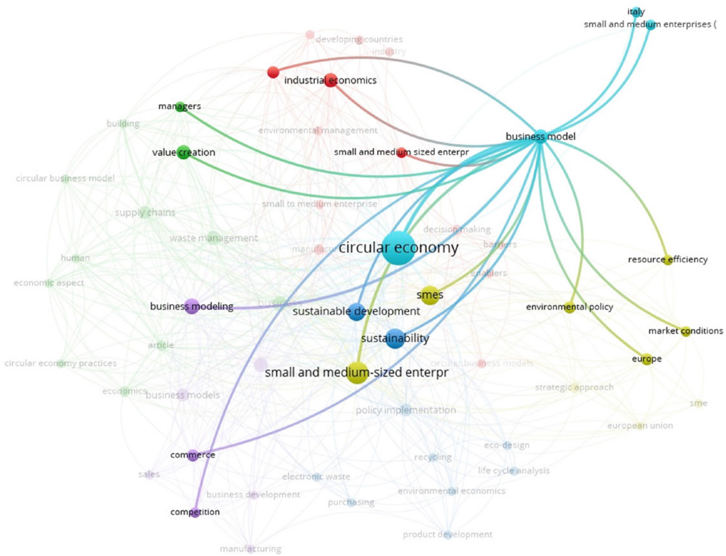


Figure 3c. Processing Results of the VOSviewer Circular Business Model (Turquoise Cluster)



The comparison of the processing results of the VOSviewer circular business model for the green, purple, and turquoise clusters can be seen in Table 1. Based on Scopus VOSviewer software, bibliometric results for the keywords "business model" and "circular economy" was found. VOSviewer uses co-occurrence analysis when a keyword appears twice. This method is used to see how VOSviewer results connect to business model constructs and topics.

Table 2 presents 13 papers for detailed analysis, as well as information on the journal's origin and quality. The leading SLR assessed 13 papers from major worldwide publishers whose journals are indexed by Scopus Q1 and WoS with impact factor (SSCI and/or SCIE). The documents analyzed met these criteria with flying colors. Documents with more citations in the Scopus database are discussed first. Table 3 shows the TCCM framework analysis of the 13 publications.

Table 1. Comparison among the results of processing the VOSviewer circular business model for green, purple, and turquoise clusters

No.	Green clusters associated with		Purple clusters associated with		Turquoise clusters associated with	
	Topic	Cluster	Topic	Cluster	Topic	Cluster
1	Buildings		Waste management		**Value creation**	Green
2	Manager		CE practices		Manager	
3	**Value creation**		**Value creation**		**Sustainability**	
4	Supply chains	Green	Economics	Green	Sustainable development	Blue
5	Business		Business		**Business modeling**	
6	Human		Human		Commerce	Purple
7	Economic aspect		Economic aspect		Competition	
8	Article		Article		**SMEs**	
9	**Sustainability**	Blue	**Sustainability**	Blue	Environmental policy	
10	Sustainable development		Policy implementation		SME	Yellow
11	**Business modeling**	Purple	**Business modeling**		Resource efficiency	
12	**SME**	Yellow	SME		Market conditions	
13	**CE**	Turquoise	Commerce		Europe	
14			Sales	Purple	**CE**	
15			Business development		Italy	Turquoise
16			Competition		SME	
17			Manufacturing		Industrial economics	Red
18			**SME**	Yellow	SME	
19			Environmental policy			
20			**CE**	Turquoise		
21			SME	Red		

In terms of theory, the theories/concepts used are: First, general system theory, which is related to CE. CE is a system that is a requirement to achieve sustainability (Bertalanffy, 1950). Second, ReSOLVE framework comprising five important dimensions related to CE, namely, regenerate, share, optimize, loop, virtualize, and exchange. Third, Pecking order theory, which is related to SME financing that is associated with CE-based business models. Fourth, organizational learning/OL that plays a role in implementing a CE-based business model for SMEs, interorganizational and intraorganizational (Argote, 2000). Fifth,

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innovation diamond model, which consists of strategy, organization, process procedure, linkage, and learning related to the capacity of SMEs in an organization to implement a CE-based business model (Tidd et al., 2005). The theory-related gaps in the research on CE-based business models for SMEs: (1) are community-based and can become a future research agenda using social learning theory (Rizos et al., 2016); (2) use the SWIT framework, so that it can become a future research agenda (Cantú et al., 2021).

Three key research contexts exist: location (region/country), sector/industry, and analysis level. Europe and the Americas remain dominant research locations (US). These are mostly developed nations. Only one researcher has explored CE-based business models for emerging economies by Cantú et al. (2021) in Mexico. This relates to Figure 3. Almost every industry has been included in the CE-based business models for SMEs research. Because business models offer a holistic perspective of business organizations, the relevant analysis level is organizational. Context-related gaps in studies by Ünal et al. (2019), Horvath et al. (2019), Ceptureanu et al. (2018), and Scipioni et al. (2021) are still limited in research context, especially in locations outside Europe and the US. Research can be conducted in developing countries, particularly in the Asia and Africa regions. Particular attention should be paid to the Asian region with the most significant test number globally.

Table 2. Journal information for 13 systematic literature review documents

No.	Author/s	Journal name	Publisher	Scopus Quartile by scimagojr.com year 2020	WoS Index (SCIE and SSCI show journals with impact factor)
1	Rizos et al. (2016)	*Sustainability*	MDPI	Q1	SCIE & SSCI
2	Ünal, Urbinati, and Chiaroni (2019)	*Journal of Manufacturing Technology Management*	Emerald	Q1	SCIE & SSCI
3	Ünal et al. (2019)	*Resources, Conservation, and Recycling*	Elsevier	Q1	SCIE
4	Horvath et al. (2019)	*Journal of Business Economics and Management*	Vilnius Gediminas Technical University	Q2	SSCI
5	Ghisetti and Montresor (2020)	*Journal of Evolutionary Economics*	Springer	Q1	SSCI
6	Ceptureanu et al. (2018)	*Amfiteatru Economic*	Editura ASE Bucuresti	Q2	SSCI
7	Hussain et al. (2020)	*Journal of Enterprise Information Management*	Emerald	Q1	SSCI
8	Gatto and Re (2021)	*Sustainability*	MDPI	Q1	SCIE & SSCI
9	Scipioni et al. (2021)	*Sustainability*	MDPI	Q1	SCIE & SSCI
10	Cantú et al. (2021)	*Sustainability*	MDPI	Q1	SCIE & SSCI
11	Dagevos and de Lauwere (2021)	*Sustainability*	MDPI	Q1	SCIE & SSCI
12	Pizzi et al. (2021)	*Management of Environmental Quality*	Emerald	Q2	ESCI
13	Vihma and Moora (2020)	*Environmental and Climate Technologies*	Walter de Gruyter GmbH	Q3	ESCI

Table 3. Systematic literature review document grouping with theory–context–characteristic–methodology framework

No.	Author/s	TCCM framework									Research limitation	Further research recommendation
		Theory and/ or Concept discussed	Context			Characteristic	Methodology					
			Research location	Sector and/or Industry	Analysis level		Conceptual	Empirical				
								Qualitative	Quantitative	Mixed method		
1	Rizos et al. (2016)	-	Europe	• Manufacturing • Information and communication • Wholesale and retail • Electricity, gas, steam, and air conditioning supply • Accommodation and food service activities • Transportation and storage • Administrative support • Arts, entertainment, recreation • Human health and social work activities	Organization	Barriers and enablers experienced by SMEs when implementing a CE-based business model	-	Case study	-	-	Did not research enablers specifically	Develop a robust design for community-based SMEs (whatever it takes to build capacity) on the basis of community learning theory
2	Ünal, Urbinati, and Chiaroni (2019)	System theory	Italy	Office supply	Organization	• Value network • Customer value proposition and interface • Managerial commitment	-	Case study with semi-structural interview	-	-	Investigated only one SME in a country	• Test multiple management practice configurations for the research framework • How SMEs can apply CE practices to create and capture value • How SMEs combine scarce resources with CE-related managerial capabilities

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No.	Author/s	TCCM framework									Research limitation	Further research recommendation
		Theory and/ or Concept discussed	Context			Characteristic	Methodology					
			Research location	Sector and/or Industry	Analysis level		Conceptual	Empirical				
								Qualitative	Quantitative	Mixed method		
3	Ünal et al. (2019)	System theory	US	Building	Organization	Managerial practices and contexts (internal and external) as a sequence of value creation antecedents	-	Case study (grounded theory by semi-structured interview)	-	-	Focused only on biological materials related to the research context	Discuss material technology and the potential for research with a similar theoretical framework and quantitative testing for a broader and different context
4	Horvath et al. (2019)	Regenerate, share, optimize, loop, virtualize, exchange (ReSOLVE) framework	Belgium	Pharmaceutical biotech	Multiorganization	• Closed business model • Regular open business model • Data-driven business model	√	-	-	-	-	Research on different sectors/ industries
5	Ghisetti and Montresor (2020)	Pecking order theory	Europe	-	Multiorganization	• Circular innovation modes • Circular use modes • Circular output modes	-	-	Econometric	-	Did not examine the separate sources of CE financing between public and private funding	Investigate the risks of various types of financing related to CE-based business models
6	Ceptureanu et al. (2018)	ReSOLVE framework	Romania	PVC	Multiorganization	Value creation	-	-	Correlation	-	Limited only to the PVC industry sector, and the sample is small.	Research on different industrial sectors and with larger sample sizes

No.	Author/s	TCCM framework									Research limitation	Further research recommendation
		Theory and/or Concept discussed	Context			Characteristic	Methodology					
			Research location	Sector and/or Industry	Analysis level		Conceptual	Empirical				
								Qualitative	Quantitative	Mixed method		
7	Hussain et al. (2020)	-	UK	Food waste	Organization	Waste to energy technology innovation barrier and risk	-	Semi-structured interview	-	-	Limited only to the energy sector	Examine the reuse of liquid waste
8	Gatto and Re (2021)	-	European Union	Bio-based products	-	Circular bio-economy business model	-	SLR	-	-	The potential author subjectivity related to the bibliometric classification of the number of projects analyzed is limited.	Research on CE-based business models that are oriented to market demand
9	Scipioni et al. (2021)	Organizational learning (OL)	Italy	Construction	Multiorganization	Multistage process (internal organization, supply chain stakeholders, external stakeholders) OL (creation, transfer, retention) from culture, regulation, structure, and process	-	-	-	√		

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No.	Author/s	TCCM framework									Research limitation	Further research recommendation
		Theory and/ or Concept discussed	Context			Characteristic	Methodology					
			Research location	Sector and/or Industry	Analysis level		Conceptual	Empirical				
								Qualitative	Quantitative	Mixed method		
10	Cantú et al. (2021)	ReSOLVE framework	Mexico	-	Multiorganization	Emerging economy	-	Hybrid-thematic analysis (SLR) and grounded theory (semi-structured interview).	-	-	CE viewpoint using only the ReSOLVE framework.	Use another framework approach (SWIT framework)
11	Dagevos and de Lauwere (2021)	-	The Netherlands	Agriculture	Multiorganization	Critical performance indicators of circular agriculture	-	Interview	-	-	-	-
12	Pizzi et al. (2021)	-	Italy	Digital platform	Organization	Entrepreneurial ecosystem	-	Case study	-	-	The research context is only from one case.	Study the roles of digitization and sustainable behavior; use a broader sample
13	Vihma and Moora (2020)	Innovation Diamond model	Estonia	Manufacturing	Multiorganization	Capacity to implement CE-based business models	-	-	-	Survey and in-depth semi-structured group interviews	-	-

Aside from CE-based business models, value generation, CE-based business model finance, and business model canvas preparation, barriers and facilitators are the most mentioned research aspects. The barriers and enablers of CE-based business models have been studied previously. Rizos et al. (2016) who revealed two main barriers to the existence of a CE-based business model, namely, the lack of support from business networks related to supply and demand and the lack of capital to run a CE-based business model. There must also be a network of local SMEs that have implemented a CE-based business model and a customer perception that the business being operated is "green." Vihma & Moora (2020) stated that relevant strategy, leadership, learning ability, and combining external knowledge and collaboration with various related parties contribute to the successful implementation of a CE-based business model. Ghisetti & Montresor (2020) examined the extent to which financing options are related to implementing a CE-based business model. Self-financing, debt financing, and public funds have proven to be the causes of the practice of CE-based business models from a financial perspective in general in SMEs. Scipioni et al. (2021) argued that the critical factors of a CE-based business model for the MSME construction sector in Italy are external stakeholders, supply chain stakeholders, and organizational culture. In addition, barriers to and enablers for OL processes related to the CE-based business model from a knowledge perspective (creation, transfer, and retention) are found. Cantú et al. (2021) stated theoretical and empirical barriers to SMEs to implement a CE business model in the current economic era. Barriers have two types, namely, internal and external. The research by Cantú et al. (2021) fully demonstrates the barriers to and enablers for implementing a CE-based business model compared with other studies. Pizzi et al. (2021) stated that digital platforms play as enablers in the entrepreneurial ecosystem relationship and as enablers of a CE-based business model for SMEs. The six studies related to the barriers to and enablers for the implementation of a CE-based business model are presented in Table 4.

MSMEs who have financial limitations are very concerned about profits and costs, so they tend to choose to implement cheap and simple green practices. The innovations in MSME that they do incrementally in resource loops will consider profits, costs, knowledge, experts, supply, and demand-side; and externally requires government supports such as regulations, standards, and infrastructure; as listed in table 4. Only Scipioni et al. (2021) gives rise to a user behavior/market context, while others focus heavily on the operational parts of the business model. Research by Bocken & Geradts (2022), through interviews with 200 managers of leading corporations related to sustainability, found three critical things: market desirability, technical feasibility, and business viability. The topic of market desirability or market/demand-side, which is still very rarely studied, will be a perfect research topic gap to do. Business model designs that adopt CE by MSME must also prioritize better serving customer needs in their CE innovations. At the same time, this is a novelty in the literature research of this study. Table 4 also shows that the most widely used method is the case study, so the method used in this study is SLR and TCCM is another novelty.

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Table 4. Summary of Barriers to and Enablers for the Implementation of a CE-based Business Model Based on Previous Research

No.	Author	Barrier	Enabler
1	Rizos et al. (2016)	Lack of support from supply and demand networks Lack of capital Lack of government support Administrative burden Lack of technical know-how Lack of information Other barriers Company environmental culture	Company environmental culture Networking Support from the demand network Financially attractive Recognition Personal knowledge Government support -
2	Vihma and Moora (2020)	-	Relevant strategy and planning Network integration Learning process Owner and manager leadership
3	Ghisetti and Montresor (2020)	Inadequacy of standard financial sources Lack of expertise to implement activities Complex administrative or legal procedures Cost of meeting regulations or standards Difficulty in accessing finance	Self-financing Debt financing Public fund -
4	Scipioni et al. (2021)	External stakeholders (culture and regulations) are mediated by associations to supply chain stakeholders (culture, structure, and process) by alliances and networks, and finally join the internal SME organization (also related to culture, structure, and process).	From the inside out, OL as an enabler starts with internal SME organization (culture, structure, and process), then with supply chain stakeholders (culture, structure, and process), and ultimately with external stakeholders (associations) (related to culture and regulation).
5	Cantú et al. (2021)	External barriers: 1. User behavior (budget, preference, and demand; understanding and perception) 2. Regulatory (implementation, incentives, political landscape, promotion and awareness, regulation) 3. Infrastructure (infrastructure irregularity, technology) 4. Economy and competitive markets (capital and funding, market competition, market trend) 5. Supply Chain (availability, cooperation, logistics)	External enablers 1. Regulatory (implementation, incentives, promotion and awareness, regulation) 2. Infrastructure (available infrastructure, technology) 3. Economy and competitive markets (capital and funding, market competition) 4. Supply chain (leadership, cooperation, incentives to suppliers, logistics)
		Internal barriers: 1. Knowledge (communication, information access and awareness, information on CE) 2. Financial (investment cost, revenue model, cost structure, and risk) 3. Organizational (corporate governance, culture, management, organizational capabilities, organizational resources, strategies) 4. Product and material characteristics (design)	External enablers: 1. Knowledge (communication, information access and awareness, information on CE) 2. Financial (financial support, risk) 3. Organizational (corporate governance, culture, management, organizational capabilities, organizational resources) 4. Product and material characteristics (design)
6	Pizzi et al. (2021)	Technical, cultural, financial	Digital platforms are accelerators of CE-based business models for SMEs.

For the second research characteristic, the framework on value creation antecedents in a CE-based business model has been studied by Ünal et al. (2019). Value network, customer value proposition, interface, and managerial commitment are parts of the CE-based business model for value creation. Furthermore, Ünal et al. (2019) reconstructed a theoretical framework on the antecedents of value creation for a CE-based business model in the SME sector building. The antecedents sequentially include contextual factors (internal: strategy orientation; dynamic managerial capability; experimentation or research and development; company size) and (external: local waste and local use; intellectual rights protection; supplier specification) and managerial practices. Ceptureanu et al. (2018) found a relationship among the three parts of the ReSOLVE framework (regenerate, optimize, and exchange) on the value creation of a CE-based business model.

The characteristics of the third research are categorized as applications. Horvath et al. (2019) described the changes in the business model of the biotech sector in Belgium, starting from closed, regularly open to data-driven. Each type of business model is first analyzed on the basis of the CE concept, namely, the ReSOLVE framework. Then, a business model canvas is formed for a biotech, pharmaceutical company in Belgium. Hussain et al. (2020) explained SMEs' role with a CE-based business model in converting waste into clean energy with technological innovations in the UK. Furthermore, Dagevos & de Lauwere (2021) described the circular agriculture practices for farmers in the Netherlands. The measure of circular agriculture practice uses critical performance indicators of circular agriculture. The perception of farmers as representatives of SMEs toward circular agriculture is an alternative or adaptation. Gatto & Re (2021) reviewed previous studies on a circular bio-economy-based business model in general and showed that the bio-economy business model successfully uses the "technology push and market pull" strategies. Future research based on Gatto and Re (2021) is needed, especially that related to a CE-based business model oriented toward market demand.

The research gap in Ünal et al. (2019) is related to characteristics such as the limited scope of the research and the viewpoint that tends to be from the supply side, rather than the demand side. Therefore, conducting further research with a demand-side viewpoint is suggested. Another research gap in Ünal et al. (2019) is that it tends to focus on the characteristics of biological materials and excludes elements of material technology. Thus, future studies can consider the aspects of material technology. The research gap in Ghisetti & Montresor (2020) lies in characteristics such as the risk of each form of financing related to the practice of a CE-based business model that has not been investigated, thereby opening up future research opportunities for this topic. The research gap in Hussain et al. (2020) is related to the characteristics of liquid waste that have not been explicitly studied. The future research agenda is to investigate the reuse of liquid waste for determining if it cannot only reduce waste but also improve business efficiency. Pizzi et al. (2021) stated that future research is needed regarding the characteristics of digitization and sustainable behavior.

The research is grouped into two major types in terms of methodology, namely, conceptual and empirical research. Only one conceptual research is found. Meanwhile, the

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empirical research comprises eight qualitative, two quantitative, and two mixed-method studies. Research on the CE-based business model for dominant SMEs is qualitative and thus conducts interviews for a specific context. This factor opens additional opportunities for quantitative and mixed-method studies. No quantitative research has used the structural equation modeling (SEM) method to test a theory/model associated with a CE-based business model in an SME/MSME. The study conducted by Ünal et al. (2019) is limited in scope, as it investigates only one SME. A future research plan is needed to examine the influence among constructs on the theoretical framework quantitatively. The research agenda of Ünal et al. (2019) is to develop and empirically test a CE-based business model by using qualitative and/or quantitative methods. The research gap in Ceptureanu et al. (2018) is methodological. Therefore, similar future studies are needed to investigate larger sample sizes. The gap in Gatto & Re (2021) is also methodological, namely, the author subjectivity regarding bibliometric classification and the limited number of projects analyzed. Hence, future research opportunities are open for a more objective bibliometric category and a larger number of projects. Similarly, the gap in Pizzi et al. (2021) is found in its methodology that is limited to only one case. Future studies are needed for broader samples. The future research agenda of Scipioni et al. (2021) is related to the methodology of the theoretical model of multistage OL for the implementation of a CE business model (OL plays an important role in the multistage process for SMEs to implement the CE-based business model).

This study contributes to the previous research gap in Geissdoerfer et al. (2017) and complements the SLR results of previous studies (Gatto & Re, 2021; Cantú et al., 2021) by presenting research gaps and future research agendas on the basis of a complete SLR from the latest and quality data sources. As far as the authors are aware, this is the first study to use bibliometric analysis, SLR and TCCM that provided more high-quality evidence about research, and practical gaps regarding the CE-based business model and MSME (novelty). This study has some limitations. First, the source of the secondary data used for bibliometric and SLR analyses is from the Scopus indexed research publication document database only. The authors have limited access to WoS indexed research publication documents. Future research can conduct the same investigation with WoS databases. Second is the use of secondary data search keyword packages: "business model" AND "circular economy" AND "small medium enterprise" OR "SME" OR "micro small medium enterprise" OR "MSME." Future studies can use a complete keyword package. Last, the results and analyses are still based on previous studies from the SME context, not from the MSME context. Future qualitative research can develop theoretical frameworks in various sectors/industries specifically for MSMEs/SMEs.

CONCLUSION

The results of this study succeeded in answering the research question, namely by finding the research gaps and future research agendas found in Scopus indexed documents up to June 2021 about CE-based business models for MSMEs based on SLR and TCCM. Considering the research gaps, the authors suggest a summary of future research agendas. Quantitative empirical research using the variant-based SEM method is needed to build, test, and analyze a theoretical framework regarding value creation based on the SWIT framework and social learning theory combined with implementation enablers. A CE-based business model can be constructed for developing countries, especially in Asia, for community-based MSMEs/SMMEs from various sectors/industries with organizational analysis units and a representative number of research samples (large enough for generalization). Variance-based SEM or partial least squares (PLS-SEM) is a quantitative research data processor that has been widely used in top-tier research publications and can be helpful for confirmation and explanation/prediction of a research framework. Empirical testing in the future is essential because the results, especially for significant effects, form the basis for MSME/SME entrepreneurs to pay further attention.

The results of this study are the basis for carrying out further research related to the findings of research gaps. This research has collected various research gaps, making it easier for other researchers to conduct further research based on the research gaps that have been collected. This research has implications for future research agendas.

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LPPM Telkom University

REFERENCES

Álvarez Jaramillo, J., Zartha Sossa, J. W., & Orozco Mendoza, G. L. (2019). Barriers to Sustainability for Small and Medium Enterprises in the Framework of Sustainable Development: Literature Review. *Business Strategy and the Environment*, *28*(4), 512- 524.

Argote, L. (2000). Organizational Learning: Creating, Retaining, and Transferring Knowledge. *Administrative Science Quarterly*, *45*(3), 622–625. https://doi.org/https://doi.org/10.2307/2667112.

Benitez, J., Henseler, J., Castillo, A., & Schuberth, F. (2020). How to Perform and Report an Impactful Analysis using Partial Least Squares: Guidelines for Confirmatory and Explanatory IS Research. *Information and Management*, *57*(2), 103168. https://doi.org/10.1016/j.im.2019.05.003.

Bertalanffy, L. Von. (1950). An Outline of General System Theory. *British Journal for the Philosophy of Science*, *1*(2), 134-165. https://doi.org/10.1093/bjps/I.2.134.

Bocken, N. M. P., & Geradts, T. H. J. (2022). *Designing Your Circular Business Model. Stanford Social Innovation Review*. Retrieved from: https://ssir.org/articles/entry/designing_your_circular_business_model.

Burlea-Schiopoiu, A., & Mihai, L. S., 2019. An Integrated Framework on the Sustainability of SMEs. *Sustainability, 11*(21), 6026. https://doi.org/10.3390/su11216026.

Cantú, A., Aguiñaga, E., Scheel, C., & Noland, K. (2021). Learning from Failure and

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v21i2.24052

Success : The Challenges for Circular Economy Implementation in SMEs in an Emerging Economy. *Sustainability*, *13,* 1529. https://doi.org/10.3390/su13031529.

Ceptureanu, S. I., Ceptureanu, E. G., & Murswieck, R. G. D. (2018). Perceptions of Circular Business Models in SMEs. *Amfiteatru Economic*, *20*(48), 310–324. https://doi.org/10.24818/EA/2018/48/310.

Dagevos, H., & de Lauwere, C. (2021). Circular Business Models and Circular Agriculture: Perceptions and Practices of Dutch Farmers. *Sustainability*, *13*(3), 1–15. https://doi.org/10.3390/su13031282.

Davvetas, V., Diamantopoulos, A., Zaefarian, G., & Sichtmann, C. (2020). Ten Basic Questions About Structural Equations Modeling you should know the answers to – But perhaps you don't. *Industrial Marketing Management*, *90*, 252–263. https://doi.org/10.1016/j.indmarman.2020.07.016.

Garcés-Ayerbe, C., Rivera-Torres, P., Suárez-Perales, I., & Leyva-de la Hiz, D.,I. (2019). Is It Possible to Change from a Linear to a Circular Economy? An Overview of Opportunities and Barriers for European Small and Medium-sized Enterprise Companies. *International Journal of Environmental Research and Public Health*, *16*(5), 851. https://doi.org/10.3390/ijerph16050851.

Gatto, F., & Re, I. (2021). Circular Bioeconomy Business Models to Overcome the Valley of Death. A Systematic Statistical Analysis of Studies and Projects in Emerging Bio-Based Technologies and Trends Linked to the SME Instrument Support. *Sustainability*, *13*(4), 1–37. https://doi.org/10.3390/su13041899.

Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The Circular Economy – A New Sustainability Paradigm? *Journal of Cleaner Production*, *143*, 757–768. https://doi.org/10.1016/j.jclepro.2016.12.048.

Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A Review on Circular Economy: The Expected Transition to a Balanced Interplay of Environmental and Economic Systems. *Journal of Cleaner Production*, *114*, 11–32. https://doi.org/10.1016/j.jclepro. 2015.09.007.

Ghisetti, C., & Montresor, S. (2020). On the Adoption of Circular Economy Practices by Small and Medium-Size Enterprises (SMEs): Does "Financing-as-Usual" Still Matter? *Journal of Evolutionary Economics*, *30*(2), 559–586. https://doi.org/10.1007/s00191-019-00651-w.

Hair, J. F., & Sarstedt, M. (2021). Explanation Plus Prediction—The Logical Focus of Project Management Research. *Project Management Journal*, *52*(4), 319-322. https://doi.org/10.1177/8756972821999945.

Horvath, B., Khazami, N., Ymeri, P., & Fogarassy, C. (2019). Investigating the Current Business Model Innovation Trends in the Biotechnology Industry. *Journal of Business Economics and Management*, *20*(1), 63–85. https://doi.org/10.3846/jbem.2019.6880.

Hussain, Z., Mishra, J., & Vanacore, E. (2020). Waste to Energy and Circular Economy: the Case of Anaerobic Digestion. *Journal of Enterprise Information Management*, *33*(4), 817–838. https://doi.org/10.1108/JEIM-02-2019-0049.

Ibn-Mohammed, T., Mustapha, K. B., Godsell, J., Adamu, Z., Babatunde, K. A., Akintade, D. D., Acquaye, A., Fujii, H., Ndiaye, M. M., Yamoah, F. A., & Koh, S. C. L. (2021). A Critical Review of the Impacts of COVID-19 on the Global Economy and Ecosystems and Opportunities for Circular Economy Strategies. *Resources, Conservation and Recycling*, *164*, 105169. https://doi.org/10.1016/j.resconrec.2020.105169.

Khurana, S., Haleem, A., Luthra, S., & Mannan, B. (2021). Evaluating Critical Factors to Implement Sustainable Oriented Innovation Practices: An Analysis of Micro, Small, and Medium Manufacturing Enterprises. *Journal of Cleaner Production*, *285*, 125377. https://doi.org/10.1016/j.jclepro.2020.125377.

Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the Circular Economy: An Analysis of 114 Definitions. *Resources, Conservation and Recycling*, *127*, 221–232. https://doi.org/10.1016/j.resconrec.2017.09.005.

Kirillova, O. V. (2017). Scopus Database as a Source of Representing Bulgarian Science to the International Academic Community: The Present and Future Prospects. *Digital Presentation and Preservation of Cultural and Scientific Heritage*, *VII*, 69–78.

Kitchenham, B., Pearl Brereton, O., Budgen, D., Turner, M., Bailey, J., & Linkman, S. (2009). Systematic Literature Reviews in Software Engineering: a Systematic Literature Review. *Information and Software Technology, 51*(1), 7-15. https:// doi.org/10.1016/j. infsof.2008.09.009.

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P. A., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies that Evaluate Health Care Interventions: Explanation and Elaboration. *The BMJ*, *339*, b2700. https://doi.org/10.1136/bmj.b2700.

Medina-Muoz, D., & Medina-Muoz, R. (2000). Small and Medium-Sized Enterprises and Sustainability. *Greener Management International*, *30*, 114–124.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-analyses: The PRISMA Statement. *The BMJ, 339*, b2535. https://doi.org/10.1136/bmj.b2535.

Neumeyer, X., Ashton, W. S., & Dentchev, N. (2020). Addressing Resource and Waste Management Challenges Imposed by COVID-19: An Entrepreneurship Perspective. *Resources, Conservation and Recycling*, *162*, 105058. https://doi.org/10.1016/j. resconrec.2020.105058.

Pangarso, A., Sisilia, K., Setyorini, R., Peranginangin, Y., & Awirya, A A. (2022). The Long Path to Achieving Green Economy Performance for Micro Small Medium Enterprise. *Journal of Innovation and Entrepreneurship*, *11*, 16. https:// doi.org/10.1186/s13731-022-00209-4.

Palacio, J. R. S., Climent, V. C., & Catalá, A. E. (2021). The Organizational Model of the Economy for the Common Good and Its Comparison with Other Approaches to Sustainability. *CIRIEC-Espana Revista de Economia Publica, Social y Cooperativa*, *101*, 143–163. https://doi.org/10.7203/CIRIEC-E.101.16399.

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v21i2.24052

Paul, J., & Criado, A. R. (2020). The Art of Writing Literature Review: What Do We Know and What Do We Need to Know? *International Business Review*, *29*(4), 101717. https://doi.org/10.1016/j.ibusrev.2020.101717.

Pérez-Pérez, M., Serrano-Bedia, A. M., & García-Piqueres, G. (2020). An Analysis of Factors Affecting Students´ Perceptions of Learning Outcomes with Moodle. *Journal of Further and Higher Education*, *44*(8), 1114–1129. https://doi.org/10.1080/0309877X.2019.1664730.

Petticrew, M., & Roberts, H. (2006). *Systematic Reviews in the Social Sciences: a Practical Guide*. Blackwell. Malden, MA.

Pizzi, S., Leopizzi, R., & Caputo, A. (2021). The Enablers in the Relationship between Entrepreneurial Ecosystems and the Circular Economy: the Case of Circularity. Com. *Management of Environmental Quality*. *33*(1), 26-43. https://doi.org/10.1108/meq-01-2021-0011.

Prieto-Sandoval, V., Jaca, C., & Ormazabal, M., 2018. Towards a Consensus on the Circular Economy. *Journal of Cleaner Production, 179*, 605–615. https://doi.org/10.1016/j.jclepro.2017.12.224.

Ramantoko, G., Sitorus, P. M., & Widyanesti, S. (2019). Pilot Static Modeling of Social Business: Case of Kampong Jelekong in Bandung. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, 1059–1071.

Rizos, V., Behrens, A., van der Gaast, W., Hofman, E., Ioannou, A., Kafyeke, T., Flamos, A., Rinaldi, R., Papadelis, S., Hirschnitz-Garbers, M., & Topi, C. (2016). Implementation of Circular Economy Business Models by Small and Medium-sized Enterprises (SMEs): Barriers and Enablers. *Sustainability*, *8*(11), 1212. https://doi.org/10.3390/su8111212.

Saadat, S., Rawtani, D., & Hussain, C. M. (2020). Environmental Perspective of COVID-19. *Science of the Total Environment*, *728*, 138870. https://doi.org/10.1016/j.scitotenv.2020.138870.

Sauvé, S., Bernard, S., & Sloan, P. (2016). Environmental Sciences, Sustainable Development and Circular Economy: Alternative Concepts for Trans-Disciplinary Research. *Environmental Development, 17,* 48-56. https://doi.org/10.1016/j.envdev.2015.09.002.

Scipioni, S., Russ, M., & Niccolini, F. (2021). From Barriers to Enablers: The Role of Organizational Learning in Transitioning SMEs Into the Circular Economy. *Sustainability, 13*(3), 1021. https://doi.org/10.3390/su13031021.

Singh, M. P., Chakraborty, A., & Roy, M. (2018). Developing an Extended Theory of Planned Behavior Model to Explore Circular Economy Readiness in Manufacturing MSMEs, India. *Resources, Conservation and Recycling*, *135*, 313–322. https://doi.org/10.1016/j.resconrec.2017.07.015.

Snyder, H. (2019). Literature Review as a Research Methodology: An Overview and Guidelines. *Journal of Business Research*, *104*, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039.

Syaifullah, J., Syaifudin, M., Sukendar, M. U., & Junaedi, J. (2021). Social Media Marketing and Business Performance of MSMEs During the COVID-19 Pandemic. *Journal of Asian Finance, Economics and Business*, *8*(2), 523–531. https://doi.org/10.13106/jafeb.2021.vol8.no2.0523.

Teece, D. J. (2010). Business Models, Business Strategy and Innovation. *Long Range Planning*, *43*(2–3), 172–194. https://doi.org/10.1016/j.lrp.2009.07.003.

Tidd, J., & Bessant, J., & Pavitt, K. (2005). *Managing Innovation: Integrating Technological, Market and Organizational Change*. Wiley. New Jersey.

Torraco, R. J. (2005). Writing Integrative Literature Reviews: Guidelines and Examples. *Human Resource Development Review, 4*(3), 356-367. https://doi.org/10.1177/1534484305278283.

Ünal, E., Urbinati, A., & Chiaroni, D. (2019). Managerial Practices for Designing Circular Economy Business Models: The Case of an Italian SME in the Office Supply Industry. *Journal of Manufacturing Technology Management*, *30*(3), 561–589. https://doi.org/10.1108/JMTM-02-2018-0061.

Ünal, E., Urbinati, A., Chiaroni, D., & Manzini, R. (2019). Value Creation in Circular Business Models: The Case of a US Small Medium Enterprise in the Building Sector. *Resources, Conservation and Recycling*, *146*, 291–307. https://doi.org/10.1016/j.resconrec.2018.12.034.

Van Eck, N. J., & Waltman, L. (2010). Software Survey: VOSviewer, a Computer Program for Bibliometric Mapping. *Scientometrics*, *84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3.

Vihma, M., & Moora, H. (2020). Potential of Circular Design in Estonian SMEs and Their Capacity to Push it. *Environmental and Climate Technologies*, *24*(3), 94–103. https://doi.org/10.2478/rtuect-2020-0088.

Wang, Y. (2016). What Are the Biggest Obstacles to Growth of SMEs in Developing Countries? An Empirical Evidence from an Enterprise Survey. *Borsa Istanbul Review, 16*(3), 167-176. https://doi.org/10.1016/j.bir.2016.06.001.

Yadav, N., Gupta, K., Rani, L., & Rawat, D. (2018). Drivers of Sustainability Practices and SMEs: A Systematic Literature Review. *European Journal of Sustainable Development, 7*(4), 531–544. https://doi.org/10.14207/ejsd.2018.v7n4p531.

Zott, C., & Amit, R. (2010). Business Model Design: An Activity System Perspective. *Long Range Planning*, *43*(2–3), 216–226. https://doi.org/10.1016/j.lrp.2009.07.004.

https://journal.uinjkt.ac.id/index.php/etikonomi
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How Corporate Social Responsibility Enhance Banking Sector Customer Loyalty in Digital Environment? An Empirical Study

Muddassar Sarfraz[1], Muhammad Ibrahim Abdullah[2*], Samina Arif[3], Jasim Tariq[4], Ilknur Ozturk[5]

[1]College of International Students, Wuxi University, PR China
[2,3]Department of Management Sciences, COMSATS University Islamabad, Lahore, Pakistan
[4]Department of Business Administration, Iqra University, Islamabad, Pakistan
[5]Faculty of Economics, Administrative and Social Sciences, Nisantasi University, 34485 Istanbul, Turkey
E-mail: [1]muddassar.sarfraz@gmail.com, [2]miabdullah@cuilahore.edu.pk, [3]saminaarif005@gmail.com, [4]jasim.tariq@iqraisb.edu.pk, [5]ilknur.ozturk@nisantasi.edu.tr

[*)]Corresponding Author

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Abstract
This study examines the relationship between corporate social responsibility (CSR) perceptions and customer loyalty in the banking sector while considering the mediating effects of customer satisfaction, corporate image, corporate reputation, service quality between CSR activities, and customer loyalty. A self-administered survey was conducted on banking customers in Pakistan. Based on 221 customers' data, the analysis was performed using the structural equation modeling (SEM) approach. The study results show that CSR positively influences customer loyalty in the banking sector, while customer satisfaction, corporate image, and service quality affect the customer-business relationship. Notably, a new finding from the study highlights the importance of the mediating role of corporate image and service quality in enhancing the effect of CSR on customer satisfaction. The research findings provide valuable insights to banks in developing counties on devising a CSR strategy to strengthen customer loyalty.

Keywords:
corporate social responsibility, customer loyalty, service quality, business strategy, sustainability

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INTRODUCTION

Corporate social responsibility (CSR) refers to "the firm's activities and status connecting to its societal and stakeholder obligations, and [how] it embodies the economic, legal, ethical, and discretionary dimensions." The evolution of CSR has opened new avenues of investigation in the marketing literature. The long-established consensus among marketing scholars is that attractive corporate associations positively influence customer behavior by achieving customer loyalty through recommendation and repurchase intentions. Therefore, CSR has two significant benefits: first, it acts as a strategic asset, and second, it is an essential component of firms achieving a sustainable competitive advantage (Ivory & Brooks, 2018).

The continuous struggle to achieve competitive advantage has intensified competition over time. Establishing a loyal customer base is therefore a crucial challenge. Thus, customer loyalty is identified as the most decisive asset of a business. It helps in attaining competitive advantage and is also used to assess the success of customer preservation strategies (Lewis & Mitchell, 1990). Customer loyalty is the most necessary construct driving business success. The prime objective of a business is to turn the potential customer into a loyal customer by offering a distinctive edge . As a result, studies have revealed CSR as a vital marketing strategy that enhances customer loyalty (Li et al., 2019). Therefore, in today's highly competitive business setting, marketers invest a major portion of their marketing budget in activities that bolster their CSR, and this approach continues to gain momentum (Abdullah et al., 2018; Hafez, 2018; Park & Kim, 2019). CSR has emerged as a widespread reality, with Fortune 500 corporations investing more than US$15 billion as part of their CSR or philanthropic activities (Inoue et al., 2017). From a business viewpoint, investment in CSR activities establishes a firm competitive advantage by enhancing customer relationships with business (Carroll & Shabana, 2010). As such, CSR provides a competitive advantage for most corporations in the business world (Cuesta-Valiño et al., 2019).

Furthermore, in this regard, marketing researchers have examined different aspects of CSR and their influence on customer behavior. Perez and del Bosque discussed CSR's role in service quality (SQ) (Pérez & del Bosque, 2017) and also studied the effect of CSR and SQ on customer loyalty intentions. Attracting customers and maintaining high-quality service is the ultimate goal of the firm. CSR fosters the customers' and firms' relationship through providing high-end services. This premium CSR experience induces greater trust in individuals, enabling the customer to establish a long-term relationship with the firm (Lo, 2020). In particular, CSR plays an influential role in fostering individuals' experience, thus enhancing customer loyalty behavior. Given the articulation, the study shows that CSR influences customer loyalty in Pakistan's banking industry (Khawaja et al., 2021; Raza et al., 2020). Similarly, the research revealed that the progressing notion of CSR enhances the firms' SQ, potentially encouraging individuals to be loyal customers (Park & Kim, 2019).

Huang et al. (2017) discussed how CSR and PSQ influence customer loyalty. Further, Pérez & del Bosque (2013) combined commercial knowledge and business

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image while studying the CSR-loyalty association. Khan et al. (2015) examined the association between CSR and customer loyalty over PSQ. Rai & Bansal (2015) stated that investment in CSR could lead to a better brand image. CSR spending might help businesses distinguish themselves in some situations, while CSR enterprise can support the association through business shareholders (Abdullah et al., 2021; Goyal & Chanda, 2017; Shah et al., 2020). Overall, organizations are now more concerned than ever before about how their CSR efforts can affect customer behavior and recover customer loyalty.

Loyalty behavior is the most significant way a customer expresses their consummation of corporate efforts and is strongly related to its effectiveness. Enhancement in customer loyalty leads to the effectiveness of a corporation (Goyal & Chanda, 2017). To accrue more loyal customers, it is essential to evaluate how they perceive the organization's efforts. As such, customer loyalty is well-defined as "a deeply held commitment to re-buy a preferred product or service consistently in the future," which thereby causes "repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior" (Goyal & Chanda, 2017).

During the pandemic, banks observed customers shift their demand toward digital or electronic banking systems. The basis of banking services relies on the trust factor between the banks and customers, with the definitive goal to deliver quality services for minor transaction costs (Shankar & Jebarajakirthy, 2019). Digital means are becoming more prevalent in the banking sector because more account holders are learning about online banking. Outdated banking modes became redundant throughout COVID-19, and therefore, a rise in digital platforms has been observed. Consequently, the banking sector has realized that there is a need to understand this behavioral change. More people in Pakistan, for example, learned to deal with their banking needs online as they were not permitted to visit their bank branches (Haq & Awan, 2020). In this crisis, suitable online banking services tend to generate customer loyalty.

The banking sector is an essential component of any country's economy. This centrality of the banking sector is inevitable because banks act as the custodians of customers' wealth and offer basic financial services to a large segment of people, providing credit and liquidity to the market. Pakistan's banking sector, governed by the State Bank of Pakistan (SBP), has matured considerably in recent times. However, the banking sector is faced with several challenges. Firstly, banking firms are challenged by the increased homogeneity of banking services. The uniformity in banking services has concentrated to a minimal level. Secondly, with the advancement in technology, the number of banking services providers is increasing, thus causing more intense competition in the banking sector. Lastly, in Pakistan, the banking sector is among the significant players contributing to social issues. Banks are strongly involved in CSR activities, directing their CSR investments through diverse channels such as annual or sustainability reports, social media marketing campaigns, and providing sponsorships for social causes (Khan et al., 2015).

Banks spend millions on activities, including social initiatives, in anticipation of influencing CI, customers' commitment, and loyalty. Marketing scholars have investigated the antecedents that influence customers' commitment and the mechanism through which these antecedents may lead to customer loyalty (Bendapudi & Berry, 1997; Vivek et al., 2012). One of the most important antecedents is CSR perceptions, which affect the customers' affective commitment by creating an emotional attachment in line with Social Identity Theory (SIT) (Khan et al., 2015).

Banks considerably influence the world's economy by significantly affecting the customers' emotional behavior. The literature illustrates that the banking industry substantially impacts customer loyalty through CSR programs. Banks, to survive in the long run, must compete well with their competitors, substantially gaining a distinctive edge through incorporating CSR practices. As such, studies show that a customer-centric strategy (i.e., CSR) enhances customer loyalty (Arrive et al., 2019), thus allowing the firm to acquire a distinctive edge over others. In the banking industry, customer loyalty is vital for achieving business success. Therefore, to succeed in the global market, retain customer loyalty, and develop a quality relationship requires formulation of a solid firm-customer association. Indeed, one study on the relationship between customer loyalty and CSR in the retail banking industry states that customer loyalty is a critical component (Vo et al., 2020) that leads to immediate business success.

Moreover, with an increase in the relationship length with a specific bank, customers tend to develop personal relationships and affiliations and become familiar with its modes of operations. These relationships may act as constraints for the customers in terminating their relationship with that bank, and the customers may enter into a long-term binding relationship. These relationships are interesting yet under-explored. A previous study also investigated the CSR-loyalty relationship through the evidence collected from the banking sector. Understanding the relationship between CSR and loyalty is vital for several reasons. First, in today's highly volatile market, high-quality products or services alone are not enough to impress customers; instead, they are looking for unique, dynamic, creative, and memorable consumption experiences (Gilmore & Pine, 2002). Second, firm innovativeness positively impacts the firm's overall performance (Mizik & Jacobson, 2008). Third, firm innovativeness can intensify customers' willingness to undertake a new experience (Haberland & Dacin, 1992).

However, besides the growing significance of CSR, a significant research gap still prevails, which needs to explore in the context of CSR and customer loyalty (Islam et al., 2021). Fundamentally, most of the research linking CSR to consumer loyalty was mainly recorded in developed countries. Notably, limited research had explored the role of CSR in the banking sector of developing countries. Therefore, without a detailed analysis of this topic, it will be difficult for financial institutions to influence consumer loyalty using CSR in these contexts. CSR in developing countries extends the world's economies, potentially leaving a positive social impact on consumer loyalty behavior. In particular, the prior literature indicates that academic research is critically in demand across developing countries such as Pakistan.

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Our study's contribution on this topic is to factor in the dramatic changes that have occurred since the emergence of the COVID-19 pandemic (Manuel & Herron, 2020). Typically, a business's honest and reliable CSR will shape stronger relationships amongst its customers and the overall public, as they have built up strong anticipation from leading brands. Throughout this crisis, this bond among the brand and customer was more expressive and long-lasting than during "peaceful" times. Therefore, the Covid-19 pandemic has offered countless opportunities for corporates to invoke their CSR policies and programs aggressively. The pandemic made prominent the notion that "we are all in this together," which certainly increased people's expectations of more socially responsible businesses (Abdullah et al., 2017; He & Harris, 2020; Sarfraz et al., 2018).

Consequently, the purpose of this study is to examine a theoretical model of CSR image and customer loyalty that overcomes the errors predominant in previous models and reflects the newest ideas from scholars about industry realities (Pérez & del Bosque, 2017). Indeed, the current study highlights the academic discussion on customer response to CSR practices. The conceptual model extends the prior literature on CSR and customer loyalty. More specifically, the study goal is to expand knowledge on the CSR activities in the banking sector, thus promoting SQ, customer satisfaction (SAT), corporate image (CI), and corporate reputation (CR). The study provides meaningful insight to management on customer loyalty, thus demonstrating the mediating relationship of SQ, SAT, CI, and CR.

In particular, to fill the research gap, this study presents dominant academic contributions, thus exploring the underlying mechanism of CSR initiatives and customer loyalty. The banking sector of Pakistan, which forms the backbone of the country's economy, facilitates the growth and development of the country's economic activities. The banking sector of Pakistan considerably depends on CSR activities. Undoubtedly, all factors illustrate the progressing significance of the CSR activities influencing customer loyalty behavior. As a result, this current investigation encourages discussion of the role of the CSR approach in customer loyalty (Aramburu & Pescador, 2019). Therefore, this study holds immense importance in business as it presents comprehensive research on CSR-related loyalty programs in the banking sector of Pakistan, which has been unexplored thus far. Fundamentally, this paper presents a detailed view of the intended topic. The analysis of the current study demonstrates the need for expanding the research in Pakistan regarding enhancing customer loyalty, brands service, reputation, and image.

METHODS

This study is a quantitative approach that adopts to collect the data from the banking sector customers. Using this technique, the researcher could easily analyze the facts and produce a neutral result. In this study, CSR is analyzed with the effect of SQ, SAT, CI, and CR on customer loyalty behaviors. In the current research, we used convenience sampling because it is based on the availability and willingness of respondents. The study focused on banking customers in Pakistan. A sample size selection of 279 respondents was determined according to the ten-time rule as a rough approximation of a suitable sample size to ensure enough data has been collected to achieve an acceptable level of statistical power(Hair Jr et al., 2014). Surveys were used for data collection; 279 questionnaires were distributed, 230 were received, and 221 valid questionnaires were used for data analysis, with data collected from April 2021 to June 2021. Structured questionnaires were distributed for data collection, with the first part of the questionnaire including demographic information, such as age, gender, education, occupation, and income. In the second part, items for CSR, SQ, SAT, CI, CR, and customer loyalty were included (Latif et al., 2020).

Each scale item was rated on a five-point Likert scale (1- highly disagree, 2-Disagree, 3- Neutral, 4- Agree, and 5- Highly agree). We also added Zeithaml et al.'s (1996) 5-item scale of customer loyalty. The questionnaire consists of two dimensions, e.g., re-purchase intentions and word of mouth. Three items from the loyalty set were used to measure the word-of-mouth meanings, while two items were used to measure the repurchase intentions of the customers in the existing research

Table 1. Respondents Demographic

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	152	68.8	68.8	68.8
	Female	69	31.2	31.2	100.0
	Total	221	100.0	100.0	
Age	18-29 year	131	59.3	59.3	59.3
	30-39 year	70	31.7	31.7	91.0
	40-49 year	12	5.4	5.4	96.4
	50-59 year	7	3.2	3.2	99.5
	60-year-old or more	1	.5	.5	100.0
Education	Matriculation / O level	10	4.5	4.5	4.5
	Intermediate / A level	32	14.5	14.5	19.0
	Bachelor	93	42.1	42.1	61.1
	Master	59	26.7	26.7	87.8
	M.Phil. / & Above	16	7.2	7.2	95.0
	Others	11	5.0	5.0	100.0
Occupation	Self employed	20	9.0	9.0	9.0
	Employee	97	43.9	43.9	52.9
	Student	88	39.8	39.8	92.8
	Other	16	7.2	7.2	100.0
Income	Less than 15,000 PKR	49	22.2	22.2	22.2
	10,000-39,000 PKR	75	33.9	33.9	56.1
	40,000-69,000 PKR	75	33.9	33.9	90.0
	70,000-99,000	16	7.2	7.2	97.3
	100,000-139,000 PKR	3	1.4	1.4	98.6
	140,000 PKR and above	3	1.4	1.4	100.0

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In this study, CSR was the independent variable. We used Carroll's (1979) 12-item scale for CSR to measure this variable. The questionnaire consists of three dimensions, i.e., legal, ethical, and philanthropic word-of-mouth intentions. Mediating variables facilitate the relationship between dependent and independent variables. SQ, SAT, CI, and CR were used as the mediating variables in this study. SQ was measured according to six items on a scale (Lewis & Mitchell, 1990). SAT was measured with a four-item scale (Creswell & Creswell, 2017). Similarly, the current study measured CI using an eight-item scale taken from Nguyen and Leblanc (2001) and Williams & Moffitt (1997). CR was measured using four items (Özkan et al., 2019). The Structural Equation Modeling (SEM) technique was applied to test and evaluate multivariate causal relationships among study variables.

Table 1 shows study demographic variables include gender, age, education, occupation, and income. Respondents' demographic information was collected over these five variables. As deliberated earlier, 279 questionnaires were distributed to the banks' customers. In this study, 221 respondents, of which 152 were male and 69 were females. The ratio of males to females was 68%. The researcher designed five age groups to measure the age level of respondents. Out of 221 respondents, 131 respondents fall into the 18-29 years old category, 70 respondents 30- 39-year, 12 respondents were 40-49-year, seven respondents were 50-59-year, and one respondent belongs to the 60-year or more category.

There were 59% of customers whose age was between 18-29. The researcher designed six groups to measure the education level of respondents. Out of 221 respondents, ten respondents were matriculation / O level, 32 respondents were intermediate / A level, 93 respondents hold Bachelor's degrees, 59 respondents were Master's degree holders, 16 respondents studied M.Phil. degree, and 11 respondents belongs to another qualification category. Most of the respondents have bachelor's qualifications. In this study, we designed four groups to measure the occupation level of respondents. Out of 221 respondents, 20 respondents were self-employed, 97 respondents were employees in different organizations, 88 respondents were students, 16 respondents belonged to another category. Out of 221 respondents, 49 respondents' income was less than 15.000 (Pakistani Rupee), 75 respondents' income level was between 10,000-39,000, 75 respondents' income level was between 40,000-69000, while 16 respondents' income level was between70,000-99,000.

RESULTS AND DISCUSSION

Consequently, coronach's alpha was measured to check the variables and data reliability. Cronbach's alpha is the reliability coefficient, and its standard range is from 0 to 1. When the values are close to 1 of the items or variables, it indicates higher reliability of all items or variables. Table 2 presents Cronbach's alpha values for the current study. The reliability of measurements was measured by using WarpPLS 4.0. The results for Cronbach's alpha propose that all measures in this study ranged from 0.77 to 0.87, which are reliable. Chin et al. (2003) suggested that composite reliability acceptable values should be above 0.70. The result of our study stated that the values of all variables in the composite reliability model exceed the recommended value of 0.70.

Table 2. Reliability Statistics

Variables	Cronbach's Alpha	Number of Items
CSR	0.814	12
CI	0.878	8
CR	0.817	4
SAT	0.779	4
SQ	0.776	6
CL	0.800	5

WarpPLS 4.0 also examined the discriminant validity of measurements and factor loading is used to access the convergent validity aspects. Factor loading helps to measure the strength of the linear correlation among the measuring items and the latent variable. High factor loadings indicate exceptional convergent validity.

Table 3. Combined Loadings and Cross-Loadings *

	CSR	Loyalit	SerQual	Satisf	Cimage	Creput
CSR1	0.506	0	-0.341	0.199	0.302	-0.05
CSR2	0.555	0.091	0.001	0.039	0.091	-0.072
CSR3	0.687	-0.155	0.097	0.002	0.32	-0.059
CSR4	0.46	-0.167	-0.084	0.547	0.303	-0.322
CSR5	0.586	-0.234	0.22	0.336	0.302	-0.202
CSR6	0.628	-0.167	0.086	0.258	0.316	0.016
CSR7	0.504	-0.104	-0.057	0.195	0.273	0.139
CSr8	0.306	0.187	-0.317	0.081	0.068	-0.035
CSR9	0.667	0.129	0.07	-0.378	-0.444	0.164
CSR10	0.663	0.212	0.012	-0.326	-0.494	0.118
CSR11	0.597	0.138	0.061	-0.361	-0.434	0.058
CSR12	0.679	0.09	-0.005	-0.26	-0.321	0.12
CL35	-0.3	0.653	0.185	-0.139	-0.1	0.327
CL36	0.076	0.696	0.04	0.058	-0.062	0.04
Cl37	0.067	0.831	-0.094	0.09	0.046	-0.13
CL38	0.032	0.843	-0.094	0.048	-0.015	-0.046
CL39	0.083	0.723	0.012	-0.09	0.114	-0.129
SQ29	-0.056	0.222	0.585	0.235	0.337	-0.035

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	CSR	Loyalit	SerQual	Satisf	Cimage	Creput
SQ30	-0.104	-0.051	0.735	0.009	0.335	-0.012
SQ31	0.106	0.079	0.732	-0.099	0.034	0.111
SQ32	0.045	-0.182	0.764	0.001	-0.171	-0.033
SQ33	-0.008	0.004	0.719	-0.151	-0.276	-0.086
SQ34	0.004	-0.022	0.592	0.061	-0.236	0.059
SAT25	-0.004	-0.069	-0.255	0.801	0.178	0.039
SAT26	0.114	-0.173	-0.079	0.824	0.005	-0.036
SAT27	-0.018	0.088	0.179	0.744	-0.134	0.048
SAT28	-0.105	0.178	0.184	0.741	-0.064	-0.051
CI13	0.007	-0.05	-0.213	0.12	0.631	-0.274
CI14	-0.01	-0.045	-0.152	0.115	0.808	-0.133
CI15	0.024	0.056	-0.155	0.193	0.799	-0.075
CI16	0.025	0.037	-0.065	0.009	0.828	-0.077
CI17	-0.008	0.023	0.062	-0.073	0.771	-0.049
CI18	0.01	-0.196	0.21	-0.005	0.767	-0.133
CI19	-0.04	-0.08	0.172	-0.16	0.654	0.37
CI20	-0.017	0.272	0.173	-0.253	0.654	0.462
CR21	-0.121	0.19	-0.004	-0.179	0.036	0.815
CR22	0.105	-0.049	-0.071	0.085	-0.02	0.847
CR23	-0.055	-0.06	0.062	0.073	-0.071	0.789
CR24	0.07	-0.085	0.019	0.021	0.057	0.772

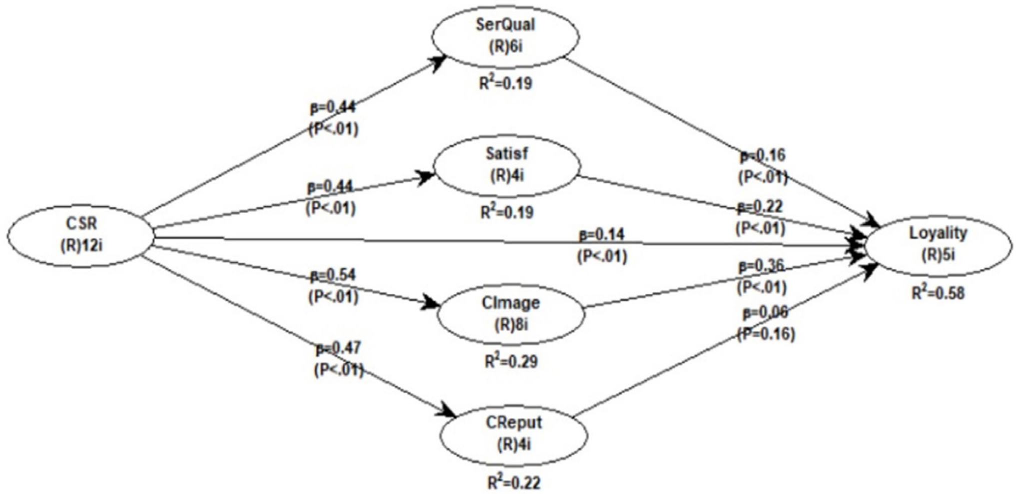
The discriminant validity demonstrates that there was no powerful relationship among variables. Precisely, variables show the highest values of outer loading of an indicator on other variables. Table 3 presents cross loading, and values indicate that all the values are within range.

Table 4. Skewness and Kurtosis Values

Variable	Skewness	STD. Error	Kurtosis	STD. Error
CSR	0.158	0.164	-0.265	0.326
Image	-1.126	0.164	1.606	0.326
SerQual	-0.046	0.164	-0.964	0.326
Satisfaction	-0.799	0.164	0.476	0.326
Loyalty	-0.848	0.164	0.794	0.326
CorReputation	-0.722	0.164	0.446	0.326

Skewness and kurtosis are used to check the normality of data. Kurtosis denotes how "flat" is a distribution and measures the degree to which observations bunch around a midpoint of the data. Skewness expresses "lean" distribution. Kurtosis will be positive when the observations group is more to the left and tail is longer at the right. However, Kurtosis is negative when observation is closer to the right and the tail is longer at the left. Normal data distribution is considered when kurtosis is between -2 and +2. common thumb rule values are -2 to +2. Data is considered asymmetric in skewness if the values are greater than twice its standard error value. Table 4 presents the values of variables for skewness and kurtosis of study. The Skewness value of CSR is 0.158, corporate image (-1.126), service quality (-0.046), customer satisfaction (-0.799), customer loyalty (-0.848) and corporate reputation (-0.722). In this study, the values of Kurtosis are within the range -2 and +2. In skewness, none of the values is less than twice its standard error, which shows that data is normally distributed.

Figure 1. Path Analysis



The correlational analysis showed the relationship between study variables. Pearson correlation was applied to variables to check their relationship. +1 shows that variables are perfectly positively correlated, while -1 shows that variables are negatively correlated. In the current study, all variables have a positive correlation, and the significance level is less than the P-value, so correlation exists in this study (see table 5). The sample size in this study is 221 respondents.

WarpPLS 4.0 software was also used for structural equation model analysis that explains the study's objectives. The result showed that the measurement model test is statistically accepted goodness of fit among the data and the proposed measurement model. Table 6 presents various goodness-of-fit statistics. Average path coefficient (APC) value is 0.313, Average R-squared (ARS) value is 0.293 and Average adjusted R-squared (AARS) value is 0.289.

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Table 5. Correlation Analysis

		CSR	Image	SerQual	Satisfaction	Loyality	CorReputation
CSR	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	221					
Image	Pearson Correlation	.448**	1				
	Sig. (2-tailed)	.000					
	N	221	221				
SerQual	Pearson Correlation	.390**	.501**	1	*		
	Sig. (2-tailed)	.000	.000				
	N	221	221	221			
Satisfaction	Pearson Correlation	.358**	.655**	.544**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	221	221	221	221		
Loyalty	Pearson Correlation	.484**	.685**	.542**	.636**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	221	221	221	221	221	
CorReputation	Pearson Correlation	.392**	.607**	.399**	.553**	.521**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	221	221	221	221	221	221

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 1 showed the path coefficient among CSR and loyalty (0.14 at p-value < 0.01), which is regarded as significant at a p-0.05 level of significance. Baron & Kenny (1986) presented the first causal step of mediation, satisfying it in the current study. It showed the direct path effect between the independent variable (CSR) and dependent variable (loyalty).

Table 6. Goodness-Of-Fit Indices

Measure	Value	Standard
Average path coefficient (APC)	0.313	P<0.001
Average R-squared (ARS)	0.293	P<0.001
Average adjusted R-squared (AARS)	0.289	P<0.001
Average block VIF (AVIF)	1.882	Acceptable if <= 5, ideally <= 3.3
Average full collinearity VIF (AFVIF)	1.982	Acceptable if <= 5, ideally <= 3.3
Tenenhaus GoF (GoF)	0.395	Small >= 0.1, medium >= 0.25, large >= 0.36
Sympson's paradox ratio (SPR)	1	Acceptable if >= 0.7, ideally = 1
R-squared contribution ratio (RSCR)	1	Acceptable if >= 0.9, ideally = 1
Statistical suppression ratio (SSR)	1	Acceptable if >= 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)	1	Acceptable if >= 0.7

R-square measure from endogenous latent variables (constructs) and the model's path coefficients, represented in Table 7. The path coefficient must be significant for a valid relationship (Chin, 1998). The R^2 value is 0.02, which indicates a weak relationship between criterion and predictor variables with p-value loyalty and CSR with $p < 0.01$which is significant at $P \leq 0.05$ level of significance, and path coefficient β value of 0.14, which was significant.

Table 7. Hypothesis Testing

Hypothesis	**Path Coefficient**	**R^2**	**P-Value**	**Effect Size**	**Supported**
Csr-Loyalty	0.14	0.58	<0.01	0.019	Yes

The R-square measure of endogenous latent variables for indirect and total mediation effects shows in Table 8. Preliminary assessment of structural relationship was conducted in the direct effect model: inner model and hypothetical framework. The path coefficient must be significant for a valid relationship. For the indirect and partial mediation effects, R^2 values are 0.19, 0.58, 0.29, and 0.22, respectively, indicating relationships for both indirect and partial mediation effects. Mediation essentially answers "how" the relationship between dependent and independent variable gets exaggerated by a middle variable (Baron & Kenny, 1986; Judd & Kenny, 1981; MacKinnon et al., 2007). In our study, partial mediation exists.

This study considered the dimension of CSR to investigate its influence on customer loyalty intentions. Our research aimed to study the role of CSR in Pakistan in improving customer loyalty with SQ, SAT, CI, or CR acting as a mediating effect (Latif et al., 2020). We attempted to explain the impact of banking CSR on sustaining customer retention. Further, vital factors (i.e., CR, SQ, SAT, and customer perception) were also integrated into the proposed theoretical framework to retain the customer.

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Table 8. Structural Indirect and Total Mediation Effects

Hypothesis	Path coefficient	R^2	p-value	Effect size	Supported
CSR-SerQual	0.44	0.19	<0.01	0.06	Yes
SerQual-Loyalty	0.16	0.58	<0.01	0.088	Yes
CSR-satisf	0.44	0.19	<0.01	0.189	Yes
satisf-LOYALTY	0.22	0.58	<0.01	0.192	Yes
CSR-CI	0.54	0.29	<0.01	0.141	Yes
CI-LOYALTY	0.36	0.58	<0.01	0.25	Yes
CSR-Cror REP	0.47	0.22	<0.01	0.22	Yes
Cror REP-LOYALTY	0.06	0.58	<0.01	0.029	Yes

It is widely established in the customer-related CSR literature that customers' positive perceptions of CSR may provide the necessary conditions for them to develop positive feelings about a firm (Martínez & Del Bosque, 2013). These positive feelings and a sense of attachment indicate customers' loyalty to that firm (Fullerton, 2003; Morgan & Hunt, 1994). However, no prior studies examined the relationship between CSR and customers' extension commitment. The present study attempts to fill this void by establishing the relationship between CSR and customers' loyalty.

Over the past century, gaining customer loyalty has become the ultimate goal of businesses. As such, CSR has come to occupy a significant position in the business field. The CSR approach is a vital tool manifesting social responsibility practices (i.e., moral perspectives). Given this statement, studies have shown that customers are less likely to reciprocate toward a firm that does not add value via good social deeds (e.g., CSR) (Newman et al., 2020). In a transparent business world, customers' loyalty is increasingly influenced by the company's CSR actions. As such, studies have indicated a direct and significant relationship between CSR on customer loyalty (Ajina et al., 2019). The research suggests companies engage in CSR activities, thus improving customer loyalty performance (Cuesta-Valiño et al., 2019). Hence, the current study's results are consistent with the previous literature. Other studies have shown that customer loyalty in the service industry increases the responsive rate of customers. This current study investigates the mechanism of CSR initiatives affecting customer loyalty in the banking sector of Pakistan. The current findings support prior research, finding that CSR is a dominant marketing strategy for banks, bolstering customer loyalty (Raza et al., 2020).

In the 21st century, the concepts of CSR and innovation have gained management attention. Empirically, CSR and business innovation develop a solid corporate foundation (Bocquet et al., 2019). Prior research proposes a positive and significant influence of CSR on firms' innovation (Bahta et al., 2020). Hence, as per those prior studies, the current findings indicate a positive relationship between firms' CSR action and business innovation. Moreover, CSR might assist service organizations to maintain long-term customer relations that will ultimately lead to sustainable competitive advantage.

The importance of business reputation, SQ, and satisfaction by way of mediators was recognized. Previous CSR studies have revealed that customers' positive observations of a business's CSR activities indirectly affect the product or SQ (Khan et al., 2015).

The current study has taken a step further by combining the multiple dimensions of CSR, CR, SAT, and CI into one theoretical framework in the banking context (Lee et al., 2020). CSR not only enhances customers' perceptions but also manifests the abilities of the firm (Poolthong & Mandhachitara, 2009), the firm's innovative capabilities (Luo & Bhattacharya, 2006), and commercial expertise (Pérez & del Bosque, 2013). In particular, CSR brings immense benefits for numerous companies, thus enhancing CI and firms' loyalty (Lu et al., 2020). Our study results are consistent with the previous findings. Earlier researchers argued that investments in CSR activities create positive perceptions of SQ in customers' minds. In other words, customers treat socially responsible firms as reputable SQ firms.

CONCLUSION

In recent years, CSR has become the most studied topic in academics, thus ensuring the acceleration of societal growth and customer responsiveness (i.e., loyalty). Given the growing importance of customer loyalty in the service world, this study presents a loyalty enhancement model, integrating the perspectives of CSR, SQ, SAT, and brand image. Significantly, the study highlights CSR as a vital tool, enhancing firms' services. Furthermore, it also confirms that CSR initiatives enhance firms' competitiveness, thus establishing brand loyalty and image. It states that CSR and SQ enhance the customer experience, boosting their satisfaction and trust in a service, and thus making them a loyal service user.

CSR perceptions of customers benefit a business in several ways. First, CSR perceptions impact the customers' perceptions of the business' innovative capabilities. Second, they help in improving the CI. Third, these perceptions subsequently lead to achieving customer loyalty. This study therefore provides insights and enhances the existing knowledge in the customer-related CSR literature. To explicitly explain the loyalty of the service users, the banking industry of Pakistan was selected for investigation. Our research findings have several suggestions for the service industry in the overall banking sector. With the increasing competition in the business world, customers tend to prefer service firms that are innovative in their business style and also actively engaged in corporate philanthropy. Therefore, engaging in CSR activities will enhance customers' CSR perceptions and simultaneously add to customers' perceptions of firm innovativeness.

Significantly, CSR contributes to magnifying CI because it provides the necessary information about the firm's social image. Customers tend to develop positive perceptions of a firm using this knowledge and information, eventually leading to customer loyalty. Second, CSR creates a sense of belonging and emotional feeling among customers. Social identity theory (SIT) stated that customers tend to develop affiliations with firms with

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similar identities. Therefore, CSR contributes positively to building customers' affective commitment, which eventually leads to customer loyalty. Third, CSR activities may reflect a firm attractive and socially responsible firm that convinces customers to enter into a longer-term relationship. This may act as a restraint in terminating a relationship since customers tend to develop the desire to maintain a long-term relationship with a firm given the mental calculations and high switching costs associated with the alternative. Therefore, CSR may be a strong antecedent of customers' continuance commitment, affecting customers' loyalty intentions.

This study highlights the notion that CSR activities have a significant impact on customers' loyalty as well as enhancing the overall well being of society. Such activities include talent-spotting programs for promoting education, poverty alleviation programs, gender-disparity alleviation programs, assisting in social events such as anti-cancer campaigns, promoting arts and music, investing in social works such as helping in building schools, health care centers, and vocational institutes, demonstrating respect toward societal and environmental care such as paperless banking, energy preservation by using energy-efficient lights, or promoting the use of solar energy, and advocating anti-climate change campaigns.

The current study was conducted in the banking services context. Consequently, one should take care when generalizing the results to other services in dominant contexts, such as tourism and hospitality, insurance, telecommunications, etc. To generalize the results to other service settings, a cross-service study and a cross-cultural data set may provide meaningful insights. The present study was conducted in an emerging economy where CSR awareness and CSR Skepticism have always been a problem. The present study excluded CSR Skepticism and CSR awareness from the theoretical model. Therefore, future researchers may incorporate these aspects in the theoretical framework to extend this vein of research. Our study was conducted in the context of an emerging economy. Replicating the study in another developing context would make the results more generalizable. Moreover, a comparative study of the relationships in developing and developed economies may provide meaningful insights for future research.

CSR has become a fundamental concern for policymakers and governmental organizations, highlighting institutions' abilities to promote CSR initiatives. This study confirms that strengthening CSR programs leads to an improvement in customer loyalty behavior. Indeed, customer-loyalty programs are of great significance for Pakistan governments and banks, enhancing their reputation and image. Hence, this study illuminates the growing importance of CSR actions for acquiring business success, subsequently guiding policymakers, managers, and market scholars.

REFERENCES

Abdullah, M. I., Ashraf, S., & Sarfraz, M. (2017). The Organizational Identification Perspective of CSR on Creative Performance: The Moderating Role of Creative Self-Efficacy. *Sustainability*, *9*(11), 2125. https://doi.org/10.3390/su9112125

Abdullah, M. I., Huang, D., Sarfraz, M., & Sadiq, M. W. (2021). Service Innovation in Human Resource Management During COVID-19: a Study to Enhance Employee Loyalty using Intrinsic Rewards. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.627659.

Abdullah, M. I., Sarfraz, M., Arif, A., & Azam, A. (2018). An Extension of the Theory of Planned Behavior Towards Brand Equity and Premium Price. *Polish Journal of Management Studies*, *18*(1), 20-32. https://doi.org/10.17512/pjms.2018.18.1.02.

Ajina, A. S., Japutra, A., Nguyen, B., Alwi, S. F. S., & Al-Hajla, A. H. (2019). The Importance of CSR Initiatives in Building Customer Support and Loyalty: Evidence from Saudi Arabia. *Asia Pacific Journal of Marketing and Logistics*, *31*(3), 691-713.

Aramburu, I. A., & Pescador, I. G. (2019). The Effects of Corporate Social Responsibility on Customer Loyalty: The Mediating Effect of Reputation in Cooperative Banks versus Commercial Banks in the Basque Country. *Journal of Business Ethics*, *154*(3), 701–719. https://doi.org/10.1007/s10551-017-3438-1.

Arrive, T. J., Feng, M., Yan, Y., & Chege, S. M. (2019). The Involvement of Telecommunication Industry in the Road to Corporate Sustainability and Corporate Social Responsibility Commitment. *Corporate Social Responsibility and Environmental Management*, *26*(1), 152–158. https://doi.org/10.1002/csr.1667.

Bahta, D., Yun, J., Islam, M. R., & Ashfaq, M. (2020). Corporate Social Responsibility, Innovation Capability and Firm Performance: Evidence from SME. *Social Responsibility Journal, 17* (6), 840-860.

Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research. Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Bendapudi, N., & Berry, L. L. (1997). Customers' Motivations for Maintaining Relationships with Service Providers. *Journal of Retailing*, *73*(1), 15–37.

Bocquet, R., Le Bas, C., Mothe, C., & Poussing, N. (2019). Strategic CSR for Innovation in SMEs: Does Diversity Matter? *Long Range Planning*, *52*(6), 101913.

Carroll, A. B. (1979). A Three-Dimensional Conceptual Model of Social Performance A Three-Dimensional Conceptual Model of Corporate Performance. *The Academy of Management Review*, *4*(4), 497-505.https://doi.org/10.2307/257850.

Carroll, A. B., & Shabana, K. M. (2010). The Business Case for Corporate Social Responsibility: A Review of Concepts, Research and Practice. *International Journal of Management Reviews*, *12*(1), 85–105.

Chin, W. W. (1998). Commentary: Issues and Opinion on Structural Equation Modeling. *MIS Quarterly, 22*(1), vii-xvi.

Chin, W. W. (2010). How to Write Up and Report PLS Analyses. In Esposito Vinzi, V., Chin, W., Henseler, J., & Wang, H. (Eds). *Handbook of Partial Least Squares* (pp. 655–690). Springer. Berlin.

Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A Partial Least Squares Latent

Variable Modeling Approach for Measuring Interaction Effects: Results from a Monte Carlo Simulation Study and an Electronic-Mail Emotion/Adoption Study. *Information Systems Research*, *14*(2), 189–217.

Creswell, J. W., & Creswell, J. D. (2017). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage publications. New Jersey.

Cuesta-Valiño, P., Rodríguez, P. G., & Núñez-Barriopedro, E. (2019). The Impact of Corporate Social Responsibility on Customer Loyalty in Hypermarkets: A New Socially Responsible Strategy. *Corporate Social Responsibility and Environmental Management*, *26*(4), 761–769.

Fullerton, G. (2003). When Does Commitment Lead to Loyalty? *Journal of Service Research*, *5*(4), 333–344.

Gilmore, J. H., & Pine, B. J. (2002). Differentiating Hospitality Operations via Experiences: Why Selling Services is Not Enough. *Cornell Hotel and Restaurant Administration Quarterly*, *43*(3), 87–96.

Goyal, P., & Chanda, U. (2017). A Bayesian Network Model on the Association between CSR, Perceived Service Quality and Customer Loyalty in Indian Banking Industry. *Sustainable Production and Consumption*, *10*, 50–65.

Haberland, G. S., & Dacin, P. A. (1992). The Development of a Measure to Assess Viewers' Judgments of the Creativity of an Advertisement: A Preliminary Study. *ACR North American Advances*, *19*, 817-825.

Hafez, M. (2018). Measuring the Impact of Corporate Social Responsibility Practices on Brand Equity in the Banking Industry in Bangladesh: The Mediating Effect of Corporate Image and Brand Awareness. *International Journal of Bank Marketing*, *36*(5), 806-822.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial Least Squares Structural Equation Modeling (PLS-SEM). *European Business Review*, *26*(2), 106-121.

Haq, I. U., & Awan, T. M. (2020). Impact of E-banking Service Quality on E-loyalty in Pandemic Times Through Interplay of E-satisfaction. *Vilakshan–XIMB Journal of Management*, *17*(1), 39-55.

He, H., & Harris, L. (2020). The Impact of Covid-19 Pandemic on Corporate Social Responsibility and Marketing Philosophy. *Journal of Business Research*, *116*, 176–182.

Huang, M.-H., Cheng, Z.-H., & Chen, I.-C. (2017). The Importance of CSR in Forming Customer–Company Identification and Long-term Loyalty. *Journal of Services Marketing*, *31*(1), 63-72.

Inoue, Y., Funk, D. C., & McDonald, H. (2017). Predicting Behavioral Loyalty Through Corporate Social Responsibility: The Mediating Role of Involvement and Commitment. *Journal of Business Research*, *75*, 46–56.

Islam, T., Islam, R., Pitafi, A. H., Xiaobei, L., Rehmani, M., Irfan, M., & Mubarak, M. S. (2021). The Impact of Corporate Social Responsibility on Customer Loyalty:

The Mediating Role of Corporate Reputation, Customer Satisfaction, and Trust. *Sustainable Production and Consumption*, *25*, 123–135.

Ivory, S. B., & Brooks, S. B. (2018). Managing Corporate Sustainability with a Paradoxical Lens: Lessons from Strategic Agility. *Journal of Business Ethics*, *148*(2), 347–361.

Judd, C. M., & Kenny, D. A. (1981). Process Analysis: Estimating Mediation in Treatment Evaluations. *Evaluation Review*, *5*(5), 602–619.

Khan, Z., Ferguson, D., & Pérez, A. (2015). Customer Responses to CSR in the Pakistani Banking Industry. *International Journal of Bank Marketing*, *33*(4),471-493.

Khawaja, K. F., Sarfraz, M., Rashid, M., & Rashid, M. (2021). How is COVID-19 Pandemic Causing Employee Withdrawal Behavior in the Hospitality Industry? An Empirical Investigation. *Journal of Hospitality and Tourism Insights*, ahead-of-print. https://doi.org/10.1108/JHTI-01-2021-0002.

Latif, K. F., Pérez, A., & Sahibzada, U. F. (2020). Corporate Social Responsibility (CSR) and Customer Loyalty in the Hotel Industry: A Cross-country Study. *International Journal of Hospitality Management*, *89*, 102565.

Lee, S., Han, H., Radic, A., & Tariq, B. (2020). Corporate Social Responsibility (CSR) as a Customer Satisfaction and Retention Strategy in the Chain Restaurant Sector. *Journal of Hospitality and Tourism Management*, *45*, 348–358.

Lewis, B. R., & Mitchell, V. W. (1990). Defining and Measuring the Quality of Customer Service. *Marketing Intelligence & Planning*, *8* (6), 11-17.

Li, Y., Liu, B., & Huan, T.-C. T. C. (2019). Renewal or Not? Consumer Response to a Renewed Corporate Social Responsibility Strategy: Evidence from the Coffee Shop Industry. *Tourism Management*, *72*, 170–179.

Lo, A. (2020). Effects of Customer Experience in Engaging in Hotels' CSR Activities on Brand Relationship Quality and Behavioural Intention. *Journal of Travel & Tourism Marketing*, *37*(2), 185–199.

Lu, J., Ren, L., Zhang, C., Rong, D., Ahmed, R. R., & Streimikis, J. (2020). Modified Carroll's Pyramid of Corporate Social Responsibility to Enhance Organizational Performance of SMEs Industry. *Journal of Cleaner Production*, *271*, 122456.

Luo, X., & Bhattacharya, C. B. (2006). Corporate Social Responsibility, Customer Satisfaction, and Market Value. *Journal of Marketing*, *70*(4), 1-18. https://doi.org/10.1509/jmkg.70.4.1.

MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation Analysis. *Annual Reviews of Psychology*, *58*, 593–614. https://doi.org/10.1146/annurev.psych.58.110405.085542.

Manuel, T., & Herron, T. L. (2020). An Ethical Perspective of Business CSR and the COVID-19 Pandemic. *Society and Business Review, 15*(3), 235-253.

Martínez, P., & Del Bosque, I. R. (2013). CSR and Customer Loyalty: The Roles of Trust, Customer Identification with the Company and Satisfaction. *International Journal of Hospitality Management*, *35*, 89–99.

DOI: https://doi.org/10.15408/etk.v21i2.24548

Mizik, N., & Jacobson, R. (2008). The Financial Value Impact of Perceptual Brand Attributes. *Journal of Marketing Research*, *45*(1), 15–32.

Morgan, R. M., & Hunt, S. D. (1994). The Commitment-trust Theory of Relationship Marketing. *Journal of Marketing*, *58*(3), 20–38.

Newman, C., Rand, J., Tarp, F., & Trifkovic, N. (2020). Corporate Social Responsibility in a Competitive Business Environment. *The Journal of Development Studies*, *56*(8), 1455–1472. https://doi.org/10.1080/00220388.2019.1694144.

Nguyen, N., & Leblanc, G. (2001). Corporate Image and Corporate Reputation in Customers' Retention Decisions in Services. *Journal of Retailing and Consumer Services*, *8*(4), 227–236. https://doi.org/10.1016/S0969-6989(00)00029-1.

Özkan, P., Süer, S., Keser, I. K., & Kocakoç, I. D. (2019). The Effect of Service Quality and Customer Satisfaction on Customer Loyalty: The Mediation of Perceived Value of Services, Corporate Image, and Corporate Reputation. *International Journal of Bank Marketing*, 38 (2), 384-405.

Park, E., & Kim, K. J. (2019). What Drives "Customer Loyalty"? The Role of Corporate Social Responsibility. *Sustainable Development*, *27*(3), 304–311.

Pérez, A., & del Bosque, I. R. (2013). The Effect of Corporate Associations on Consumer Behaviour. *European Journal of Marketing*, *47*(1), 218-238.

Pérez, A., & del Bosque, I. R. (2017). Personal Traits and Customer Responses to CSR Perceptions in the Banking Sector. *International Journal of Bank Marketing*, *35*(1), 128-146. https://doi.org/10.1108/IJBM-02-2016-0023.

Poolthong, Y., & Mandhachitara, R. (2009). Customer Expectations of CSR, Perceived Service Quality and Brand Effect in Thai Retail Banking. *International Journal of Bank Marketing*, 27(6), 408-427. https://doi.org/10.1108/02652320910988302.

Rai, S., & Bansal, S. (2015). Factors Explaining Corporate Social Responsibility Expenditure in India. *Review of Market Integration*, *7*(1), 37–61.

Raza, A., Saeed, A., Iqbal, M. K., Saeed, U., Sadiq, I., & Faraz, N. A. (2020). Linking Corporate Social Responsibility to Customer Loyalty through Co-creation and Customer Company Identification: Exploring Sequential Mediation Mechanism. *Sustainability*, *12*(6), 2525.

Sarfraz, M., Qun, W., Abdullah, M. I., & Alvi, A. T. (2018). Employees' Perception of Corporate Social Responsibility Impact on Employee Outcomes: Mediating Role of Organizational Justice for Small and Medium Enterprises (SMEs). *Sustainability*, *10*(7), 2429. https://doi.org/10.3390/su10072429.

Shah, S. G. M., Sarfraz, M., & Ivascu, L. (2020). Assessing the Interrelationship Corporate Environmental Responsibility, Innovative Strategies, Cognitive and Hierarchical CEO: A Stakeholder Theory Perspective. *Corporate Social Responsibility and Environmental Management*, *28*(1), 457-473. https://doi.org/10.1002/csr.2061

Shankar, A., & Jebarajakirthy, C. (2019). The Influence of E-banking Service Quality on Customer Loyalty: a Moderated Mediation Approach. *International Journal of Bank Marketing.*, *37* (5), 1119-1142.

Vivek, S. D., Beatty, S. E., & Morgan, R. M. (2012). Customer Engagement: Exploring Customer Relationships Beyond Purchase. *Journal of Marketing Theory and Practice*, *20*(2), 122–146. https://doi.org/10.2753/MTP1069-6679200201.

Vo, D. H., Van, L. T.-H., Dinh, L. T.-H., & Ho, C. M. (2020). Financial Inclusion, Corporate Social Responsibility and Customer Loyalty in the Banking Sector in Vietnam. *Journal of International Studies*, *13*(4), 9–23.

Williams, S. L., & Moffitt, M. A. (1997). Corporate Image as an Impression Formation Process: Prioritizing Personal, Organizational, and Environmental Audience Factors. *Journal of Public Relations Research*, *9*(4), 237–258.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The Behavioral Consequences of Service Quality. *Journal of Marketing*, *60*(2), 31–46.

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Islamic Fintech Research: Systematic Review Using Mainstream Databases

Egi Arvian Firmansyah[1*], Budi Harsanto[2]

[1]Universiti Brunei Darussalam, Brunei Darussalam
[2]Universitas Padjadjaran, Indonesia
E-mail: [1]21h1102@ubd.edu.bn, [2]budi.harsanto@unpad.ac.id

[*)]Corresponding Author

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Abstract

The number of Islamic financial technology (fintech) study grows along with technological advancement and fintech itself. This study aims to review the studies on Islamic fintech published in the journals indexed by Scopus and Web of Science using a systematic literature review approach. As shown in the framework proposed in this study, we found five elements of the entire observed papers. The customer has been the most discussed element among researchers of Islamic fintech. As Islamic fintech is still in the early stage of development, no study in our observed documents discusses operations. It is one of the essential elements to be investigated, seeing the dynamic of the business-operating environment. This paper contributes to the literature by providing an up-to-date review. It is among the first reviews on this subject using the major academic databases and offering a more holistic framework than previous studies.

Keywords:
fintech, Islamic fintech, systematic literature review

How to Cite:

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INTRODUCTION

Financial technology (fintech) is believed to had been existed in the past 150 years ago, and it was the new era of fintech that developed right after the financial crisis in 2008 (Arner et al., 2016). Fintech emerged since the incumbent financial services providers were deemed less adaptive in catering to the changing needs of the market, primarily the young customers. Besides, the advancement in financial products offering better convenience and massive use of mobile smartphones have made it even possible for fintech to flourish worldwide (Hornuf, 2016; Leong et al., 2017). Islamic fintech, the utilization of technology in solving financial needs or problems through Islamic rules or principles (sharia), is expected to boost digital transformation and create sustainability in Islamic finance (Awotunde et al., 2021). Many Islamic fintech startups were established in various countries as the market size of Islamic fintech keeps expanding, and its future is believed to be promising (Firmansyah & Anwar, 2019; Rusydiana, 2018).

Studies on Islamic fintech have grown in the past few years, discussing various themes, such as the determinants for adopting the services offered by Islamic fintech firms (Ali et al., 2018; Darmansyah et al., 2020), prospects and challenges of Islamic fintech firms (Firmansyah & Anwar, 2019) and the review on the Islamic fintech studies (Hasan et al., 2020; Rabbani et al., 2020). However, even though the studies tend to grow in number, as they can be accessed through various indexes such as Google Scholar, Web of Science, and Scopus, few of them focus on evaluating the current studies of Islamic fintech using two mainstream databases popular among researchers, namely, the Web of Science (WoS) and Scopus. Therefore, this present study aims to evaluate the research in Islamic fintech using those two indexes. To the best of our knowledge, this present study is among the first literature review research on Islamic financial technology using WoS and Scopus indexes, which are the primary databases for research in academia.

Understanding the Islamic fintech research indexed in these two databases will enhance our understanding of the current state of the art of Islamic fintech research globally because the high-quality papers in Islamic fintech study must have been published by outlets indexed by these two mainstream databases. The structured measures were undertaken in selecting the papers to be reviewed. We outlined the steps in this research in the Methods section (see Figure 1). This study adopts the steps of data collection and retrieval from the studies conducted previously (Akomea-Frimpong et al., 2021; Carolina Rezende de Carvalho Ferreira et al., 2016).

This study proposes a framework, which is one novelty of this study, to fully comprehend the current literature on Islamic fintech by referring to DinarStandard & Elipses (2021). This framework consolidates various elements in one framework, including consumer aspects, Islamic fintech services, the enabling technologies, its operations, and Ecosystem enablers. This framework is different from others that are more specific in investigating Islamic Fintech, for example, customer intentions to adopt Islamic Fintech (Ali et al., 2021), rationale and driving factors (Oseni et al., 2019), iFintech acceptance (Shaikh, 2021), or customer retention (Baber, 2020b). The comprehensive model from

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DinarStandard & Elipses (2021) has an advantage in providing stakeholders a framework to understand Islamic fintech holistically, both technological and managerial side, as well as internal operations and external ecosystems. As for other models that are more specific in nature, it is rather challenging to provide an overall picture of Islamic Fintech. However, these specific models have advantages in terms of testing and deeper analysis of the aspects analyzed.

This present study is outlined in the following order. This section is the introduction, where we present the study's background, purpose, and research gap. The following section discusses the methods and data collection, followed by results and discussion, and conclusion sections.

METHODS

This study employs a literature review analysis using two mainstream databases, namely, Scopus and Web of Science (WoS). The literature review technique is commonly used to investigate recent trends, such as the Covid-19 case (Irawan & Alamsyah, 2021) and crypto currencies (Rejeb et al., 2021). This present research aims to review the current literature on Islamic financial technology published in various journals. Since Islamic financial technology itself is relatively new, the papers on Islamic financial technology are primarily published in the last few years, from 2018 to 2021. The data collection and retrieval mechanisms conducted in this study are as follows.

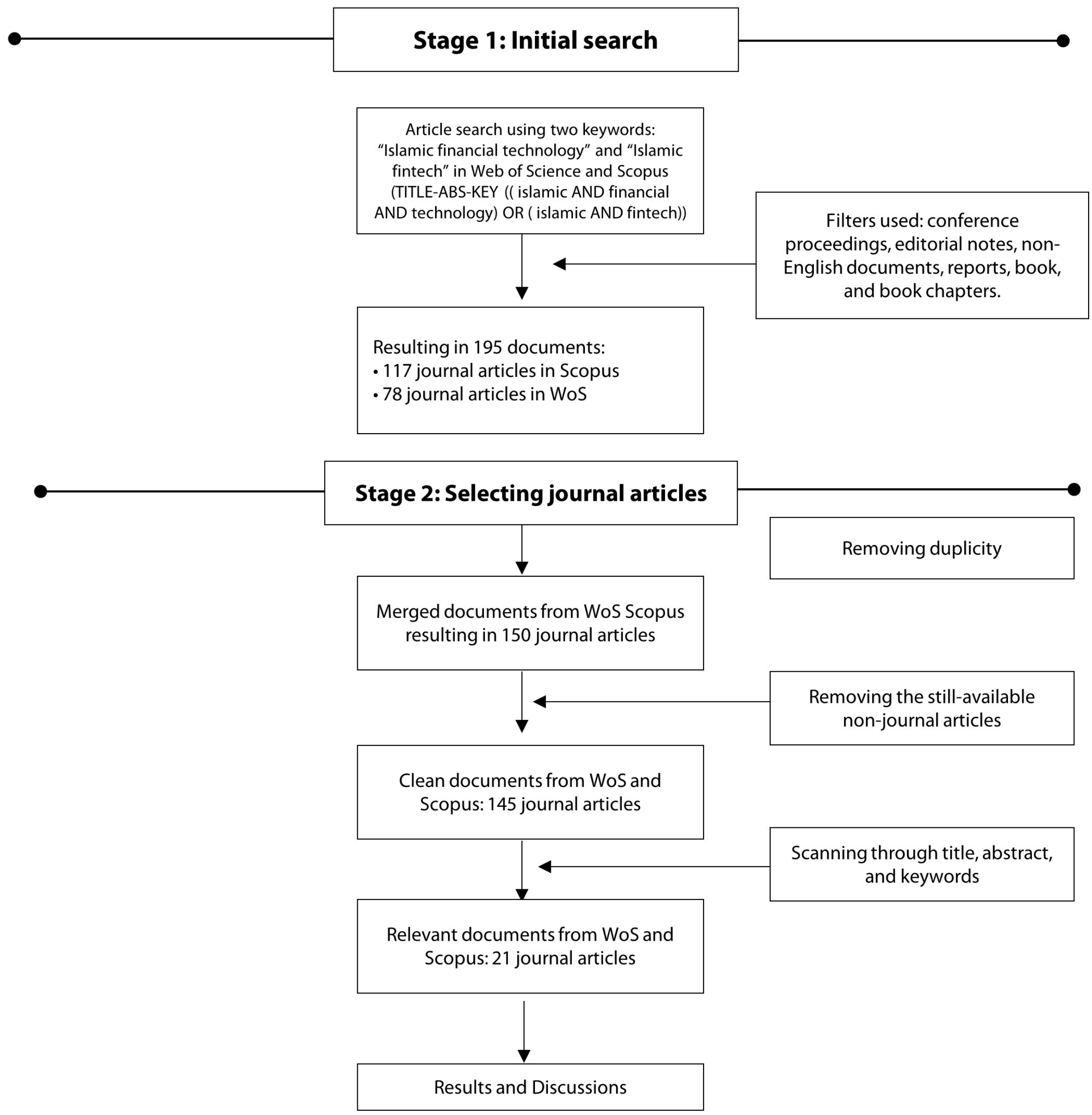
We first searched literature from Scopus using the terms "Islamic financial technology" and "Islamic fintech." The search was conducted on February 2nd, 2021, with some exclusions of conference proceedings, editorial notes, non-English documents, and reports, thus resulting in 117 journal articles from Scopus and 87 articles from WoS. Those articles are both in open access and non-open access categories. This study only employs journal articles since they are the ones with the highest academic rank in terms of the scientific outcome of researchers. Therefore, we expect to produce the most relevant and current portrayal of Islamic fintech literature. For WoS, we conducted further filtering since we still found books (B) and book chapters (S) categorized as articles. Thus, we finally obtained 78 journal articles (J) from WoS. Thus, we had 195 research papers in total to be processed.

Furthermore, since there is duplicity, meaning that both WoS and Scopus can index a paper, so we merged the two databases. We only selected the same papers from either WoS or Scopus database. This process resulted in 150 journal articles. In this stage, we used several Scopus fields as the basis for data collection. We also filled in the blank in WoS, such as publication year information. To do this, we looked for them manually from the publisher websites. While filtering for a duplicate in Microsoft Excel, we omitted 45 articles, leaving 150 journal articles out of 195 papers from Scopus and WoS databases. Of those 150 journal articles, we still saw the non-journal articles categorized as journal articles. So, we removed them, leaving out 145 journal articles.

We further read the title, abstract, and keywords of those 145 journal articles to check those papers' relevance to our research purposes. The considerations or criteria that we used are as follows. First, the articles explicitly state any of the following words: "Islamic fintech," "Islamic financial technology," and "Islamic crowdfunding" in their title, keywords, and or abstract fields. Second, the grey articles and articles from non-business and management journals were excluded. In this step, we still saw the items determined as journal articles; they are the book. So, we omitted them as well. Third, if the words such as "Islam" and "technology," appeared in the article's title and keywords, we further read the abstracts to ensure that the articles outside the Islamic fintech topics were excluded.

Those three steps resulted in 21 journal articles from WoS and Scopus, selected for the analysis and review. We conducted a content analysis to gain insight and produce the results. The steps undertaken in resulting in the 21 journal articles are shown in Figure 1.

Figure 1. Research Process



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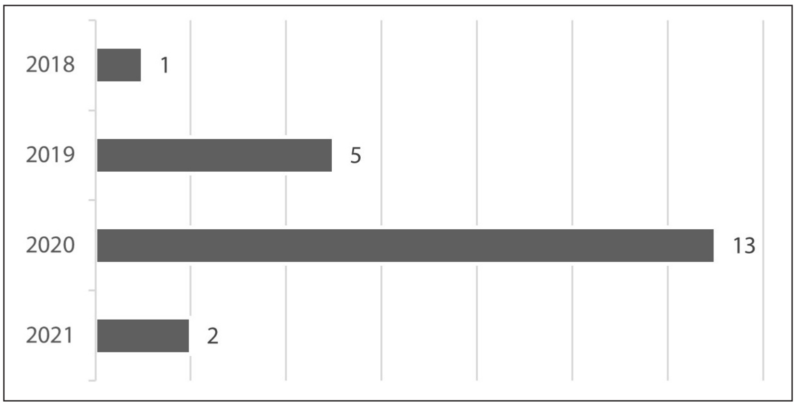
RESULTS AND DISCUSSION

The first result of this study is the attributes of the selected papers, consisting of the publication years, the publication journals, publication contexts, and publication methods. Understanding these attributes will provide insight into the characteristics of Islamic fintech research authored by Islamic fintech scholars published in various outlets. The followings are the results of each attribute.

Compared to other Islamic finance topics, such as Islamic banking, which is the core of the advancement of Islamic finance (Ghlamallah et al., 2021), the research in Islamic financial technology is somewhat newer. Therefore, the studies in Islamic fintech have only appeared within the last few years. In this study, we evaluated 21 final journal articles published between 2018 and 2021 by various publishers in several countries. We found that most of the papers (62 percent or 13 papers) were published in 2020, followed by 2019 with 24 percent (five papers). Since we conducted the research in early 2021, we only employed two papers published in 2021. Figure 2 summarizes the results of our findings regarding years of publication.

Figure 2. Publication Years



Of the 21 selected papers investigated in this study, it can be revealed that most of the papers (three papers) were published by the Journal of Islamic Marketing (JIM), followed by the Journal of Islamic Accounting and Business Research (JIABR) and Qualitative Research in Financial Markets (QRFM) with two papers each. Other journals only contributed to one paper, as shown in Table 1. The first two journals standing at the top (JIM and JIABR) are specific journals in the Islamic business field. Thus, they are considered appropriate to be the publication slot of Islamic fintech scholars. In addition to the number, we can note that the fields of the journal are pretty diverse, such as business, information and technology, social, and Islamic finance journals. We also observed that none of the journals in the table is too dominant as there are 17 journals.

The research context is diverse, covering more than ten countries, most of which are on the Asian continent (Table 3). The most studied context was Indonesia (7 studies), followed by Malaysia (6 studies), then Saudi Arabia and Pakistan (two each). Meanwhile, there are also studies that do not have a particular context (5 studies) which are theoretical or conceptual studies.

Table 1. Publication Journals

No.	Journal	Frequency
1	Journal of Islamic Marketing	3
2	Journal of Islamic Accounting and Business Research	2
3	Qualitative Research in Financial Markets	2
4	3C TIC: Cuadernos de desarrollo aplicados a las TIC	1
5	Al-Shajarah	1
6	Foresight	1
7	GEOGRAFIA Malaysian Journal of Society and Space	1
8	International Journal of Advanced Computer Science and Applications	1
9	International Journal of Business and Systems Research	1
10	International Journal of Advanced Science and Technology	1
11	International Journal of Innovation, Creativity and Change	1
12	International Journal of Innovative Technology and Exploring Engineering	1
13	International Journal of Islamic and Middle Eastern Finance and Management	1
14	Islāmiyyāt	1
15	Opcion	1
16	Pertanika Journal of Social Sciences and Humanities	1
17	Vision	1
	Total	**21**

Indonesia and Malaysia are interesting contexts to study because these two allied countries have unique characteristics in the perspective of Islamic fintech. Indonesia is a country with the largest Muslim population globally, which represents a sizeable Islamic fintech market potential. Malaysia has long been known as a hub for Islamic finance, so it has historically had a strong base for the development of Islamic fintech.

Table 2. Publication Context

Country	Frequency
Indonesia	7
Malaysia	6
Saudi Arabia	2
Pakistan	2
UEA, Iran, Kuwait, Bahrain, Bangladesh, Turkey, Jordan, Nigeria, Finland	1 (each)
Not specified	5

Some studies are single focus contexts (12 studies), while some are multiple or mixed contexts (3 studies). The multiple contexts with the most coverage are the comparison of 10 contexts from Baber (2020a) using data from the Global Islamic Finance Report and the World Bank. Studies with multiple contexts allow comparisons to be made from one context to another.

The most used methods are quantitative and theoretical/conceptual (each consisting of

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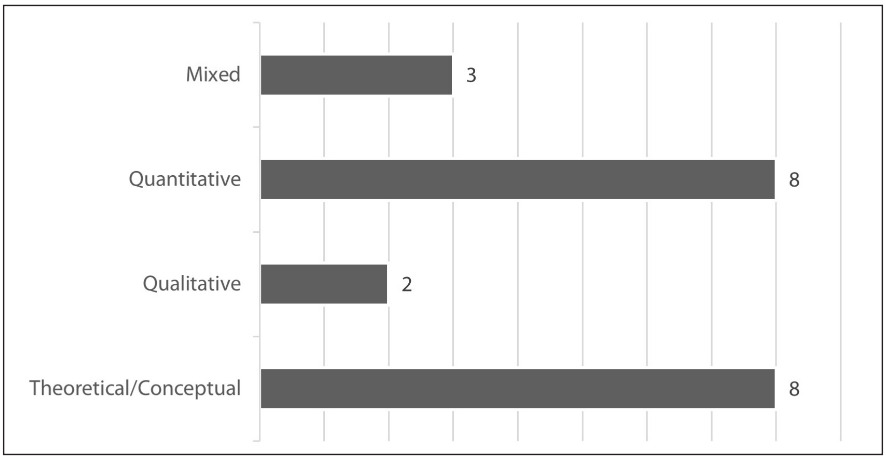
8 studies), followed by mixed methods (3 studies) and qualitative (2 studies). Quantitative studies are generally used to determine the factors that influence consumers to use Islamic fintech services (Darmansyah et al., 2020; Kazaure et al., 2020) or to investigate the relationship between relevant variables, for example, between the use of Islamic fintech and customer retention (Baber, 2020c).

Theoretical or conceptual studies, for example, explore the behavior of crowd funders with specific trust criteria (Nor & Hashim, 2020) or analysis of Sharia-compliant regulations to govern Islamic fintech (Razak et al., 2021). A mixed-method study, for example, was conducted by Bulatova et al. (2019), analyzing numerical data statistically and combined with insights from the literature. For qualitative studies, the method used is a case study (Abdeen et al., 2019) or interview/focus group discussion (Hendratmi et al., 2019). Figure 3 illustrates our findings regarding the publication methods of the 21 papers being studied.

Figure 3. The Method Used in the Reviewed Studies



The second result of this paper is elements for Islamic fintech papers published in the outlets indexed in WoS and Scopus. In order to gain some insights from the Islamic fintech studies totaling 21 papers, we attempt to group all of those papers into five elements. This categorization is partly in line with the segmentation of financial services and the landscape of fintech, as proposed by Alam et al. (2019).

Element 1: Customers

Based on our observation, most Islamic fintech studies take the element of customers (48 percent or ten papers). This dominant result element aligns with the number of Islamic fintech startups where most of them deal with customer or peer-to-peer financing and others, such as zakat management and deposit and transfer (Alam et al., 2019). The intention to use Islamic fintech products is the most researched topic in the papers we are investigating (Ali et al., 2018; Baber, 2020b; Darmansyah et al., 2020; Kazaure et al., 2021; I. M. Shaikh et al., 2020). Some research papers focus on the intention to use Islamic fintech products by individual customers, while some focus on business entities such as small and medium enterprises (SMEs).

To understand product adoption by Islamic fintech customers, many researchers utilized popular models, namely, the theory of planned behavior (TPB), the technology acceptance model (TAM), and the unified theory of acceptance and use of technology (UTAUT). Understanding the factors that are considered by customers in selecting Islamic fintech products will provide a guideline for policy-making bodies for developing Islamic fintech and boosting financial inclusion, which is the core of the fintech itself.

Element 2: Services

The second element of the Islamic fintech articles investigated in this study deals with the services provided by Islamic fintech companies. Four papers, or 19 percent, were found in this category. Hudaefi (2020) found that the services of Islamic fintech firms have been in line with the sustainable development goals (SDGs). For instance, Islamic fintech companies have assisted SMEs and less-developed agricultural sectors in obtaining funding for their operations. In his study, the selected firms have been promoting the SDG of ending poverty (SDG 1) and hunger (SDG 2) and reducing inequalities (SDG 10).

Sa'ad et al. (2019), in their paper, attempted to develop new peer-to-peer financing underlain by the *Mushārakah* Smart Contract Model. They argued that this *Mushārakah* contract in the peer-to-peer agreement would become more practical for investors and entrepreneurs because the service is transparent, fast, and less complicated in terms of paper works.

Element 3: Technology

The third element we found in our analysis focuses on technology that becomes the foundation of Islamic fintech itself. Using the case study in the Kingdom of Saudi Arabia, Abdeen et al. (2019) attempted to produce a framework for implementing blockchain technology in a *takaful* scheme following Islamic principles. They argued that the framework for developing takaful insurance using blockchain technology is a feasible and more appropriate solution because it provides transparency to the parties involved in *takaful* transactions.

Another framework from a slightly different angle, namely, Islamic crowdfunding using a website platform for startup firms, was proposed by Hendratmi et al. (2019). By performing focus group discussion (FGD) with 16 startup CEOs and interviews with two crowdfunding providers, *fiqh* expert and a technology expert, they maintained that the Islamic crowdfunding model based on a website platform plays a significant role in the innovative acceleration for providing alternative funding for startup companies, primarily in East Java – Indonesia.

Element 4: Regulations

Regulation is an element that in previously published works was included in ecosystem enablers (DinarStandard & Elipses, 2021). A study on regulation, for example, was conducted by Imaniyati et al. (2019), who analyzed the contracts used in Islamic fintech. Another study concerns the need for sharia-compliant regulation to regulate

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Islamic fintech because existing regulations are considered inadequate to regulate the Islamic fintech industry (Razak et al., 2020).

An interesting study was conducted by Selim (2020), who investigated the possibility of a global network system to eliminate *riba* in foreign currency. By using mathematical modeling based on economic and international trade using aggregate expenditure and aggregate output, models are developed that allow us to eliminate *riba* from the difference in rates between buying and selling in different currencies. Studies related to regulation are necessary because regulation is a crucial ecosystem enabler for developing Islamic fintech.

Element 5: Performances

Studies on performance are still rarely found in models of Islamic fintech in previous publications. There are two studies in this review that examine performance. The first study is from Baber (2020a), which compares performance at the country level using a different test to identify the difference between countries with Islamic and conventional financial systems.

The second study was conducted by Bulatova et al. (2019), which examines the effect of multiple independent variables on the performance of Islamic fintech. The independent variables include total investment activity in the form of capital invested and deal count, global venture capital activity in the form of capital invested and deal count, and global private investment in blockchain & crypto currency, both capitals invested and deal count (Bulatova et al., 2019). As with other research areas in economics and business, the study of future performance is likely to be an element that obtains great attention as more data becomes available.

The objective of the present study is to evaluate the current studies of Islamic fintech in the academic literature. In addition to the paper attributes outlined earlier, this research results reveal that most Islamic fintech studies focus on the customer element; nearly half of studies focus on the intention to use both for individual or business customers. It is in line with the result in Table 2, where the journal publishing the most documents investigated in this study is the Journal of Islamic Marketing. The next element that received considerable attention is Islamic fintech services related to contracts or schemes offered to customers. Other elements found in the literature are regulation, performance, and technology.

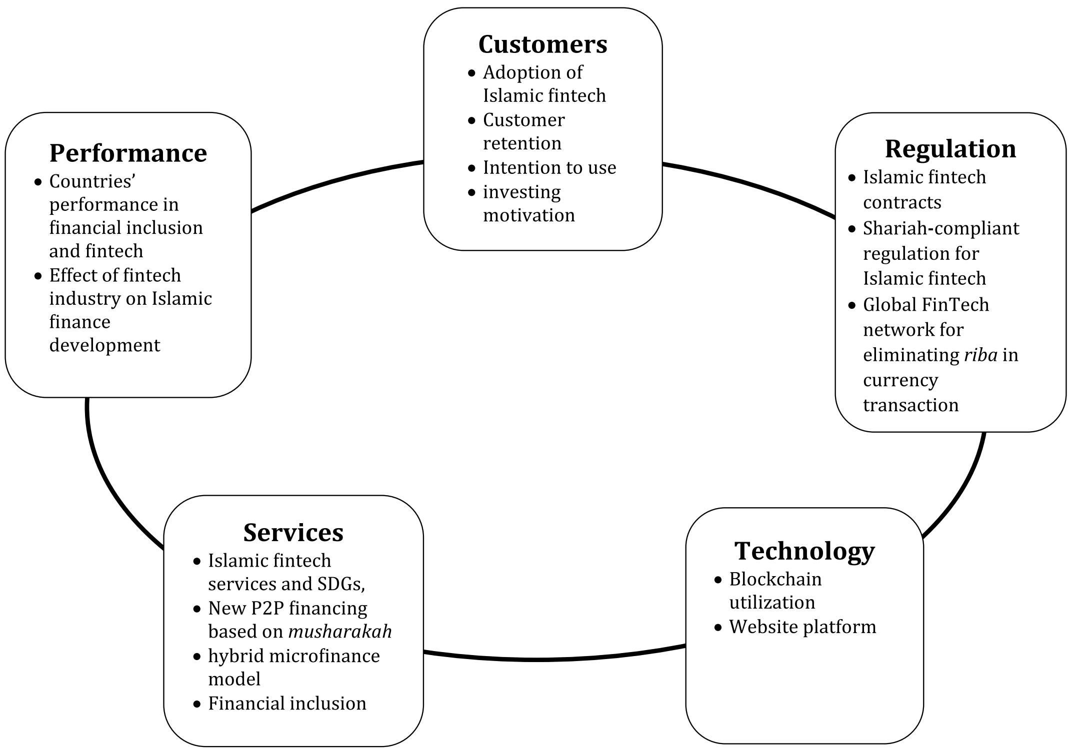
The dominant Islamic fintech studies on the customer is probably because Islamic fintech is still in the infant development stage, which may possess limitations as in any Islamic-based developments, such as the measurement of Islamic banking performance (Setiawan et al., 2020). Thus, the focus of many researchers is on the customer side, which seems to be more feasible to be explored and investigated. It is not the case for Islamic banking, where the industry has been more mature, and the research on this topic has been conducted more extensively and more advanced in terms of research focus. For instance, the research in Islamic banking has more focus beyond the customer, including Islamic banking efficiency, Islamic bank profitability, and performance comparison with the conventional counterpart (Ghlamallah et al., 2021).

As mentioned in the literature review, most of the elements found in the present study have been discussed in previous models regarding Islamic fintech. This study confirms the model from the grey literature of DinarStandard & Elipses (2021), although some parts are not fully aligned. One interesting finding is that no element of Islamic fintech operations is found in the present study, and there is a lack of discussion about the Islamic fintech ecosystem. This finding is somewhat surprising because the operation is one of the cores of the business that should receive immediate attention from practitioners and researchers (Heizer et al., 2017).

The operations element, for example, is about the role of the back office and middle office in Islamic fintech, as well as how business intelligence is used to develop Islamic fintech (DinarStandard & Elipses, 2021). This area is missing because Islamic fintech is still in its early development, so Islamic finance researchers focus on more fundamental things such as customers, business models, and technology. Therefore, the operations element is a very open area for future research because this element is less researched and important for Islamic fintech to operate efficiently and reliably.

In addition, it seems that there is also a need for increased attention to the ecosystem because it is an essential enabler for the growth of Islamic fintech. The research on the Islamic fintech ecosystem has not been widely discussed in the literature. Islamic fintech ecosystem covering topics such as regulations from policymakers can ensure fintech operations comply with Islamic provisions and do not harm the parties involved. The ecosystem can also discuss supporting institutions, including technology firms and educational institutions that can contribute to Islamic fintech development in the future.

Figure 4. The Conceptual Framework of Islamic Fintech Studies



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To the best of our investigation, our findings have not previously been described or explored by former researchers of Islamic fintech. Therefore, this study is unique by investigating a specific aspect of Islamic finance, namely Islamic fintech studies in the two world's most well known scientific databases for academia. Therefore, based on the findings of our study, we propose the following conceptual framework, as shown in Figure 4, regarding the studies of Islamic fintech consisting of the five elements and their sub-elements. This conceptual framework is the novelty of this study that may enhance our understanding of the current state of the art of Islamic fintech studies indexed by the journals published in two reputable indexing bodies.

CONCLUSION

This research aims to produce the landscape of Islamic fintech research in two databases, namely Web of Science and Scopus. We conducted a systematic literature review on the 21 journal articles indexed in those two databases. Our finding shows five identified elements, i.e., customers, services, regulation, performances, and technology. Among those five elements, the element of the customer is the one researched the most by researchers of Islamic finance. It is due to Islamic fintech research is still in the infant stage, at least when this present paper is composed. The research contributes to the Islamic fintech literature by providing an up-to-date review and is among the first reviews on this subject using the major academic databases (Scopus and WoS), offering a more holistic framework than previous studies.

This research is not free from limitations. First, it is limited to using two indexes, namely Web of Science and Scopus. Thus, the results obtained in our study might not represent the whole phenomenon of Islamic fintech research. It implies that further studies may be conducted by utilizing other databases, such as Google Scholar or DOAJ, which are also well known among researchers. Second, we do not limit the country or regions and do not make any segregation or categorization based on region. Thus, the results might be too general if one pursues more specific results, such as country results.

Further studies may limit the research results by the specific region. Further works could also discuss topics still missing in the literature, such as operations management or the roles and relationships of various components in the Islamic fintech ecosystem. Discussion of these topics is needed and would be an essential contribution to the literature and the development of Islamic fintech practices.

REFERENCES

Abdeen, M., Jan, S., Khan, S., & Ali, T. (2019). Employing Takaful Islamic Banking Through State of the Art Blockchain: A Case Study. *International Journal of Advanced Computer Science and Applications*, *10*(12), 648–654. https://doi.org/10.14569/ijacsa.2019.0101283.

Akomea-Frimpong, I., Adeabah, D., Ofosu, D., & Tenakwah, E. J. (2021). A Review of Studies on Green Finance of Banks, Research Gaps and Future Directions.

Journal of Sustainable Finance and Investment, *In-Press*. https://doi.org/10.1080/20430795.2020.1870202.

Alam, N., Gupta, L., & Zameni, A. (2019). *Fintech and Islamic Finance*. Springer Nature. https://doi.org/https://doi.org/10.1007/978-3-030-24666-2_1 1.

Ali, M., Raza, S. A., Khamis, B., Puah, C. H., & Amin, H. (2021). How Perceived Risk, Benefit and Trust Determine User Fintech Adoption: a New Dimension for Islamic Finance. *Foresight*, *23*(4), 403-420. https://doi.org/10.1108/FS-09-2020-0095.

Ali, W., Muthaly, S., & Dada, M. (2018). Adoption of Shariah Compliant Peer-to-Business Financing Platforms by SMEs: A Conceptual Strategic Framework for Fintechs in Bahrain. *International Journal of Innovative Technology and Exploring Engineering*, *8*(2 Special Issue 2), 407–412.

Arner, D. W., Barberis, J. N., & Buckley, R. P. (2016). The Evolution of Fintech: A New Post-Crisis Paradigm? *UNSW Law Research Paper No. 2016-62.*

Awotunde, J. B., Adeniyi, E. A., Kolawole, P. O., & Ogundokun, R. O. (2021). Application of Big Data in COVID-19 Epidemic. In Kose, U., Gupta, D., de Albuquerque, V. H., & Khanna, A. (Eds). *Advances in Biomedical Informatics: Data Science for Covid-19.* Academic Press. Netherlands.

Baber, H. (2020a). Financial Inclusion and FinTech A Comparative Study of Countries Following Islamic Finance and Conventional Finance. *Qualitative Research in Financial Markets*, *12*(1), 24-42. https://doi.org/10.1108/QRFM-12-2018-0131.

Baber, H. (2020b). FinTech, Crowdfunding and Customer Retention in Islamic Banks. *Vision*, *24*(3), 260–268. https://doi.org/10.1177/0972262919869765

Baber, H. (2020c). Impact of FinTech on Customer Retention in Islamic Banks of Malaysia. *International Journal of Business and Systems Research*, *14*(2), 217-227. https://doi.org/10.1504/ijbsr.2020.10027614.

Bulatova, E. I., Potapova, E. A., Fathutdinova, R. A., & Yandiev, R. C. (2019). The Fintech and Islamic Finance Synthesis in the Modern World. *3C TIC: Cuadernos de Desarrollo Aplicados a Las TIC*, *Special Issue, October*, 258–273. https://doi.org/10.17993/3ctic.2019.83-2.258-273.

Carolina Rezende de Carvalho Ferreira, M., Amorim Sobreiro, V., Kimura, H., & Luiz de Moraes Barboza, F. (2016). A Systematic Review of Literature about Finance and Sustainability. *Journal of Sustainable Finance and Investment*, *6*(2), 112–147. https://doi.org/10.1080/20430795.2016.1177438.

Darmansyah, Fianto, B. A., Hendratmi, A., & Aziz, P. F. (2020). Factors Determining Behavioral Intentions to Use Islamic Financial Technology: Three Competing Models. *Journal of Islamic Marketing*, *12*(4), 794-812. https://doi.org/10.1108/JIMA-12-2019-0252.

DinarStandard, & Elipses. (2021). *Global Islamic Fintech Report 2021*. Salaam Gateway. Dubai, Uni Emirates Arab.

Firmansyah, E. A., & Anwar, M. (2019). Islamic Financial Technology (Fintech): Its

Challenges and Prospect. *Advances in Social Science, Education and Humanities Research (ASSEHR)*, *216*, 52–58. https://doi.org/10.2991/assdg-18.2019.5.

Ghlamallah, E., Alexakis, C., Dowling, M., & Piepenbrink, A. (2021). The Topics of Islamic Economics and Finance Research. *International Review of Economics & Finance*, *75*, 145–160. https://doi.org/10.1016/j.iref.2021.04.006.

Hasan, R., Hassan, M. K., & Aliyu, S. (2020). Fintech and Islamic Finance: Literature Review and Research Agenda. *International Journal of Islamic Economics and Finance (IJIEF)*, *3*(1), 75–94. https://doi.org/10.18196/ijief.2122.

Heizer, J., Render, B., & Munson, C. (2017). *Operations Management: Sustainability and Supply Chain Management*. Pearson. New Jersey.

Hendratmi, A., Ryandono, M. N. H., & Sukmaningrum, P. S. (2019). Developing Islamic Crowdfunding Website Platform for Startup Companies in Indonesia. *Journal of Islamic Marketing*, *11*(5), 1041–1053. https://doi.org/10.1108/JIMA-02-2019-0022

Hornuf, C. H. L. (2016). The Emergence of the Global Fintech Market : Economic and Technological Determinants Christian Haddad The Emergence of the Global Fintech Market: Economic and Technological Determinants Abstract. *Small Business Economics*, *53*(1), 81–105.

Hudaefi, F. A. (2020). How does Islamic fintech promote the SDGs? Qualitative Evidence from Indonesia. *Qualitative Research in Financial Markets*, *12*(4), 353–366. https://doi.org/10.1108/QRFM-05-2019-0058.

Imaniyati, N. S., Nurhasanah, N., & Tohir, T. (2019). The Concept of Contract in Financial Technology Era Connected with Sharia Principles. *Opcion*, *35*(Special Edition 24), 1058–1073.

Irawan, A., & Alamsyah, H. (2021). The COVID-19's Economic Crisis and Its Solutions: A Literature Review. *Etikonomi*, *20*(1), 77–92. https://doi.org/10.15408/etk.v20i1. 16870.

Kazaure, M. A., Abdullah, A. R., Zawawi, D. B., & Hamzah, A. (2021). Determinants of SMEs Intention to Adopt Islamic Crowdfunding Model in Northwestern Nigeria. *Journal of Islamic Accounting and Business Research*, *12*(2), 204–217. https://doi.org/10.1108/JIABR-12-2019-0234.

Leong, C., Tan, B., Xiao, X., Tan, F. T. C., & Sun, Y. (2017). Nurturing a FinTech Ecosystem: The Case of a Youth Microloan Startup in China. *International Journal of Information Management*, *37*(2), 92–97. https://doi.org/10.1016/j.ijinfomgt.2016.11.006.

Nor, S. M., & Hashim, N. A. (2020). Trust Motivates Funders to Participate in Shari'ah Crowdfunding. *Malaysian Journal of Society and Space*, *16*(2), 228-238. https://doi.org/10.17576/geo-2020-1602-18

Oseni, U. A., Ali, S. N., Laldin, M. A., & Furqani, H. (2019). Fintech and Islamic Finance. In Oseni, U. A., & Ali, S. N. (Eds). *Fintech In Islamic Finance*. Routledge. New York.

Rabbani, M. R., Khan, S., & Thalassinos, E. I. (2020). FinTech, Blockchain and Islamic

Finance: An Extensive Literature Review. *International Journal of Economics and Business Administration*, *8*(2), 65–86. https://doi.org/10.35808/ijeba/444.

Razak, M. I. A., Dali, N. A. M., Dhillon, G., & Manaf, A. W. A. (2020). Fintech In Malaysia: An Appraisal to the Need of Shariah-Compliant Regulation. *Pertanika Journal of Social Sciences and Humanities*, *28*(4), 3223-3233. https://doi.org/10.47836/pjssh.28.4.40.

Rejeb, A., Rejeb, K., & G. Keogh, J. (2021). Cryptocurrencies in Modern Finance: A Literature Review. *Etikonomi*, *20*(1), 93–118. https://doi.org/10.15408/etk.v20i1.16911.

Rusydiana, A. S. (2018). Developing Islamic Financial Technology in Indonesia. *Hasanuddin Economics and Business Review*, *2*(2), 143–152. https://doi.org/10.26487/hebr.v.

Sa'ad, A. A., Ahmad, K., & Saleh, A. O. H. (2019). P2P Islamic Fintech Investment Innovation. A Proposal of MushĀrakah Smart Contract Model for SMEs Financing and Social Development. *Al-Shajarah*, *2019*(Special Issue Islamic Banking and Finance 2019), 169–184.

Selim, M. (2020). The Effects of Eliminating Riba in Foreign Currency Transactions by Introducing Global FinTech Network. *International Journal of Islamic and Middle Eastern Finance and Management, 14*(3), 506-523. https://doi.org/10.1108/IMEFM-01-2020-0035.

Setiawan, A. B., Amilin, A., & Al Arif, M. (2020). Recent Development of Islamic Banking Performance Measurement. *Etikonomi*, *19*(2), 203–220. https://doi.org/10.15408/etk.v19i2.15706.

Shaikh, I. M., Qureshi, M. A., Noordin, K., Shaikh, J. M., Khan, A., & Shahbaz, M. S. (2020). Acceptance of Islamic Financial Technology (FinTech) Banking Services by Malaysian Users: an Extension of Technology Acceptance Model. *Foresight*, *22*(3), 367–383. https://doi.org/10.1108/FS-12-2019-0105.

Shaikh, S. A. (2021). Using Fintech in Scaling Up Islamic Microfinance. *Journal of Islamic Accounting and Business Research*, *12*(2), 186-203. https://doi.org/10.1108/JIABR-10-2019-0198.

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Islamic Philanthropy Adaptation Towards Financial Social Exclusion Among Independent Oil Palm Smallholder

Khairul Anwar Mohd Nor[1], Mohd Adib Ismail[2], Muhammad Hakimi Mohd Shafiai[3], Khairunnisa Hasbullah[4], Mohd Noor Mohd Ali[5]

[1,2,3,5]School of Economics, Universiti Kebangsaan Malaysia, Malaysia
[4]Pertubuhan Peladang Kawasan Bukit Gambir, Ledang Johor, Malaysia
E-mail: [1]anwar_5149@yahoo.com, [2]mohadis@ukm.edu.my, [3]hakimi@ukm.edu.my, [4]nurbariah505@gmail.com, [5]ali@ukm.edu.my

[*)]Corresponding Author

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Abstract
Social exclusion among independent smallholders of the oil palm sector is a socio-economic problem that is closely linked to the incidence of poverty and economic inequality. However, several Islamic banking institutions provide micro-credit to the farmers but have not received much response due to lack of attractiveness and non-competitive features, especially to independent smallholders. Therefore, other channels like philanthropy are seen as an alternative for smallholder empowerment in the form of integration between zakat business capital and business incubators as mechanisms to address these issues. This study aims to examine the role of Islamic philanthropic instruments of Zakat and waqf in addressing the problem. The methods used in this study are based on a qualitative approach like research interviews, observations, written expert experiences, and research publications. The findings provide valuable insights for stakeholders into Islamic philanthropy role and the importance of exposure in improving ISH performance, which could help them (re-)align their agricultural practices and formulate strategies for industry players' guidance.

Keywords:
social exclusion, Islamic philanthropy, micro-credit, oil palm, independent smallholders

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INTRODUCTION

The achievement of inclusive economic growth (IEG) is tremendously important in the national economic development agenda. This condition can be seen when the Malaysian government incorporates elements of inclusivity as one of the fifteen main Guidance Principles to support the objectives of the Shared Prosperity Vision (SPV2030) introduced by former Prime Minister of Malaysia, YAB Tun Dr. Mahathir in 2019 [1]. Furthermore, the government has made inclusive premises one of the main ideas for the 12th Malaysia Plan (RMK-12) approach and theme. A premise would be to function to deliver the core strategy of the SPV2030.

The definition of inclusiveness is to ensure that all communities fully benefit from the country's wealth shared in holistic growth and pay attention to the effects of persistent inequality on economic growth and poverty eradication (NEAC 2010). IEG is a growth capable of generating sufficient employment, providing equal opportunities, and distributing benefits to all segments of society, especially the Independent Smallholder (ISH). At the same time, IEG refers to economic growth that creates opportunities for all segments of the population and distributes dividends to increase prosperity in monetary and non-monetary equity to all citizens (OECD, 2014).

IEG is very important as it ensures equitable access to aspects of economic participation among the people towards forming a just and equitable society. Thus, all citizens of the country can fully enjoy the benefits of collective wealth (NEAC 2010). When this happens, the country will achieve economic justice and high growth, efficiency, and sustainability (Asian Development Bank, 2011). Ultimately, this creates healthy well-being among all people in the country (Claridge et al., 2001). So one of the steps to achieve IEG is to treat socio-economic problems known as social exclusion.

Social exclusion (SE) is a new concept of social vulnerability (Silver, 1994), life difficulties, and social pressures (Bakar et al., 2009). This term is often used to refer to a subordinate group of individuals (Bakar et al., 2009). From the historical point of view, the term SE was introduced by René Lenoir, who was the secretary of state social action for the Chirac government (De Haan, 1999). In France at that time, the SE referred to a marginalized and effectively isolated population from the French social protection system (Scutella et al., 2009).

From an economic perspective, the broader context of SE includes the inability to access opportunities within mainstream economic markets. The mainstream market is not limited to the labor market but includes the financial or credit markets, insurance markets, and goods and services markets. These markets are considered fundamental because they play a crucial role in causing poverty and inequality. ISH sometimes faces difficulties in enhancing their quality of life without involving debt.

[1] The word (inclusive) was formally introduced as one of the main guidance of the Malaysian economic policy in the text of the presentation Shared Prosperity Vision (SPV2030) by the former Prime Minister of Malaysia, YAB Tun Dr Mahathir Mohammad at Kuala Lumpur on October 5 2019

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Economic growth was described to be inclusive when there is a decline in the incidence of poverty among the marginalized and disadvantaged groups (Deshpande, 2013). Meanwhile, SE in the niche aspect refers to the inability to engage in a high-paying job market to meet basic needs (Breman, 2004). These basic needs include food, clothing, security (personal, family, and property), social services, housing, and health and education (Bhalla & Lapeyre, 1997). Order to get part of basic needs among ISH is complicated because of constraining to access a financial facility. It is a very worst condition if the crude palm oil price is facing instability in the market, which would affect them in terms of income and poverty.

Some independent smallholders' failure to access financial markets puts them at risk of being trapped in poverty. The poverty cycle not only impoverishes the poor but also gives birth to the poor generation (Ismail et al., 2015). It can negatively affect human development, such as poor educational attainment, poor health, and poor nutrition. Among the factors contributing to the prevalence of SE in terms of economic dimensions are unemployment, disability status, low education level, and poor health (Flotten, 2006). From the existing research, no one has examined the alternative initiative for solving financial and social exclusion problems like using philanthropy instruments. As we know, the sharia financing model can be an alternative source of financing and empowerment of micro-business (Hasan & Herianingrum, 2019).

Therefore, this research was conducted to fill in the gaps in the study that was already done. This research aims to develop a philanthropy instruments framework to reduce social exclusion among ISH. It also contributes to providing input and consideration in deciding to overcome financial and social exclusion. It has important implications for policymakers and industry players to create another application without a specific community outside the mainstream economic market system, including labor and credit markets. These are several novelties of this present study, and we are hoping we can contribute to the literature on Islamic philanthropy.

METHODS

This study uses qualitative research methods. Mack et al. (2005) explain that in qualitative research, data collection can provide platforms to obtain data. The methodology used in this study uses library research and field study. The discussion design has been selected to enable understanding related to the ISH in Malaysia. This study requires a study by analyzing secondary data, including reading resources in the library from various writings to facilitate the data obtained has been analyzed. In this regard, among the libraries visited to obtain data and materials are Malaysia Palm Oil Board Library, Tun Sri Lanang Library Universiti Kebangsaan Malaysia, Department of Agriculture Malaysia, and the National Library of Malaysia to obtain journals, books, and materials -other materials related to the study.

Field research is the most effective approach to collecting in-depth and detailed data. In field studies, in-depth interviews, observations, and document analysis are the most effective data collection methods. This field study provides data on the development of the Islamic philanthropic framework. All data obtained were recorded and analyzed by the researcher. This field study took six to twelve months. The Regional Agricultural Officer(RAO) monitors the activities and financial assistance to ISH to ensure that any needs to increase productivity can be met (Table 1).

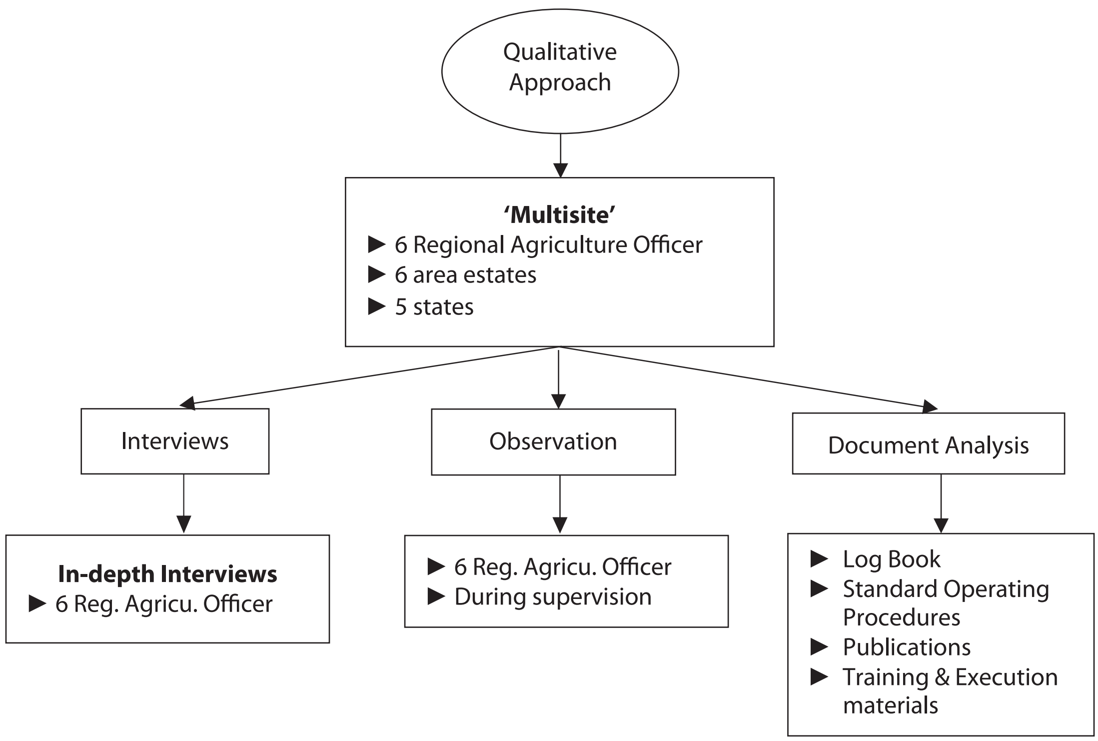
Table 1. No of ISH & Total Area registered until 30 June 2020

	RAO 1	RAO 2	RAO 3	RAO 4	RAO 5	RAO 6
No. of ISH	94	121	75	107	115	86
Total Hectare	334.85	502.75	307.83	489.17	519.32	322.47

Source: Field Studies (2020)

In-depth interviews, observations, and document analysis used were conducted on six Regional Agriculture officers with ten to twenty-five years of experience in six selected estates, namely Bukit Goh estate in Pahang, Bukit Cerakah estate in Selangor, Dengkil estate in Selangor, Sungai Siput estate in Perak, Sintok estate in Kedah and Pagoh estate in Johor. Knowledge and experience in cultivating for about ten years can reflect the actual situation (York-Barr et al., 2006). The data collection procedure is shown in the following Figure 1.

Figure 1. Data Collection Procedures



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RESULTS AND DISCUSSION

A total of six Regional Agriculture Officers in six areas selected as participants in this study have agreed to be interviewed in-depth and involved in the process of observation and analysis of relevant documents. Researchers have met several times with these Regional Agriculture Officers to obtain information on the background, understand the mind and build rapport to gain knowledge in developing the Islamic philanthropic framework at this national level. Table 2 explains the background of the Regional Agriculture Officer related to age, gender, estate location, and experience in cultivating oil palm.

Table 2. Background of Regional Agriculture Officer

	No.	RAO 1	RAO 2	RAO 3	RAO 4	RAO 5	RAO 6
Gender							
Male	5	√		√	√	√	√
Female	1		√				
Age		57	48	37	41	37	45
State							
Pahang	1	√					
Selangor	2		√				√
Johor	1			√			
Perak	1				√		
Kedah	1					√	
Experiences		25 year	17 year	10 year	12 year	10 year	15 year

Source: Data processing (2020)

Data review to ensure reliability in data collection is critical. According to Cohen et al. (2000), expert consent in determining the theme in a qualitative study is important because the expert is an interrater, i.e., consent by the evaluator. The evaluator in this context is an outsider who confirms the consent of the theme constructed by the individual as a researcher (Cohen et al., 2000). To determine the reliability of the data from the interviews, the researcher referred to the value of the Cohen coefficient. Once all the results of the interview transcript were confirmed and rearranged, as well as the observation notes, the researcher compiled the data to obtain the themes and sub-themes of the study findings.

Table 3. Kappa Scale Interpretation

Interpretation	Cohen Kappa (level)
Very High	>0.90
High	0.70-0.89
Moderate	0.3-0.69
Low	0.30

Source: Wiersma (1991)

Once the pattern of findings of the study results is produced, the researcher prepares a set of expert consent forms on the themes and sub-themes constructed. Four experts in the Islamic finance and palm oil sector became interrater in the themes and sub-themes built (Table 4). The evaluation results of these four experts show that the construction of themes and sub-themes performed by the researcher has achieved the level of measurement Cohen Kappa at a very high level, as shown in Table 3. A very high level of interpretation is the best evidence to determine the reliability of the study data.

Table 4. Analysis of Consent on Qualitative Data

No	Name	Representative	Position	Expertise	Result (Cohen Kappa)
1	Expert A	Fakulti Pengajian Islam, UKM	Senior Lecturer	Wakaf management	Very High
2	Expert B	Pusat Zakat Selangor	Assistant Manager	Collection & Distribution fund	Very High
3	Expert C	Malaysia Palm Oil Board, MPOB	Deputy Director	Innovation smallholders	Very High
4	Expert D	Fakulti Ekonomi & Pengurusan, UKM	Associate Professor	Islamic banking & finance	Very High

Source: Data processing (2020)

Based on the reality in this area, independent smallholders at risk of experiencing SE were usually impacted by the high cost of living and agriculture inputs. The government has introduced the Islamic financial system to help these people to access the financial market without committing themselves to the element of usury. Against this scenario, rural people still find it difficult to obtain loans from either Islamic or conventional banks as they are not eligible to apply for the loan based on the requirements set by the bank. Accordingly, the Islamic banking system provides a variety of financial products to meet the needs of the urban and rural populations.

Bank Negara Malaysia (BNM) has outlined the steps to be implemented in the Financial Sector Plan 2011 – 2020 as the manifestation of several micro-financing phases to improve the social living standards of the rural communities (Bank Negara Malaysia, 2011). BNM encourages banking institutions to offer micro-credit[2] to the urban and rural population by improving the features of existing products to benefit the target group. Ten banking institutions offer micro loans to entrepreneurs in various sectors, including the agricultural sector (Ab Aziz, 2011). However, only six banking institutions offer sharia-compliant micro-credit to smallholders (see Figure 2). The regulatory framework of BNM has been the reference point for banking institutions in the operation of Islamic micro-financing.

[2] Micro credit loans are small business loans and the loan amount is between RM1,000 to RM50,000 for micro entrepreneurs. Micro credit loans are provided for business purposes only such as financing working capital and purchasing fixed assets. These loans are not personal loans.

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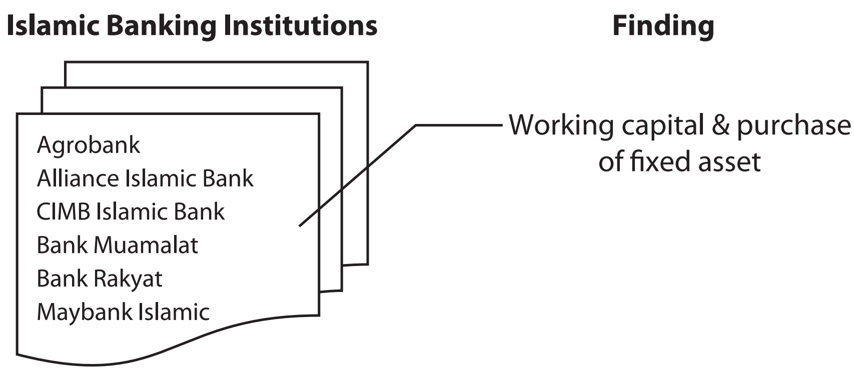
Some rural communities are positively affected by is the expansion of micro-credit facilities offered by the Islamic banking institutions. Although various facilities were offered, some of the ISH is still not interested in subscribing to any of the facilities. In Malaysia, there are 221,950 ISH, most of whom belong to the lower-income group (B40) because their monthly income is less than RM 2,537.00 (Economic Planning Unit, 2016). Due to the low-income ISH, they cannot manage the farm efficiently due to financial capital constraints. This data can be seen when the productivity of fresh bunches (FFB) in ISH farms is lower than that of FFB in farms undertaken by plantation companies (Cramb & Sujang, 2013).

Figure 2. Islamic Banking Institutions Offer Shariah-Compliant Micro-Credit to Agricultural Sector



Efforts to increase access to credit facilities by the government, BNM, and banking institutions should increase FFB productivity by 22 tonnes/hectare/year. However, FFB productivity and ISH revenue in 2015 were still low after the first phase of PIPLB.[3] In 2015, the ISH FFB productivity was only 17.33 tonnes/hectare/year, with an average monthly income of RM1,177.14. ISH still raises the difficulty of obtaining loans as they require loans to buy inputs, especially fertilizer. Since it is difficult for ISH to obtain micro-credit, many practices seasonal financing where FFB prices are high and depend on savings as working capital (Martin et al., 2015; Ramli, 2013).

Insufficient financial capital issues among ISH significantly impact FFB productivity (Belcher et al., 2004; Martin et al., 2015). However, many studies found that independent smallholders face financial problems and need credit facilities (Ayat et al., 2008; Claudine & Reza, 2012; Cramb & Sujang, 2013; Martin et al., 2015; Nkongho et al., 2014; Ramli, 2013). Shafiai et al. (2019) found the passion for subscribing to micro-credit among ISH declined as they could not meet the terms and conditions set by Islamic banking institutions. It has important implications for policymakers and industry players to create other applications like philanthropy instruments to reduce social exclusion in the community.

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[3] Rural Development Master Plan (PIPLB) was introduced by Ministry of Rural and Regional Development (KKLBW) to help improve access to credit facilities by the rural population.

From the description above, an agenda of pursuing the economic level of the group is vital because income is the basis of social participation through consumption, and it reflects the power of the people within their economic role (Byrne, 2008). Therefore, this study aims to focus on the proposed idea of how Zakat and waqf as instruments of Islamic philanthropy can play a role in addressing SE problems by enhancing their economic status. This condition indicates the need for conceptual development that starts with defining the concept.

Philanthropy is a civil society mechanism that establishes social justice in the economic system. The term philanthropy refers to love for human beings or charity. The word is derived from the Greek word Philos meaning love and human Anthropos, so philanthropy is that love for human beings is translated in the form of giving to others, especially those not in their own family (Bakar & Chaider, 2006). Philanthropy is born of altruistic behavior (Hasan, 2007). Inside the Islamic instrument, philanthropy is an essential element of the economic welfare system (Zaenal & Ismail, 2014), as it is the basis of efforts to achieve justice and social welfare for Muslims (Widyawati, 2011).

Generally, there are two categories of philanthropic instruments in Islam, obligatory and non-obligatory. The obligatory philanthropic instruments are Zakat, and the non-obligatory philanthropy instruments are waqf and charity. Zakat worships Islamic values that are fardhu ain because it is included in the fourth pillar of Islam. In economics, Zakat is an essential instrument in balancing the socio-economic status of Muslims (Karim et al., 2004). In addition, it has the potential to create equality (reduce socio-economic inequality) and inclusion in the economic system. Thus it can reduce the gap in the economic or income in society to a minimum (Karim et al., 2004).

Waqf is a public financial instrument in Islam that has excellent potential as a medium of wealth allocation to address the socio-economic problems of the ummah. According to Islamic law, waqf means to retain a property that can be benefited from it and remains and is deprived of the management of the property from the appellant. Otherwise, for expenditure either from the proceeds of the waqf itself or to use the proceeds of the waqf for welfare purposes that may be associated with Allah SWT (Othman, 2013). Productive waqf has a role in accelerating public welfare (Rofa'i et al., 2016). In the context of practice in Malaysia, waqf refers to the disposition of any property that may be of benefit for any purpose of welfare, either as a general waqf or a specific waqf following Islamic law (Othman, 2013).

The form of the property that can be waqf is divided into two types: immovable ('aqar) and movable (manqul). Immovable property means a property that cannot be moved, such as land and buildings. Whereas movable property is the property that can be transferred from one place to another, for example, animals, merchandise, money, vehicles, measured property, and property weighed. However, governance and sharing responsibilities between the waqf institutions and the government can preserve the management of waqf land, especially in the care of their oil palm plantations (Nor & Ismail, 2020).

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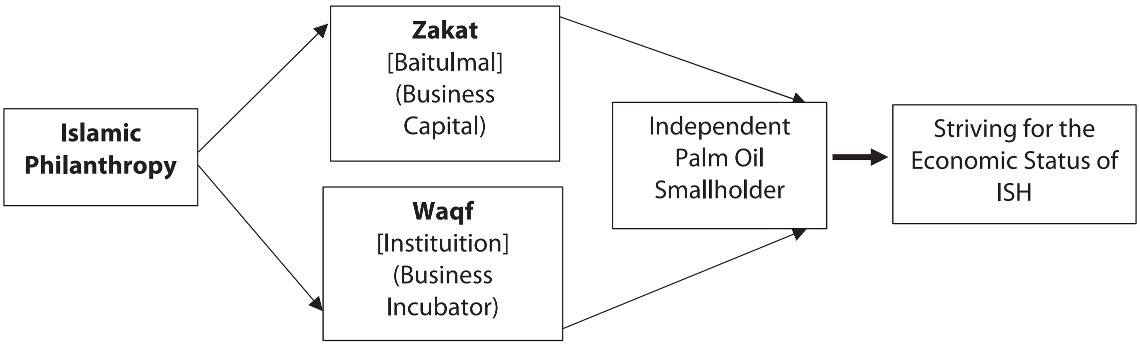
The only possible way to address the SE problem is to leverage the economic status of the ISH through the integration with the Islamic philanthropic instruments (Figure 3). In this case, Zakat serves as a scheme of assistance in the form of business capital to target groups in the form of cash and capital equipment for business use (Rahman et al., 2008). Distribution of zakat business capital is 100% free of charges without repayment. In order to ensure that the zakat business capital is well funded and its effectiveness, the zakat institution should monitor proactively to ensure this assistance is fully utilized by the beneficiaries (Rahman et al., 2008).

To further enhance this economic empowerment program, waqf instruments can be applied by establishing support infrastructure for targeted smallholders as a Business Incubator (BI). Business Incubators are created to accelerate and systematically organize the process of building a successful enterprise by providing comprehensive and integrated support to entrepreneurs, such as incubator space, business support services, and networking opportunities.

Figure 3. Mechanisms for Integrating Islamic Philanthropy Instruments *(Zakat & Waqf*)



This concept is often used as an organization that creates and shapes a supportive environment conducive to the "hatching" and development of new firms (Chan & Lau, 2005), especially in their early stages of growth (Al-Mubaraki & Busler, 2010). This effort can increase the survival and growth prospects of small firms in the early stages of their development.

The business incubator (BI) funding can be established through a combination of several approaches of waqf, such as real estate waqf, istibdal practices, and cash waqf. In the context of the waqf property approach, the authorities governing local waqf affairs, such as the State Islamic Religious Council (SIRC), play a role in identifying the untapped waqf land and selecting the most strategic waqf area to develop BI infrastructure. If the area of the existing waqf land is still insufficient, then an istibdal approach can be used to solve the problem.

An Istibdal approach is to buy another property with the proceeds of sale to serve as a waqf (mawquf) to replace the sale of any property acquired through replacement of the same or a better value (JAWHAR, 2010). The mission's objective is to maintain the mawquf of Muslims so that the benefits can be enjoyed continuously, guaranteeing the development of the mawquf in keeping with the current economic growth and avoiding freezing the uneconomical and idle mawquf (JAWHAR, 2010). To develop BIs, SIRC will identify any small size of waqf land that is located in a less strategic area than its waqf benefits. Subsequently, the SIRC, by its authority, acted to enforce the land. Then the proceeds of the sale of land through istibdal were used to buy a more extensive, strategic, and appropriate piece of land to develop BI infrastructure.

The fund is not only used to create BI physical infrastructure, but it also needs to be managed strategically so that it can generate income consistently to fund all of the BI's operating costs. In the context of BI, it not only requires significant funds, but it also needs those funds to be managed wisely so that the establishment and operation of the BI can sustain for a long time. Therefore, in the early stages of the development of BI and its supporting infrastructure, it will need to include government funds as seed capital and funds from corporate social responsibility by corporate companies. Then, BI is managed through strategic cooperation with a professional body or government agency specializing in this field.

The function of BI and other business incubators will act to assist participants, better known as incubators, in terms of business assistance and mediation. Business assistance includes entrepreneurial training and advice, business development, guidance, and related education with business planning, marketing, sales, and technical matters such as accounting, legislation, advertising, and financial assistance (Bergek & Norrman, 2008). From a mediation standpoint, incubators connect incubatees and the outside area in the form of networks such as providing information, knowledge, and expertise to ensure the survival of new entrepreneurs and reduce the uncertainties (Collinson & Gregson, 2003).

There is a mechanism for integrating zakat and waqf instruments in the form of economic empowerment programs (Ardiansyah & Kasdi, 2021). Those programs will be able to solve the fundamental problems experienced by new entrepreneurs seeking to start a business. These issues include lack of knowledge, capital constraints, and strategic market access to businesses. In this way, it can create opportunities for independent smallholders effectively through business. Furthermore, they can generate income and wealth through their own efforts. Eventually, these smallholders could improve their standard of living and engage in normal society. Nor & Ismail (2020) conclude that governance and sharing responsibilities between the waqf institutions and the government can preserve the management of waqf land in Malaysia, especially in the care of their oil palm plantations.

To ensure the long-term viability and sustainability of these economic empowerment programs, these mechanisms need to be implemented complementarily and not separate from the government's social systems or policies toward the well-being of the people. This condition means that the existence of this mechanism needs to be recognized and supported by the government. One of the ways to support participation in this mechanism is through tax rebates to the people who contribute to the philanthropic fund. This will encourage the people to continue contributing to the philanthropy fund.

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With all the facilities provided, it will empower new entrepreneurs to continue their business operations successfully and reduce the risk of failure, especially in the early stages of business.

CONCLUSION

This study proposes a model to improve ISH productivity; industry players should pay attention to the close integration of financial innovation, ISH capability, and human capital drivers. Since Islamic banks have specific characteristics and visions, financial innovation is the key to developing competitive products and services to fulfill customer needs, achieve rural community visions, and satisfy stakeholders. These conditions can boost ISH performance, but sometimes innovation does not become the central necessary to strengthen ISH because they are less capable of fulfilling its requirement. An alternative channel like Islamic philanthropy is financial innovation can increase human capital drivers to overcome social exclusion.

There are main practical implications through objectives. Islamic banking should develop a product with a flexibility mechanism to encourage ISH to upgrade to agropreneur as part of innovation. However, the main internal challenges include the low level of knowledge and experience amongst management in monitoring progress in the field. So, involvement of Islamic philanthropy can overcome that challenge because business incubators need ISH to work as a team and not individually based on the cultivation area. It also supports good agriculture practices to reduce the risk of a debt trap if they do not make payments on a scheduled basis. It will continuously improve a participant's overall performance in the long run.

The proposed model creates from theoretical studies; an empirical study needs to evaluate the proposed model's practical applications. Further studies should emphasize the validation of the proposed model in terms of its significance and practicality. Testing the proposed model in an empirical situation (such as Baitulmal, State Islamic Religious Council, or Yayasan Wakaf Malaysia) will provide helpful information for professionals in implementing the proposed model. This paper has not yet demonstrated the general management practices that affect ISH performance. Further research should determine other management factors that affect ISH productivity in different contexts. An alternative area for future research is how to develop innovative financing, ISH capabilities, and human capital drivers in Islamic philanthropy and organizations in general.

REFERENCES

Ab Aziz, M. R. B. (2011). Opportunity for Agro Entrepreneur in Developing Agro Initiative in Islamic Banking in Malaysia. *Journal of Animal and Plant Sciences, 21*(2), 290–302.

Al-Mubaraki, H. & Busler, M. (2010). Business Incubators Models of the USA and UK: A Swot Analysis. *World Journal of Entrepreneurship, Management and Sustainable Development, 6*(4), 335-354.

Ardiansyah, R., & Kasdi, A. (2021). Strategies and Optimizing the Role of Productive Waqf in Economic Empowerment of the Ummah. *Ziswaf: Jurnal Zakat dan Wakaf, 8*(1), 61-71.

Asian Development Bank. (2011). *Framework of Inclusive Growth Indicators Key Indicators for Asia and the Pacific 2011 Special Supplement*. Asian Development Bank. Mandaluyong City.

Ayat, K, A. R., Ramli, A., Faizah, M. S., & Mohd Ariff, S. (2008). The Malaysian Palm Oil Supply Chain: the Role of the Independent Smallholder. *Oil Palm Industry Economic Journal, 8*(2), 17–27.

Bakar, I. A., & Bamualim, C. S. (2006). *Filantropi Islam dan Keadilan Sosial: Studi Tentang Potensi, Tradisi dan Pemanfaatan Filantropi Islam di Indonesia*. Jakarta: Center for the Study of Religion and Culture (CSRC) UIN Syarif Hidayatullah Jakarta.

Bakar, S. H. A., Omar, N., Zakaria, A. H., & Wahab, H. A. (2012). Intervensi Sosial untuk Komuniti Tersisih: Ke Arah Pembangunan Ummah. *Jurnal Hadhari, 4*(2), 29-44.

Bank Negara Malaysia. (2011). *Financial Sector Blueprint 2011-2020*. Bank Negara Malaysia. Kuala Lumpur.

Bergek, A., & Norrman, C. (2008). Incubator Best Practice: A Framework. *Technovation, 28*, 20-28.

Belcher, B., Imang, N., & Achdiawan, R. (2004). Rattan, Rubber, or Oil Palm: Cultural and Financial Considerations for Farmers in Kalimantan. *Economic Botany, 58*(sp1), S77–S87.

Bhalla, A., & Lapeyre, F. (1997). Social Exclusion: Towards an Analytical and Operational Framework. *Development and Change, 28*(3), 413-433. https://doi.org/10.1111/1467-7660.00049.

Breman, J. (2004). Social exclusion in the Context of Globalization. *Working Paper No. 18*. International Labour Organization. Geneva.

Byrne, D. (2008). *Social Exclusion*. 1st Edition. Routledge. London.

Chan, K, F. & Lau, T. (2005). Assessing Technology Incubator Programs In the Science Park: the Good, the Bad and the Ugly. *Technovation, 25*, 1215-1228.

Claudine, N., & Reza, A. (2012). A Review of Smallholder Oil Palm Production: Challenges and Opportunities for Enhancing Sustainability- A Malaysian Perspective. *Journal of Oil Palm and the Environment, 3*(12), 114–120.

Cohen, L., Manion, L. & Morrisson K. (2000). *Research Method in Education*. 5th Edition. Routledge Falmer. London

Collinson, S., & Gregson, G. (2003). Knowledge Networks For New Technology-Based Frms: An International Comparison of Local Entrepreneurship Promotion. *R & D Management, 33*(2), 189–208.

Cramb, R. A., & Sujang, P. S. (2013). The Mouse Deer and the Crocodile: Oil Palm Smallholders and Livelihood Strategies in Sarawak, Malaysia. *Journal of Peasant Studies, 40*(1), 129–154. https://doi.org/10.1080/03066150.2012.750241.

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v21i2.18677

Claridge, M., Crawford, R., Greenland, H., Hurnard, R., Jensen,B., Lewis,G., Mays, N., Petrie, M. & Procter, R. (2001). *Towards an Inclusive Economy*. The Treasury. Wellington.

De Haan, A. (1999). *Social Exclusion: Towards an Holistic Understanding of Deprivation*. Department for Internasional Development. London.

Deshpande, A. (2013). *Exclusion and Inclusive Growth*. UNDP. New Delhi, India.

Economic Planning Unit. (2016). *Eleventh Malaysia plan 2016-2020*. Percetakan Nasional Malaysia Berhad. Putrajaya.

Flotten, T. (2006). Poverty and Social Exclusion-Two Sides of the Same Coins? A Comparative Study of Norway and Estonia. (*Unpublished Doctoral Dissertation*). Fafo.

Hasan, A. S., & Herianingrum, S. (2019). Micro Business Empowerment Model Through Cash Waqf. *AFEBI Islamic Finance and Economic Review, 4*(1), 27-41.

Hasan, S. (2007). *Philanthropy and Social Justice in Islam*. A.S. Noordeen. Kuala Lumpur.

Ismail, M. A., Bin Nik Ab Malik, N. M. A., & Shafiai, M. H. M. (2015). Empowering The Peripheral Ummah Through Waqf. *The Journal of Muamalat and Islamic Finance Research, 12*(1), 29-43.

Jabatan Wakaf, Zakat dan Haji (JAWHAR). (2010). *Manual Pengurusan Istibdal Wakaf*. Jabatan Wakaf, Zakat dan Haji (JAWHAR). Putrajaya.

Karim, Z. A., Zaidi, M. A. S., & Wahid, H. (2004). Pendapatan dan Sasaran Perbelanjaan Dana Zakat: Pengalaman di Negeri Perak, Kedah, Selangor dan Negeri Sembilan: Isu dan Cabaran. *Prosiding Muzakarah Pakar Zakat*. Kuala Lumpur: Univision Press Sdn Bhd. pp. 79-94.

Mack, N., Woodsong, C., MacQueen, K. M., Guest, G., & Namey, E.. (2005). *Qualitative Research Methods, A Data Collector's Field Guide*. Family Health International. North Carolina, USA.

Martin, S., Rieple, A., Chang, J., Boniface, B., & Ahmed, A. (2015). Small Farmers and Sustainability: Institutional Barriers to Investment and Innovation in the Malaysian Palm Oil Industry in Sabah. *Journal of Rural Studies, 40*, 46–58. https://doi.org/10.1016/j.jrurstud.2015.06.002.

Nor, K. A. M., & Ismail, M. A. (2020). Obstacles of Waqf Institutions Vis-à-vis Sustainable Oil Palm Management in Malaysia. *Oil Palm Industry Economic Journal, 20*(1), 45-53.

Shafiai, M. H. M., Ali, S. A., & Yaacob, S. E. (2019). Mengapa Mikro Kredit Islam Tidak Mendapat Sambutan dari Pekebun Kecil Sawit Persendirian? *International Conference on Islamic Law, Economics & Finance, Johor Malaysia.*, Nov 11- 12, 2019.

Nkongho, R. N., Feintrenie, L., & Levang, P. (2014). Strengths and Weaknesses of the Smallholder Oil Palm Sector in Cameroon. *Oilseeds & Fats Crops and Lipids (OCL), 21*(2), D208. https://doi.org/10.1051/ocl/2013043.

Othman, R. (2013). *Institusi Wakaf Sejarah dan Amalan Masa Kini*. Dewan Bahasa dan Pustaka. Kuala Lumpur, Indonesia.

Rahman, R. A., Ahmad, S., & Wahid, H. (2008). Pelaksanaan Bantuan Modal Zakat: Analisis Perbandingan. *Working Paper in Islamic Economics and Finance, No. 0814.* Universiti Kebangsaan Malaysia.

Ramli, A. (2013). Technical Efficiency of Independent Oil Palm Smallholders (ISH) in Peninsular Malaysia with Respect to Fertiliser and Land Size. *Oil Palm Industry Economic Journal, 13*(2), 27–37.

Rofa'i, Y., Burhan, U., & Multifiah. (2016). The Role of Productive Waqf for Public Welfare: Study Case of Nadzir Foundation in University of Islam Malang. *International Journal of Social and Local Economic Governance, 2*(2), 152-160.

Silver, H. (1994). Social Exclusion and Social Solidarity: Three Paradigms. *International Labour Review, 133* (5-6), 531-578.

OECD. (2014). *All On Board Making Inclusive Growth Happen*. OECD Publishing. Paris, France.

Scutella, R., Wilkins, R. & Horn, M. (2009). Measuring Poverty and Social Exclusion in Australia: A Proposed Multidimensional Framework for Identifying Socio-Economic Disadvantage. *Melbourne Institute Working Paper No. 4/09*. Melbourne Institute of Applied Economic and Social Research the University of Melbourne.

Widyawati. (2011). *Filantropi Islam dan Kebijakan Negara Pasca-Orde Baru: Studi Tentang Undang-Undang Zakat dan Undang-Undang Wakaf*. Penerbit Arsad Press. Bandung, Indonesia.

Wiersma, W. (1991). *Research Methods in Education*. 5th edition. Allyn & Bacon. Boston.

York-Barr, J., Sommers, W., Ghere, G. & Monitie, J. (2006). *Reflective Practice to Improve Schools: An action Guide for Educators*. CorwinPress. Thousand Oaks, CA.

Zaenal, M. H., & Ismail, A. G. (2014). Islamic Philanthropy: Rationality for a New Economics Welfare System. *The Asean Islamic Endowment Seminar 2014 Seminar Wakaf Asean 2014*, pp. 155-181.

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Purchase Intention of Halal Cosmetics: The Mediating Role of Attitude

Maghfira Rizky Maulani[1*], Nuryakin[2], Nur Hidayah[3]
[1,2,3]Universitas Muhammadiyah Yogyakarta, Indonesia
E-mail: [1]maghfirarizkym@gmail.com, [2]nuryakindr@gmail.com, [3]nurhii1106@gmail.com
[*)]Corresponding Author

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Abstract
This study investigates the effect of knowledge, religiosity, and attitude on purchase intention. A more comprehensive study model is considered an effort to add to the literature on the study of halal cosmetics, which is still very limited amid the progress of the halal cosmetics industry in Indonesia. The millennial sample was used in this study and then analyzed using SEM. According to the result, knowledge did not significantly impact purchase intentions but played an essential role in influencing attitudes. Meanwhile, religiosity has been proven to significantly impact and contribute the most to determining purchase intention but was insignificant in influencing attitudes. Finally, the result also found that attitudes mediated the influence of knowledge and religiosity on purchase intention. For this reason, industry players should pay more attention to religiosity in promoting their products. Consumers must be given additional knowledge to influence positive consumer behavior, encouraging purchase intention. The implication of this study is limited to the millennial sample of the halal cosmetics product in Indonesia.

Keywords:
knowledge, religiosity, attitude, purchase intention, halal cosmetic

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INTRODUCTION

Although halal cosmetics have a large market, most cosmetics and personal care products are produced by non-Islamic countries, leading to disagreements over whether the raw materials used are halal. This condition has resulted in a cosmetic product investigation based on the suspicion that many foreign brands use ingredients derived from pork or alcohol, which has resulted in many cons among Muslims seeking and wanting halal products (Mukhtar & Butt, 2012). This research will use the Theory of Planned Behavior (TPB), which develops the Theory of Reasoned Action (TRA) by Fishbein and Ajzen. TPB is a model for predicting behavior intention. This study analyzes the effects of knowledge and religiosity directly on purchase intention. It evaluates its impact on knowledge and religiosity and its effect on the attitudes towards halal cosmetic products. Cosmetic and personal care product demand has increased and become competitive with its fast-paced growth requiring fast, precise, and sustainable product innovation (Kumar, 2005). According to the Ministry of Industry, "The Indonesian cosmetics and toiletries industry recorded an extraordinary growth of 11.99% in 2017 with a total sales value of IDR 19 trillion, higher than the industry's average annual growth rate in the last six years of around 10%." The same applies to exports of cosmetic products, which have also grown by an average of 3.56% in the last five years.

Furthermore, Muslim consumers are characterized by their religiosity. Intense religiosity can result in different consumption patterns and a preference for halal or non-halal items. Halal products are more relevant and significant to Muslim consumers, particularly those with a high level of religiosity, than products with International Organization for Standardization certification, such as ISO 9000. The halal label/logo aids Muslim consumers in making food selection decisions (El-Bassiouny, 2014). Previous studies have proven that religiosity affected consumer purchase intentions (F. Amalia, 2020; Haque et al., 2018; Iranmanesh et al., 2019; Khan et al., 2022; Zakaria et al., 2018).

Although suppliers are starting to understand the importance of halal certification and awareness, little is known about halal ingredients and other determinants of purchase intention. Previous research by Bang et al. (2000) indicated that knowledge influenced the intention to buy a product because an increase in a person's knowledge affects his purchase intention or behavior. Also, only certain people knew the effects of marketing-related concepts (such as advertising and brands with halal purchase intentions (Aziz & Chok, 2013). Halal awareness, therefore, has an important influence on the intention to purchase halal products (Aziz & Chok, 2013). Besides that, previous research also shows that knowledge directly affected purchase intention (Ateke & James, 2018; Haro, 2018; Ishak et al., 2019; Widyanto & Sitohang, 2022).

In addition, this study examines the relationship between attitude and consumers' purchase intention. Previous research conducted by Azam (2016) also observed the purchase intention of halal food products among non-Muslims. The results implied that religious belief, halal logos, and exposure positively affected awareness of halal products, halal products, and produce raw materials that affected purchase intention of

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halal products. In contrast, Islamic brands did not affect the purchase intention of halal products among non-Muslims. Then, there is a positive and relevant relationship between attitude and intention to buy halal goods (Shah Alam & Mohamed Sayuti, 2011). A study conducted by Garg & Joshi (2018) examined the purchase of halal brands in India, mediated by attitude. The results showed that attitude positively affected the purchase intention of halal brands, while several previous studies found that attitude influenced purchase intention (Biscaia et al., 2013; Briliana & Mursito, 2017; Lada et al., 2009).

This research will use the Theory of Planned Behavior (TPB), which develops The Theory of Reasoned Action (TRA) by Fishbein and Ajzen. TPB describes human behavior related to attitudes, subjective norms, and perceived behavioral control, which predict behavioral intentions. TPB is a model to predict behavioral intention. In this study, an attitude directly affects purchase intention, while religiosity and knowledge directly and indirectly, affect purchase intention towards halal cosmetic products through a mediating variable, namely attitude.

Someone may have a positive attitude towards halal products, but they still do not know about them. In addition, the role of subjective norms, the social influence on a person's behavior, may include friends, peers, and expectations of other family members. Thus, a person may not have a positive attitude towards halal products. However, the mismatch between his attitude and the expectations of his family and friends can determine his intention to choose halal products (Mukhtar & Butt, 2012).

This research will focus on millennial consumers who are more interested in cosmetic products because they are considered capable of supporting their appearance. Generations will show different purchasing behavior (Williams & Page, 2011). Generation Y, Millennials, and Echo Boomers are used to describe a community of customers. Millennials are people who were born between 1980 and 2000 and are now between the ages of 21 and 41 (Lee & Kotler, 2016). Millennials have grown in number, and their buying power makes them appealing to various industries. As a result, the millennial generation has emerged as an exciting community to research because of their different behavior from previous generations, so studying them is important and relevant (Smith, 2011). This study examines the empirical evidence of the relationship between millennials' knowledge of halal cosmetics, religiosity, and purchase intentions. The researchers describe the details of the empirical study, including the results, followed by a discussion of the study's implications, limitations, and opportunities for future research.

The study of halal branding has developed rapidly, but attention to the perspective of young Muslim consumers on halal branding is still limited. At the same time, previous studies have explored Muslim consumers' general knowledge, attitudes, and buying intentions (Benyahia, 2018). Moreover, a lack of well-established studies on religious belief as a factor in influencing today's young Muslim consumers is still commonly found. Therefore, an urgent call to study the impact of religious beliefs on young consumer behavior is necessary (Abu-Alhaija et al., 2017). Therefore, this study proposes a model to reveal a significant predictor of purchase intention of halal cosmetic products among millennials to address this gap.

In addition, halal awareness is increasing and getting attention as a new phenomenon (Aoun & Tournois, 2015). Thus, a market segmentation niche for Muslim consumers emerges. Various general studies have been conducted on cosmetics (Ghazali et al., 2017; Tajeddini & Nikdavoodi, 2014). Unfortunately, many insufficient studies only examined the relationship between halal issues and consumer behavioral intentions. Of course, focusing on the Halal perspective for cosmetic products is a strong judgment. This study will help identify how attitudes affect consumers' purchase intentions for halal cosmetic products and determine how product positioning moderates the relationship between attitudes and purchase intentions.

This study still debates research gap inconsistencies of previous studies on purchasing behavior in halal products. It is like research (Khan et al., 2022), which found that religious belief was not an essential factor in influencing the purchase intention of halal cosmetics. However, another study uncovered that the religiosity level was statistically significant in influencing attitudes toward halal products (Ahmadova & Aliyev, 2020). The results of other studies also revealed that Islamic religiosity and halal knowledge had no significant effect on consumer behavior towards halal cosmetics (Adiba & Wulandari, 2018).

On the other hand, although the halal industry is proliferating, research on halal cosmetics is still scarce, using a model with a planned behavior theory (TPB) approach. For this reason, this study contributes to the body knowledge in testing the development of TRA to measure consumer behavior by looking at religiosity and the consumer knowledge about halal products as one of the essential motivations for TPB. This study also contributes to testing empirical research models on consumer behavior towards halal cosmetics, which will assist the industry in taking action to take advantage of the growing market better and on target.

METHODS

This study used a quantitative approach to data collection by distributing questionnaires. The researchers used a simple random sampling technique to collect data and enlisted participants by sending out invitations. The Uniform Resource Locator (URL) for online questionnaires was created with Google Forms through social media and online message channels (Instagram, Facebook, and WhatsApp). Respondents in this study were users of halal cosmetics. There were 262 questionnaires collected and followed with the criteria of the intended respondents. The information for this study was gathered using Google Forms, which were distributed through social media (Instagram, Facebook, WhatsApp). According to Lee & Kotler (2016), the millennial generation, born between 1980 and 2000 and now between the ages of 21 and 41, was the target audience for this survey.

This analysis made use of primary data gathered by researchers through a survey. A questionnaire was set up to assess constructs using a 1-7 rating scale based on respondents' answers (Sekaran & Bougie, 2016). The score would range from 1 to 7, with one being the lowest and seven being the highest, and it measures four variables: experience, religiosity, attitude, and purchase intention. Score 1 represented the most

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disagreed answers, and score 7 represented the most agreed ones. This construction was evaluated using a seven-item rating scale (Table 1). Most of the projects came from existing literature, with some modifications to suit the research context. The scale used to evaluate the research design was from the existing literature on knowledge, religiosity, attitude, and purchase intentions.

Figure 1. Research Framework

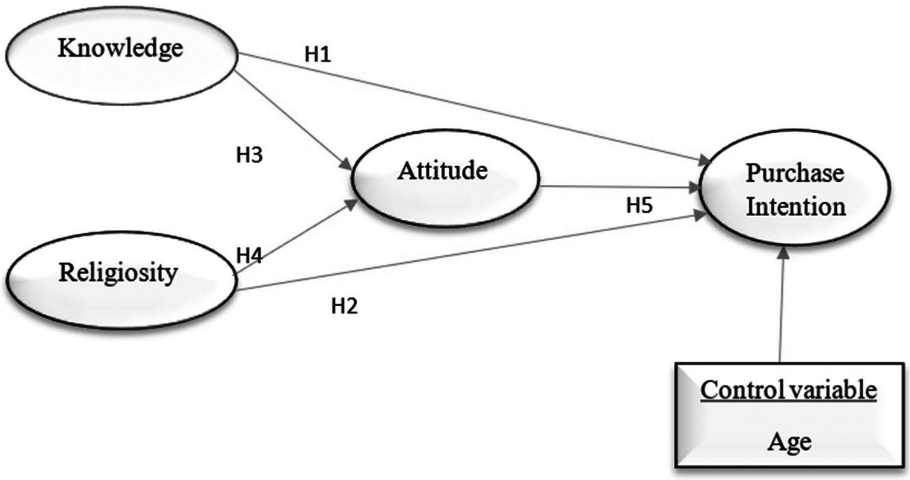

Table 1. The Research Constructs Measurement and Items

Construct	Indicator / item	Measurement scale
Knowledge	1. Recognizing Islamic law, halal and haram of a product (KN1) 2. Knowing what is allowed and prohibited by Islam (KN2) 3. Having enough knowledge to distinguish between halal and haram (KN3) 4. Knowing the latest problems regarding hazardous ingredients for cosmetic products (KN4) 5. Knowing the differences between halal products certification and halal places certification (KN5)	Likert
Religiosity	1. Willingly and happily paying zakat on time (R1) 2. Taking the time to gather with fellow believing Muslims (R2) 3. Participating in religious discussions at the mosque (R3) 4. Always reading books and magazines about religion (R4) 5. Watching religious programs on TV (R5)	Likert
Attitude	1. Always choosing halal cosmetics (ATT1) 2. Always looking for products labeled halal when buying cosmetics (ATT2) 3. Using halal cosmetics by choice (ATT3) 4. Considering that halal cosmetics are important (ATT4) 5. Having the closest people use halal cosmetics (ATT5)	Likert
Purchase Intention	1. Willing to pay more for cosmetic products with the original halal label (PI1) 2. Willing to wait a long time for cosmetic products with the original halal label (PI2) 3. Willing to go around looking for cosmetics labeled halal (PI3) 4. Willing to purchase products with the original halal label over long distances (PI4) 5. Intending to buy halal cosmetics in the future (PI5)	Likert

RESULTS AND DISCUSSION

This study used the AMOS Program to test models and hypotheses as a structural equation model (SEM). Applying the bootstrap procedure allows accurate estimates for the non-normally distributed data (Enders, 2005) and a structural model including mediation effects (Cheung & Lau, 2008). The analysis was conducted using a unidimensional measuring model. These indicators constituted the parameters resulting from the goodness of fit. The measurement model used convergence validity to test whether the index was valid for the test. The significance of indicators must be tested to evaluate whether the indicators provide the same dimensions to form latent variables. The second analysis was SEM, which took a similar step, consisting of testing the fitness parameters of the fit results and the study hypotheses about the causality of the model.

Table 2. Scale Item for Measures

Construct	Items	factor loading	CR	VE	
Knowledge	KN2	.85	.84	.57	Valid
	KN3	.80			
	KN4	.66			
	KN5	.72			
Religiosity	R2	.66	.88	.65	Valid
	R3	.80			
	R4	.86			
	R5	.90			
Attitude	ATT1	.90	.91	.69	Valid
	ATT2	.86			
	ATT3	.86			
	ATT4	.81			
	ATT5	.70			
Purchase_Intention	PI1	.80	.91	.69	Valid
	PI2	.88			
	PI3	.89			
	PI4	.85			
	PI5	.74			

The samples used were 262, which satisfied the sample requirements recommended in the application of MLE and the average variance extracted (AVE) criteria with a minimum sample size of 150 that met the following criteria: the standardized loading value is calculated to be less than 0.7 and the score communality is 0.5 (Hair et al., 1998). As a result, the researchers used confirmatory factor analysis to assess the

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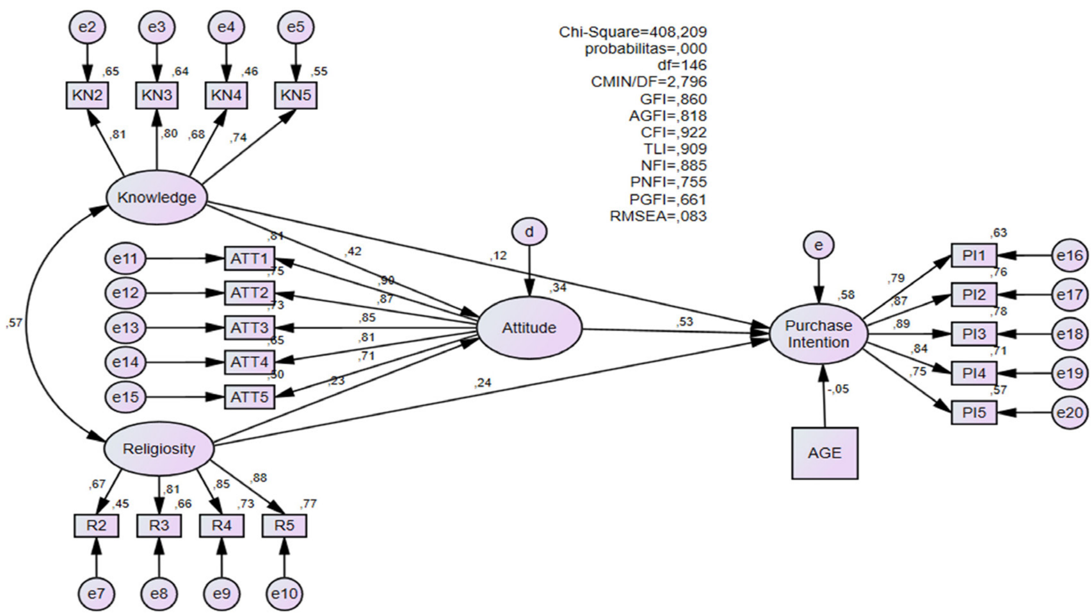
relationship between constructs and indicators on the questionnaire objects (questionnaire validity). Following Anderson & Gerbing (1988), The CFA model was first used to assess convergent validity. Convergent validity using composite reliability (CR) and mean-variance extracted (AVE) were also observed.

The measurement results show that all standard loading factors are statistically significant on each construct with a fit statistic. This result indicates the fit index is appropriate for the data except for the constructs KN1 and R1, which have been removed because they do not meet the valid criteria (see Table 2). Table 2 shows the differences between each build and the question items used; each construction's loading value must be greater than 0.6 cut-points (Hair et al., 1998). The extracted variance (VE) is greater than the critical value specified, i.e., 0.5. The test results of the value of the validity of the structure, extract of variances, in Table 2 show the results which build knowledge, religiosity, attitude, and intention. Building reliability is higher than 0.7, and VE is higher than 0.5. DVs are based on the statistic cut-off of the given value.

Figure 2. The Full Model of the Relationship between Knowledge, Religiosity, and Attitude on Purchase Intention



The research hypotheses were tested using structural equation modeling. Figure 2 illustrates the results of the SEM analysis in a complete model. Table 4 describes the results of the SEM development hypothesis tests. The results of the full model confirmation test show poor size criteria for the GOF model: chi-square (375,532) >a (45,314), p-value (0,000) cmin/df (2,572), GFI (0,850), TLI (0.918), NFI (0.891), PNFI (0.761), PGFI (0.653). However, these results are feasible and can still analyze acceptable research results, according to Waluyo (2011), Wijaya (2009), and Widarjono (2010). They confirmed that researchers do not need to meet all the goodness-of-fit criteria in empirical research, but it depends on their judgment or decision.

The correlation matrix between the constructs of knowledge, religiosity, attitude, and purchase intention is presented in Table 3. The correlation between indicators of knowledge, religiosity, attitude, and purchase intention exceeds the positive significance. The values (represented in the Table 2 diagonals) must exceed the correlation in the same column and row of the corresponding latent variables. When those conditions are fulfilled, the variance is divided by the correlation by the objects in the scale between knowledge, religiosity, attitude and purchasing intentions.

Table 3. Descriptive Statistics and Correlation Matrix

	AGE	PI5	PI4	PI3	PI2	PI1	ATT1	ATT2	ATT3	ATT4	ATT5	R2	R3	R4	R5	KN5	KN4	KN3	KN2
AGE	1,000																		
PI5	-,024	1,000																	
PI4	-,026	,619	1,000																
PI3	-,027	,644	,701	1,000															
PI2	-,027	,648	,706	,734	1,000														
PI1	-,027	,658	,717	,746	,751	1,000													
ATT1	,000	,528	,574	,598	,602	,611	1,000												
ATT2	,000	,497	,541	,562	,566	,575	,764	1,000											
ATT3	,000	,525	,571	,594	,598	,608	,807	,760	1,000										
ATT4	,000	,514	,559	,582	,586	,595	,790	,744	,786	1,000									
ATT5	,000	,439	,478	,498	,501	,509	,676	,636	,672	,658	1,000								
R2	,000	,345	,376	,391	,393	,400	,295	,277	,293	,287	,245	1,000							
R3	,000	,408	,444	,462	,465	,473	,349	,328	,347	,340	,290	,615	1,000						
R4	,000	,429	,467	,486	,489	,497	,366	,345	,364	,357	,305	,646	,765	1,000					
R5	,000	,439	,478	,497	,500	,508	,375	,353	,373	,365	,312	,661	,782	,822	1,000				
KN5	,000	,324	,353	,367	,369	,375	,432	,407	,430	,421	,360	,333	,393	,413	,423	1,000			
KN4	,000	,334	,364	,379	,381	,387	,446	,420	,444	,434	,371	,343	,406	,426	,436	,646	1,000		
KN3	,000	,319	,347	,361	,364	,369	,426	,401	,423	,414	,354	,327	,387	,407	,416	,616	,636	1,000	
KN2	,000	,321	,349	,363	,366	,372	,428	,403	,426	,417	,357	,329	,390	,409	,419	,620	,640	,611	1,000

Table 4 illustrates the standard route coefficients for knowledge, religiousness, attitudes, and purchase intention and provides the five hypotheses, including the results. The relationship between knowledge, religiousness, attitudes and purchasing intention is discussed in Table 4. The t-value and the likelihood are positive and the importance of each structure. Consequently, each variable is discussed as follows. H1: Knowledge did not affect Purchase Intention, shown by a CR value of -1.037 (≤ 1.967) with a probability (P) of 0.300 (≥ 0.05). Hence, H1 was rejected. H2: Religiosity had a positive and significant effect on Purchase Intention, shown by a CR value of 6.191 (≥ 1.967) with a probability (P) ≤ 0.05, or there was a sign of ***. Hence, H2 was accepted. H3: Knowledge had a positive and significant effect on attitude, shown by a CR value of 5.797 (≥ 1.967) with probability (P) ≤ 0.05, or there was a sign of ***. Hence, H3 was accepted. H4: Religiosity did not affect attitude, shown by a CR value of 1.942 (≤ 1.967) with a probability (P) of 0.052 (≥ 0.05). Therefore, H4 was rejected. H5: Attitude had a positive and significant effect on purchase intention, shown by a CR value of 8.726 (≥ 1.967) with a probability (P) ≤ 0.05, or there was a sign of ***. Hence, H5 was accepted. H6: The Sobel test was used to test the effect of the mediating variable. This study indicated that the attitude variable was proven to mediate the influence of knowledge on purchase intention. Variable control: Age did not affect Purchase Intention, shown by a CR value of -0.713 (≤ 1.967) with a probability (P) 0.476 (≥ 0.05).

The study's design examined the influence on purchase intention of halal cosmetics, especially between millennia, by knowledge, religion, and attitude. The results increased

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knowledge that did not significantly impact purchase intention. They were not in line with previous research in which consumers with more knowledge about products had higher purchase intentions than those with less knowledge (Teng et al., 2018). Besides the knowledge, the study results also revealed that religiosity significantly affected the intention to purchase.

Table 4. Result and Path Analysis Model

Hypothesis		Estimate	SE	CR	P	Information
H1	Knowledge → Purchase Intention	-0.062	0.060	-1,037	, 300	Not significant
H2	Religiosity → Purchase Intention	0.285	0.046	6,191	***	Significant
H3	Knowledge → Attitude	0.356	0.061	5,797	***	Significant
H4	Religiosity → Attitude	0.091	0.047	1,942	, 052	Not significant
H5	Attitude → Purchase Intention	0.799	0.092	8,726	***	Significant
H6	Knowledge → attitude → Purchase Intention			2,790	0.005	Significant
Control variable	AGE → Purchase Intention	-0.012	0.017	-0,713	0.476	Not significant

The purpose of the study was to analyze the effect of consumer religiosity and halal knowledge on the purchase intention of non-food halal products, namely cosmetics mediated by attitude. The findings of this study reveal that in general the religiosity and knowledge of halal consumers need to be considered when marketers want to promote their products because they affect consumer attitudes towards halal cosmetics, although the magnitude of the effect varies. Consumer product knowledge has been identified as a factor influencing all stages of the decision-making process (Said et al., 2014). Consumers with a better understanding of the product have a more developed and complex schema, with well-defined decision criteria (Bian & Moutinho, 2011). The amount of consumer knowledge about a product will affect not only information seeking behavior but also information and decision-making processes during the buying process. As a result, product knowledge has a substantial positive impact on consumers' purchase intentions (Lin & Chen, 2006). Therefore, knowledge of Muslim consumers about halal products plays an important role in their decision and purchase intention. However, in this study, the results of the analysis showed that the knowledge of millennial respondents did not have a direct significant effect on the purchase intention of halal cosmetics. However, it indirectly has a significant effect on purchase intention through attitude as a mediating variable. This finding shows that millennial customers' knowledge of halal products alone is not enough to shape their intention to buy these products. On the other hand, they must have a positive attitude towards halal-certified products first before they start to develop an intention to buy. The results of this study are supported by (Aziz & Chok, 2013; Mohd Suki & Mohd Suki, 2018; Wijaya & Mahardika, 2019) which show a positive and significant relationship between knowledge and attitude towards halal products. In addition, (Permana, 2019; Putri et al., 2019) also revealed a significant relationship between knowledge and purchase intention of halal-based products through attitude as a mediating variable. Therefore, consumer education is still important to increase awareness about halal standards, both with Islamic lectures and social campaigns so that it is expected to be able to influence consumer attitudes towards halal cosmetics which in turn increase their purchase intention. According to (2007) Klerck and Sweeney (2007), accurate product knowledge provides greater insight into how consumers evaluate products. Consumers need to know about the characteristics of a product, if consumers do not know information about the characteristics of a product, they can be wrong in making purchasing decisions (Nitisusastro, 2012).

Furthermore, there is a religiosity variable which is another focus in this study. It is explained that religion is a person's belief about the absolute definition of teachings and scriptures and their intrinsic reality (Moschis & Ong, 2011). Religion is described as a set of beliefs that are passed down from generation to generation and affect a person's life. Religious values are very important in many cultures, as they influence people's beliefs, awareness, and attitudes (Wilson, 2014). According to Mukhtar and Mohsin Butt (2012), religion plays an important role in shaping individual attitudes and behavior in purchasing goods and services. Religion acts as a perspective to define individual intentions in purchasing "Halal" products. Therefore, it is important for marketers to understand the influence of religion in the selection and purchase intention of a product for this segment. The intensity of an individual's belief in the religion he adheres to is referred to as religiosity. In the study, the results of the analysis showed that religiosity had a positive and significant effect on the intention to buy halal cosmetics. The results of this study are in accordance with and support several previous studies as well as the opinions of experts who prove that religiosity has a significant influence on individual consumption patterns (Weaver & Agle, 2002).

Among others, by Srivastava (2018) which shows that individual religiosity in the Indian market affects their purchase intentions for foreign and domestic products. Furthermore, research by Ahmad et al (2015) found that religion had a greater influence on behavior compared to knowledge related to halal, and there were significant differences in the behavior of respondents between halal food products and halal cosmetic products. The religious and safety concepts associated with halal cosmetic products influence customers to buy them. Halal cosmetics, in accordance with the concept of Halal knowledge (Hajipour et al., 2015). In addition, the research of Alam et al (2011) proves that Muslims adhere to the Islamic values that they believe in as a source of reference before making a reasonable decision or expenditure. Although the results of this study also found that the religiosity of millennial respondents was not found to have a significant influence on attitudes towards halal-certified cosmetic products. However, it directly has a significant effect on purchase intention. This finding shows that the commitment of

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Muslim millennial customers to their beliefs is enough to shape their intention to buy the product. On the other hand, they do not have to have a positive attitude towards halal-certified products before they start to develop an intention to buy. The results of this study are supported by the findings of Zakaria et al. (2018) and Haque et al. (2018) which show a positive and significant relationship between religiosity and purchase intention of halal products. In addition Amalia et al. (2020) also revealed a significant relationship of religiosity to the purchase intention of halal-based products.

The results of the next study found that an attitude which is influenced by knowledge and religiosity has a positive and significant effect on purchase intention. The results of this study are in accordance with and support several previous studies and also the opinion of experts, where according to Ajzen and Fishbein (1980) attitude is a positive or negative feeling about an action. Attitude is an emotional expression that expresses feelings of pleasure or displeasure with an entity or object. The intention to buy halal products precedes the process before the actual purchase. Intentions reflect future behavior. Attitudes are postulated to have a direct relationship with behavioral intentions. Attitude is an evaluation in performing a certain behavior that involves an attitude object, such as purchasing a product (Blackwell et al., 2006). Research by Alam & Sayuti (2011) found that there is a significant and positive relationship between attitudes and intentions to buy Halal products. The results of their study show that the TPB model is able to explain 29.1 percent of the variance of intention to buy halal products. Attitude is considered an important element in influencing consumer intention to buy Halal products because those who have a high positive attitude have a greater intention to buy Halal products. This finding reinforces the statement of Ajzen & Fishbein (1980) which states that attitudes can be described as an important element in predicting and describing human behavior. Ireland & Rajabzadeh (2011) found that some consumers in the UAE are also concerned about the halal quality of other products, such as toiletries, and so on. In addition, the research results of Abd Rahman et al. (2015) prove that attitude has a positive effect on the purchase intention of halal products.

CONCLUSION

This study contributes to research on halal products to understand how attitudes affect consumers' buying intentions towards halal products, especially cosmetic products, among millennials in Indonesia. The results provide an understanding that influences the purchase intention of millennials today on halal cosmetic products to assist in formulating strategies for companies. Based on the analysis, attitudes influenced by knowledge and religiosity positively and significantly affected attitudes. The findings followed and supported several previous studies and experts' opinions. Knowledge also influenced consumer attitudes. In this study, religiosity significantly influenced the purchase intention of halal cosmetics among millennials. Therefore, marketers could consider halal certification on their products because relying on education is not enough. This study proved that consumer attitudes influenced by knowledge and religiosity affected their purchase intentions.

The practical implication of the research is increasing purchase intention among millennials. Companies need to educate consumers about products to increase consumer knowledge about the product to generate purchase intentions. Since consumers today are pickier due to available alternative products, marketing managers must be more sensitive to market changes. Because there is still a dearth of consumer information that Halal does not just apply to food items, non-food halal product education is critical for changing people's attitudes. In addition, religiosity significantly affected purchase intentions, so companies could consider making halal products from the MUI. Marketers can also use authoritative figures such as well-known ulama (Muslim academics or clerics) to promote the necessity of buying Halal-labeled cosmetics in markets. In Indonesia, halal means contained in the essential ingredients for making products because most Indonesian people are Muslim. Even non-Muslims believe that when a product is halal certified, then the product is safe to use.

REFERENCES

Abd Rahman, A., Asrarhaghighi, E., & Ab Rahman, S. (2015). Consumers and Halal Cosmetic Products: Knowledge, Religiosity, Attitude and Intention. *Journal of Islamic Marketing*, *6*(1), 148–163. https://doi.org/10.1108/JIMA-09-2013-0068.

Abu-Alhaija, A., Yusof, R., Hashim, H., & Jaharuddin, N. (2017). The Motivational Approach of Religion: the Significance of Religious Orientation on Customer Behaviour. *International Journal of Economics, Commerce and Management*, *12*, 609–619.

Ahmad, A. N., Rahman, A. A., & Rahman, S. A. (2015). Assessing Knowledge and Religiosity on Consumer Behavior towards Halal Food and Cosmetic Products. *International Journal of Social Science and Humanity*, *5*(1), 10–14. https://doi.org/10.7763/ijssh.2015.v5.413.

Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Prentice-Hall Inc. Englewood Cliffs, New Jersey.

Alam, S. S., Mohd, R., & Hisham, B. (2011). Is Religiosity an Important Determinant on Muslim Consumer Behaviour in Malaysia? *Journal of Islamic Marketing*, *2*(1), 83–96. https://doi.org/10.1108/17590831111115268.

Amalia, F. (2020). The Role of Religiosity on Halal Product Purchasing Decision Case Study: Wardah Cosmetics. *Journal of Digital Marketing and Halal Industry*, *1*(1), 19. https://doi.org/10.21580/jdmhi.2019.1.1.4774.

Amalia, F. A., Sosianika, A., & Suhartanto, D. (2020). Indonesian Millennials' Halal Food Purchasing: Merely a Habit? *British Food Journal*, *122*(4), 1185–1198. https://doi.org/10.1108/BFJ-10-2019-0748.

Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-step Approach. *Psychological Bulletin*, *103*(3), 411-423. https://doi.org/10.1037/0033-2909.103.3.411.

Aoun, I., & Tournois, L. (2015). Building Holistic Brands: an Exploratory Study of Halal

DOI: https://doi.org/10.15408/etk.v21i2.24131

Cosmetics. *Journal of Islamic Marketing, 6*(1), 109-132. https://doi.org/10.1108/JIMA-05-2014-0035.

Ateke, B., & James, D. (2018). Consumer Knowledge and Purchase Intention of Healthcare Product Consumers in Rivers State. *Journal of Business and Law Research*, *6*, 1–7.

Azam, A. (2016). An Empirical Study on Non-Muslim's Packaged Halal Food Manufacturers. *Journal of Islamic Marketing*, *7*(4), 441–460. https://doi.org/10.1108/jima-12-2014-0084.

Aziz, Y. A., & Chok, N. V. (2013). The Role of Halal Awareness, Halal Certification, and Marketing Components in Determining Halal Purchase Intention Among Non-Muslims in Malaysia: A Structural Equation Modeling Approach. *Journal of International Food and Agribusiness Marketing*, *25*(1), 1–23. https://doi.org/10.1080/08974438.2013.723997.

Bang, H. K., Ellinger, A. E., Hadjimarcou, J., & Traichal, P. A. (2000). Consumer Concern, Knowledge, Belief, and Attitude toward Renewable Energy: An Application of the Reasoned Action Theory. *Psychology and Marketing*, *17*(6), 449–468.

Benyahia, A. (2018). Factors Affecting the Purchase Intention towards Halal Cosmetics. *(Unpublished Thesis)*. School of Management, University of Vaasa.

Bian, X., & Moutinho, L. (2011). The Role of Brand Image, Product Involvement, and Knowledge in Explaining Consumer Purchase Behaviour of Counterfeits: Direct and Indirect Effects. *European Journal of Marketing, 45*(1/2), 191-216. https://doi.org/10.1108/03090561111095658.

Biscaia, R., Correia, A., Rosado, A. F., Ross, S. D., & Maroco, J. (2013). Sport Sponsorship: The Relationship Between Team Loyalty, Sponsorship Awareness, Attitude Toward the Sponsor, and Purchase Intentions. *Journal of Sport Management*, *27*(4), 288–302. https://doi.org/10.1123/jsm.27.4.288.

Blackwell, R. D., Paul, W. M., & James, F. E. (2006). *Attributes of Attitudes: Consumer Behavior*. Thompson Press: New York.

Briliana, V., & Mursito, N. (2017). Exploring Antecedents and Consequences of Indonesian Muslim Youths' Attitude Towards Halal Cosmetic Products: A Case Study in Jakarta. *Asia Pacific Management Review*, *22*(4), 176–184. https://doi.org/10.1016/j.apmrv.2017.07.012.

Cheung, G. W., & Lau, R. S. (2008). Testing Mediation and Suppression Effects of Latent Variables: Bootstrapping with Structural Equation Models. *Organizational Research Methods*, *11*(2), 296–325. https://doi.org/10.1177/1094428107300343.

El-Bassiouny, N. (2014). The One-Billion-Plus Marginalization: Toward a Scholarly Understanding of Islamic Consumers. *Journal of Business Research*, *67*(2), 42–49.

Enders, C. K. (2005). An SAS Macro for Implementing the Modified Bollen-stine Bootstrap for Missing Data: Implementing the Bootstrap using Existing Structural Equation Modeling Software. *Structural Equation Modeling*, *12*(4), 620–641. https://doi.org/10.1207/s15328007sem1204_6

Garg, P., & Joshi, R. (2018). Purchase Intention of "Halal" Brands in India: the Mediating Effect of Attitude. *Journal of Islamic Marketing*, *9*(3), 683–694. https://doi.org/10.1108/JIMA-11-2017-0125.

Ghazali, E., Soon, P. C., Mutum, D. S., & Nguyen, B. (2017). Health and Cosmetics: Investigating Consumers' Values for Buying Organic Personal Care Products. *Journal of Retailing and Consumer Services*, *39*, 154–163. https://doi.org/10.1016/j.jretconser.2017.08.002.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis.* Prentice Hall. Inc. Upper Saddle River, New Jersey

Hajipour, B., Gharache, M., Hamidizadeh, M. R., & Mohammadian, F. (2015). Raising Halal Cosmetic Awareness Among the Respective Consumers. *International Journal of Academic Research in Business and Social Sciences*, *5*(7), 338–349.

Haque, A., Anwar, N., Tarofder, A. K., Ahmad, N. S., & Sharif, S. R. (2018). Muslim Consumers' Purchase Behavior Towards Halal Cosmetic Products in Malaysia. *Management Science Letters*, *8*(12), 1305–1318. https://doi.org/10.5267/j.msl.2018.9. 009.

Haro, A. (2018). Determinants of Halal Cosmet-ics Purchase Intention on Indonesian Female Muslim Customer. *Journal of Entrepreneurship, Business and Economics*, *6*(1), 78–91.

Iranmanesh, M., Mirzaei, M., Parvin Hosseini, S. M., & Zailani, S. (2019). Muslims' Willingness to Pay for Certified Halal Food: an Extension of the Theory of Planned Behaviour. *Journal of Islamic Marketing*, *11*(1), 14–30. https://doi.org/10.1108/JIMA-03-2018-0049.

Ireland, J., & Rajabzadeh, S. A. (2011). UAE Consumer Concerns About Halal Products. *Journal of Islamic Marketing, 2*(3), 274-283. https://doi.org/10.1108/ 17590831111164796.

Ishak, S., Che Omar, A. R., Khalid, K., Intan, I. S., & Hussain, M. Y. (2019). Cosmetics Purchase Behavior of Educated Millennial Muslim Females. *Journal of Islamic Marketing*, *11*(5), 1055–1071. https://doi.org/10.1108/JIMA-01-2019-0014.

Khan, A., Arafat, M. Y., & Azam, M. K. (2022). Role of Halal Literacy and Religiosity in Buying Intention of Halal Branded Food Products in India. *Journal of Islamic Marketing, 13*(2), 287-308. https://doi.org/10.1108/JIMA-08-2019-0175

Klerck, D., & Sweeney, J. C. (2007). The Effect of Knowledge Types on Consumer-Perceived Risk and Adoption of Genetically Modified Foods. *Psychology & Marketing*, *24*(2), 171–193.

Kumar, S. (2005). Exploratory Analysis of Global Cosmetic Industry: Major Players, Technology and Market Trends. *Technovation*, *25*(11), 1263–1272.

Lada, S., Harvey Tanakinjal, G., & Amin, H. (2009). Predicting Intention to Choose Halal Products using Theory of Reasoned Action. *International Journal of Islamic and Middle Eastern Finance and Management*, *2*(1), 66–76. https://doi.org/10.1108/17538390910946276

Lee, N. R., & Kotler, P. (2016). *Social Marketing: Changing Behaviors for Good*. Sage Publication. London.

Lin, L. Y., & Chen, C. S. (2006). The Influence of the Country-of-Origin Image, Product Knowledge and Product Involvement on Consumer Purchase Decisions: An Empirical Study of Insurance and Catering Services in Taiwan. *Journal of Consumer Marketing*, *23*(5), 248–265. https://doi.org/10.1108/07363760610681655.

Mohd Suki, N., & Mohd Suki, N. (2018). Halal Cosmetic Products: Do Knowledge and Religiosity Affect Consumers' Attitude and Intention to Use? *International Journal of Engineering & Technology*, *7*(4.38), 764-767. https://doi.org/10.14419/ijet.v7i4.38.27540.

Moschis, G. P., & Ong, F. S. (2011). Religiosity and Consumer Behavior of Older Adults: A Study of Subcultural Influences in Malaysia. *Journal of Consumer Behaviour*, *10*(1), 8–17. https://doi.org/10.1002/cb.342.

Mukhtar, A., & Butt, M. (2012). Intention to Choose Halal Products: The Role of Religiosity. *Journal of Islamic Marketing, 3*(2), 108–120.

Nitisusastro, M. (2012). *Perilaku Konsumen dalam Perspektif Kewirausahaan.* Alfabeta. Bandung.

Permana, D. (2019). Recognizing the Islamic Banking Consumer Behaviour from the Perspective of Product Knowledge, Brand Awareness and Attitude. *Journal of Marketing and Consumer Research*, *61*, 16–22. https://doi.org/10.7176/jmcr/61-03.

Putri, I. S., Daryanti, S., & Ningtias, A. R. (2019). The Influence of Knowledge and Religiosity with Mediation of Attitude Toward the Intention of Repurchasing Halal Cosmetics. *Proceedings of the 12th International Conference on Busienss and Management Research (ICBMR 2018).*

Said, M., Hassan, F., Musa, R., & Rahman, N. A. (2014). Assessing Consumers' Perception, Knowledge and Religiosity on Malaysia's Halal Food Products. *Procedia - Social and Behavioral Sciences*, *130*, 120–128. https://doi.org/10.1016/j.sbspro.2014.04.015.

Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill Building Approach*. John Wiley & Sons. New Jersey.

Shah Alam, S., & Mohamed Sayuti, N. (2011). Applying the Theory of Planned Behavior (TPB) in Halal Food Purchasing. *International Journal of Commerce and Management*, *21*(1), 8–20. https://doi.org/10.1108/10569211111111676.

Smith, K. T. (2011). Digital Marketing Strategies that Millennials Find Appealing, Motivating, or Just Annoying. *Journal of Strategic Marketing*, *19*(6), 489–499. https://doi.org/10.1080/0965254X.2011.581383.

Srivastava, M., & Rai, A. K. (2018). Mechanics of Engendering Customer Loyalty: A Conceptual Framework. *IIMB Management Review*, *30*(3), 207–218. https://doi.org/https://doi.org/10.1016/j.iimb.2018.05.002.

Tajeddini, K., & Nikdavoodi, J. N. (2014). Cosmetic Buying Behavior: Examining the Effective Factors. *Journal of Global Scholars of Marketing Science*, *24*(4), 395–410. https://doi.org/10.1080/21639159.2014.949034.

Teng, P. K., Jamaliah, W., & Jusoh, W. (2018). A Study of Factors Affecting Consumer

Purchase Intention Towards Halal Labelled Cosmetics and Personal Care Products in Malaysia. *E-Proceeding of The 1st International Conference on Halal Global (ICOHG 2018)*, 26–27.

Waluyo, M. (2011). *Panduan dan Aplikasi Structural Equation Modelling.* Indeks. Jakarta

Weaver, G. R., & Agle, B. R. (2002). Religiosity and Ethical Behavior in Organizations: A Symbolic Interactionist Perspective. *Academy of Management Review*, *27*(1), 77–97.

Widarjono, A. (2010). *Analisis Statistika Multivariat Terapan*. Yogyakarta: UPP STIM YKPN.

Widyanto, H. A., & Sitohang, I. A. T. (2022). Muslim Millennial's Purchase Intention of Halal-Certified Cosmetics and Pharmaceutical Products: the Mediating Effect of Attitude. *Journal of Islamic Marketing, 13*(6), 1373-1394. https://doi.org/10.1108/JIMA-04-2020-0117.

Wijaya, T. (2009). *Analisis Structural Equation Modelling Untuk Penelitian Menggunakan AMOS*. Universitas Atmajaya Press. Yogyakarta.

Wijaya, T., & Mahardika, T. P. (2019). The Effects of Consumer Knowledge and Religiosity on Halal Cosmetics Buying Intention with Consumer's Attitude as the Mediation Variable. *Sumerianz Journal of Business Management and Marketing*, *2*(11), 130–135.

Williams, K. C., & Page, R. A. (2011). Marketing to the Generations. *Journal of Behavioral Studies in Business*, *3*(1), 37–53.

Wilson, J. A. J. (2014). The Halal Phenomenon: an Extension or a New Paradigm? *Social Business*, *4*(3), 255–271.

Zakaria, Z., Abdul Majid, M. D., Ahmad, Z., Jusoh, Z., & Zakaria, N. Z. (2018). Influence of Halal Certification on Customers' Purchase Intention. *Journal of Fundamental and Applied Sciences*, *9*(5S), 772-787. https://doi.org/10.4314/jfas.v9i5s.55.

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Do Fraud Hexagon Components Promote Fraud in Indonesia?

Dio Alfarago*[1], Azas Mabrur[2]

[1]Directorate General of Taxes, Indonesia
[2]STAN Polytechnic of State Finance, Indonesia
E-mail: [1]dio.alfarago@gmail.com, [2]azas.mabrur@pknstan.ac.id

*)Corresponding Author

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Abstract

This study provides information about the likelihood of the nature of fraud companies so that investors and stakeholders can make better decisions. The Beneish model and the fraud theory are two well-developed ideas for understanding fraud motivations and detecting earnings manipulation in a corporation. Unlike previous studies using the fraud triangle, this study uses the latest theory (the fraud hexagon) perspective to detect fraud actions. Thus, this study aims to examine the applicability of the fraud hexagon components in combination with the M-score from the Beneish model. Seventy-six manufacturing firms listed on Indonesia Stock Exchange from 2015 to 2019 were chosen as samples. The findings confirmed that enterprises with fraud tend to: be more financially stable, be more leveraged, have higher profitability, have cooperation projects with the government, have more related-party transactions, have more auditor changes, be less liquid, less changing directors, be less supervised, and less display CEO.'s picture.

Keywords:
beneish m-score, financial statement fraud, fraud detection, fraud hexagon.

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INTRODUCTION

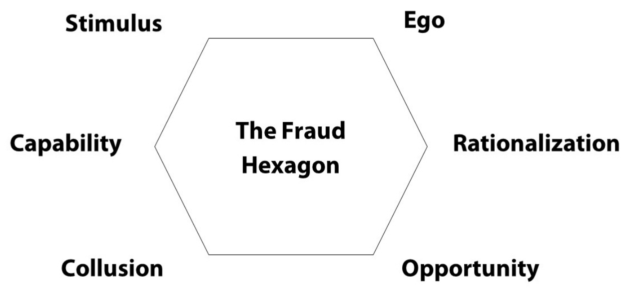
Fraud is a worldwide phenomenon (Xin et al., 2018). The image and value of the company are damaged whenever fraud is revealed. Among all types of crimes, fraud is the most dangerous to society and has the most significant economic impact (Free, 2015). According to ACFE (2020), financial fraud has minor cases but comes with the most significant losses for companies. These losses will significantly impact the capital market, resulting in a loss of shareholder value, a drop in the value of shares, bankruptcy or liquidation, and delisting from the national stock exchange (Beasley et al., 1999). For this reason, financial statement fraud has become enemies of investors and other stakeholders due to its notorious effect.

Business ethics is vital to the existence of companies in many countries and regions (Sroka & Lőrinczy, 2015). Strict ethical business practice is needed when the public is at war with fraud. Ethics should be a foundation for doing business to avoid unintended consequences and unethical behavior (Fitri et al., 2019). According to Adhariani & Siregar (2018), a lack of ethics in the organization can promote fraud. Therefore, companies should follow and obey the ethics set because it can prevent any kind of fraud from occurring.

Financial Statement Fraud (FSF) is the misstatement or elimination of the amount of disclosure deliberately made to deceive its users (Fitri et al., 2019). Due to its disproportionate impact on if it exists in a business, fraud detection has become a concern for researchers and academics to study (Suyanto, 2009). ACFE classifies fraud schemes into three main categories, known as the fraud tree, namely financial statement fraud, corruption, and asset misappropriation.

A theory that can explain fraud is the fraud hexagon theory proposed by Vousinas (2019). This theory can explain the factors that cause fraud by its components: Stimulus, Capability, Collusion, Opportunity, Rationalization, and Ego (S.C.C.O.R.E.). These components are shown in Figure 1.

Figure 1. Fraud Hexagon Model



Stimulus is pressure for someone to commit fraud, either financial or non-financial motive (Abdullahi & Mansor, 2017; Vousinas, 2019)this paper takes an in-depth look at the convergent and divergent of two classical fraud theories which are: (i. Capability refers to someone's ability to infiltrate the company's internal control, formulate complex fraud strategies, and control a social environment that can benefit him (Antawirya et al., 2019; Bire et al., 2019; Marks, 2012; Nuryani et al., 2018)social capital, and economic capital

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on LPD financial performance in Buleleng regency as well as their influence of financial performance on corporate social. The sampling technique was used purposive sampling, primary data collection (questionnaire. Collusion refers to a fraudulent agreement or agreement between two or more people against another party for malicious purposes (Vousinas, 2019). Opportunities can occur because of ineffective controls or governance systems that allow individuals to commit fraud in the organization (Omukaga, 2021). Rationalization is the perpetrator's tendency to seek justification for his fraudulent acts. Ego, called arrogance in other models, is a behavior of superiority or greed of someone who thinks that internal control does not apply to him (Marks, 2012).

Combined with the fraud hexagon theory, fraud can be detected through a model called Beneish M-Score, introduced by Messod D. Beneish in 1999. This model can identify companies that tend to deceive their financial statements by using several measurements (Beneish, 1999). Many studies linked the Beneish model with the fraud theory, focusing on examining the influence of fraud components in detecting fraud occurrence resulted in which fraud components contribute to the likelihood of fraud. Unlike previous research, this study offers the applicability of the fraud hexagon components with Beneish M-Score results using the mean value of statistics descriptive data to find out the companies' tendency to conduct fraud. Therefore, this study aims to examine the applicability of the fraud hexagon components in combination with the M-score from the Beneish model to detect the occurrence of fraud in companies. This kind of study had been conducted by Fitri et al. (2019) using the fraud pioneer theory called the fraud triangle, which explains three leading causes of fraud, namely pressure, opportunity, and rationalization.

This study revealed that firms found to be fraudulent: (1) have more pressure on financial stability, leverage, and financial targets, (2) fewer independent commissioners and more receivables from related parties, and (3) more frequent auditor changes. Then, to find out the latest condition, this present study will fill the gap in existing research by updating the factors influencing fraud using the fraud hexagon model. This study's results are expected to offer some fruitful information for investors so as not to get trapped in the company's intentional misrepresentation before making investment decisions on particular firms. Besides, this study can be used as additional references for the Ministry of Finance of Indonesia (especially the Directorate General of Taxes) to design a suitable technique/policy related to financial and tax audits used by tax auditors who examine companies' financial statements.

METHODS

This study takes the population from all manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2015-2019, consisting of three sectors, namely the consumer goods industry, basic and chemical industrial sectors, and various industrial sectors. Based on the data obtained during the 2015-2019 period, the total research population is 193 companies. Using the purposive sampling method, authors set specific criteria to get a set of samples (see Table 1). According to the selected results, 76 eligible companies as the research samples. Therefore, the total number of observations for five years in this study is 380.

This study used the secondary data collected from the annual report from 2015 to 2019. The data is obtained through the official website of the Indonesia Stock Exchange (www.idx.co.id). Both financial and non-financial data are needed in this study. The documentation approach is used to collect the data by examining, researching, and analyzing the company's financial accounts.

Table 1. Sampling Criteria

No	Criteria	Number of Companies
1	Manufacturing companies listed on IDX from 2015-to 2019	193
2	Companies that do not publish annual reports for the period	(60)
3	Companies that do not use IDR as the reporting currency during the period	(28)
4	Missing data	(29)
Number of samples per year		**76**
Number of observations (76 x 5 years)		**380**

Beneish Model can separate companies that (likely) commit fraud and do not commit fraud by detecting earning manipulation conducted by companies through its M-Score (Beneish, 1999). M-Score of greater than -2.22 means that the company (likely) manipulates its financial statements. Conversely, an M-Score less than -2.22 indicates that the company does not conduct manipulation. By employing this, a score of "1" will be given for suspected fraud companies, while a score of "0" will be given for those not. The Beneish M-Score calculation formula is as follows:

$$\text{M-Score} = -4.84 + 0.92*DSRI + 0.528*GMI + 0.404*AQI + 0.892*SGI + 0.115*DEPI - 0.172*SGAI + 4{,}679*TATA - 0.327*LVGI.$$

Where:

DSRI = Days' Sales in Receivable Index = $(Receivable_t/Sales_t)$ / $(Receivable_{t-1}/Sales_{t-1})$; **GMI** = Gross Margin Index = $[(Sales_{t-1} - COGS_{t-1}) / Sales_{t-1}] / [(Sales_t - COGS_t) / Sales_t]$;

AQI = Asset Quality Index = $[1 - (Current\ Assets_t + PPE_t) / Total\ Assets_t] / [1 - ((Current\ Assets_{t-1} + PPE_{t-1}) / Total\ Assets_{t-1})]$;

SGI = Sales Growth Index = $Sales_t / Sales_{t-1}$;

DEPI = Depreciation Index = $[Depreciation_{t-1} / (PPE_{t-1} + Depreciation_{t-1})] / [Depreciation_t / (PPE_t + Depreciation_t)]$;

SGAI = Sales, General and Administrative Expenses Index = $(SGA\ Expense_t / Sales_t) / (SGA\ Expense_{t-1} / Sales_{t-1})$;

TATA = Total Accruals to Total Assets = Income from $Operating_t$ – Cash Flow from $Operating_t$ / Total $Assets_t$;

LVGI = Leverage Index = $[(Current\ Liabilities_t + Long\ Term\ Debt_t) / Total\ Assets_t] / [(Current\ Liabilities_{t-1} + Long\ Term\ Debt_{t-1}) / Total\ Assets_{t-1}]$.

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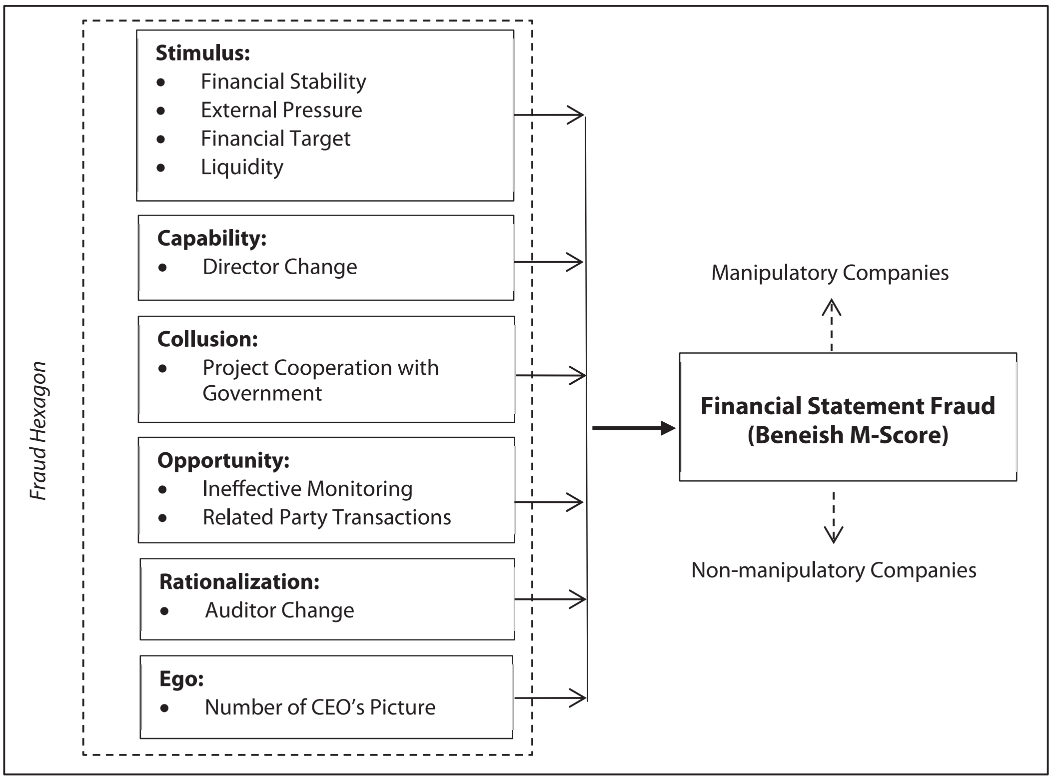
Since its inception in 1999, the Beneish model has been widely adopted by academics and business people and is the most comprehensive way to detect manipulation in firms (Fitri et al., 2019)cases of frauds are rarely covered by the media. Even though some fraud might not be material enough to be detected, the motivation for conducting fraud exist, especially when the internal systems have some leakage. The fraud triangle and the Beneish model are two well-developed theories to understand the motivations for fraud and to detect earnings manipulation in a business. Therefore, this empirical research aims to examine the applicability of the fraud triangle components combined with the M-score from Beneish model. The investigation involves panel data from 270 non-financial companies listed on IDX (Indonesia Stock Exchange. This model is suitable to be used in developing countries, such as Bangladesh, Bosnia and Herzegovina, Malaysia, and Indonesia, as proven by Ahmed & Naima (2016), Aris et al. (2015), Halilbegovic et al. (2020), Kamal et al. (2016), and Suyanto (2009).

After separating detected and non-detected fraud companies, the fraud hexagon components need proxies to be measured. In this study, stimulus (pressure) is proxied by financial stability, external pressure, profitability, and liquidity. Capability is proxied by a director change, collusion by project cooperation with the government, opportunity by ineffective monitoring and related party transactions, rationalization by auditor change, and ego by the number of CEO's picture.

Figure 2 shows the theoretical framework that indicates the effect of the fraud hexagon model on Financial Statement Fraud measured by Beneish M-Score.

Figure 2. Theoretical Framework



RESULT AND DISCUSSIONS

By employing the Beneish M-Score model, the companies can be categorized as manipulatory and non-manipulatory. An M-Score of less than -2.22 suggests that the company is not a manipulator. In contrast, an M-Score of greater than -2.22 indicates that it is likely a manipulator. Table 2 shows the calculation of Beneish's M-score with its eight variables based on financial data from 2013 to 2015.

Table 2. Beneish's M-Score

DSRI	GMI	AQI	SGI	DEPI	SGAI	TATA	LEVI	M-Score	Conclusion	Total
0.991	0.851	1.193	1.049	1.042	0.656	-0.042	1.023	-3.018	Non-fraud	64 Companies
4.358	6.713	3.121	1.113	1.394	1.312	0.082	1.060	3.809	Fraud	12 Companies

The Beneish M-Score separates the samples so that non-suspected and suspected fraud firms can be found. Then, to connect the result between the Beneish Model and the tendency of fraud, this study uses two categories of companies: with fraud and without fraud, as shown in Table 3.

Table 3. Average Value of Fraud Hexagon Components

Variables			Non-fraud Indication N = 326	Fraud Indication N= 54
Stimulus	Financial Stability	ACHANGE	0.071	0.201
	Leverage	DR	0.518	0.549
	Financial Target	ROA	0.051	0.082
	Liquidity	WCTA	0.188	0.187
Capability	Director Change	DIRCHANGE	0.460	0.370
Collusion	Project cooperation with government	GOVTPROJECT	0.181	0.185
Opportunity	Ineffective Monitoring	INDBOARD	0.391	0.389
	Related Party Transaction	RPT	0.269	0.336
Rationalization	Auditor Change	AUDCHANGE	0.160	0.220
Ego	Number of CEO's Picture	CEOPIC	2.970	2.570

Table 3 displays the average value of stimulus, capability, collusion, opportunity, rationalization, and ego indicators for fraud and non-fraud companies. By applying this technique, the tendency of companies to commit fraud will be obtained. First, for stimulus (pressure), firms detected with fraud are financially more stable (ACHANGE = 0.201), more leveraged (DR = 0.549), higher profitability (ROA = 0.082), but less liquid (WCTA = 0.187) compared to non-detected fraud firms which receive less pressure (ACHANGE = 0.071), less level of debt (DR = 0.518), less financial target (ROA = 0.051), and higher liquidity level (WCTA = 0.188). These results are in line with the

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study conducted by Fitri et al. (2019), which stated all detected fraud companies have a higher ratio on pressure component, except for liquidity. Achmad et al. (2022) stated that if a company's asset growth fluctuates in value, management will be under pressure to change the financial statements to make the asset growth appear steady. Users of financial statements may have greater confidence in companies with solid financial charts (Achmad et al., 2022). Consequently, companies have to solve this issue to gain investors' trust and do whatever it takes to get their financial performance look healthy. Financial distress may motivate management to commit unethical behavior (Stice, 1991; Suyanto, 2009).

Then, regarding the company's leverage ratio, the higher the company's leverage, the higher the potential for violations and the likelihood of fraud. Higher leverage is typically associated with a better capability for violations of mortgage agreements and a reduced ability to obtain additional capital through borrowing (Dalnial et al., 2014). Christie (1990), leverage is potentially correlated with earnings improving accounting policies. If these policies are not enough to keep away from violations of debt covenants, managers can be inspired to understate liabilities or assets. After that, in terms of profitability, a high ROA ratio indicates that companies have a good performance, increasing the company's stocks prices in the market, which is attractive for investors (Husna & Satria, 2019). According to Sawangarreerak & Thanathamathee (2021), from an organizational management perspective, there could be a need for profits due to incentives/pressures for executives who want to provide income of their financial statements, as favored. This can lead to creative accounting, consisting of inflated profits or underestimated costs, making the income within the financial statements look better. This can be considered as a signal of a fraudulent financial statement. However, for the last stimulus factor, liquidity, it is found that less liquid companies tend to commit financial fraud. Managers will engage in a range of activities when the firm is not functioning well (low liquidity level) to demonstrate to the shareholders that the company is in a healthy and prosperous state, including financial reporting fraud (Indarto & Ghozali, 2016). Firms with liquidity issues have notably more errors of their financial statement than other companies (Dalnial et al., 2014).

Second, for capability, firms with fraud tend to maintain their director for a longer period (DIRCHANGE = 0.370) than non-fraud companies, which conduct director switches more frequently (DIRCHANGE = 0.460). The result does not prove that manipulatory companies tend to conduct changing of directors. Change of directors is not an act executed by management because of the desire of hiding the company's fraudulent act. The changing director is a normal phenomenon to appoint new directors because of their role in the board of directors' structure. The board of directors' replacement or dismissal is regulated in Indonesian Law No. 40 of 2007 concerning Limited Liability Companies (UUPT). Article 105 paragraph (1) states that the Board of Directors and the Board of Commissioners can be dismissed based on the General Meeting of Shareholders' decision (by stating the reasons). The result of this study is contrary to the results of studies carried out by Agrawal et al. (1999), and Ariyanto et al. (2021) stated that detected companies suspected of fraud have a high turnover among directors. Third, for collusion, companies that have a project cooperation with the government were likely to commit an illegal act (GOVTPROJECT = 0.185) compared to those that do not (GOVTPROJECT = 0.181). The result confirms that project cooperation between companies and the government might lead to an illegal act. According to Locatelli et al. (2017), fraud is particularly relevant in large and unusual projects when the government serves as client/owner or perhaps the primary contractor. Especially in megaprojects, in which public actors have a significant role, fraud is very likely to happen in corruption. Fraudulent companies can make a deceitful deal in many projects with governments. Consequently, corruption worsens both cost and time performance and the benefits introduced.

Fourth, for the opportunity, firms with detected fraud have less independent commissioner supervision (INDBOARD = 0.389) and more transactions with related parties (RPT = 0.336) than companies without fraud, which have more independent commissioner supervision (INDBOARD = 0.391) and less special transactions (RPT = 0.269). Fitri et al. (2019) stated that management from firms that had detected fraud attempted to limit the number of independent commissioners to prevent fraud detection. The existence of independent commissioners is believed to provide more objective oversight in a company, thus making it difficult for management to negotiate deceitful deals. Then, in regards to related party transactions, manipulatory companies conducted more transactions with organizations with which they have a special relationship because, with these special organizations, it is easier to plan a crime (Fitri et al., 2019). Related-party transactions might create the potential for a conflict of interest or lead to other illegal situations. Fifth, for rationalization, fraudulent corporations change external auditors more frequently (AC = 0.220) than non-fraudulent companies (AC = 0.160). According to Lou & Wang (2009), change in auditors reduces the possibility of auditors detecting fraud. The older auditor may be better able to detect any potential fraud committed by management, whether directly or indirectly (Umar et al., 2020). Fitri et al. (2019) stated that because external auditors have no relationship with or interest in a company, their professional judgment (audit opinion) is based solely on the facts discovered during the audit process. Hence, different auditors' audits each year allow management to conceal proofs. Sixth, forego, firms with fraud indication tend to display their CEO picture less (CEOPIC = 2.570) than non-fraud indication firms (CEOPIC = 2.970). Based on the data, it is found that the more CEO a company has, the more CEO picture will have appeared in the annual report. The images attached are served to inform as well as introduce to the public, particularly stakeholders, who the company's CEO(s) is (are) (Fathmaningrum & Anggarani, 2021).

Furthermore, the images demonstrate how much responsibility the CEO has in each series of activities and in directing the organization. Another study on CEO narcissism found that the number of CEO photos in the annual report does not always aim to manipulate earnings because narcissistic CEOs can receive higher compensation than less narcissistic CEOs even if the company performs worse (Ham et al., 2018). The results in this study do not support the study conducted by Marks (2012) which stated that according to the findings of the Committee of Sponsoring Organizations of the Treadway

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Commission (COSO) study, 70% of fraud perpetrators have a personality that combines pressure with arrogance or greed.

CONCLUSION

This empirical study aims to compare the fraud hexagon model to the Beneish model to examine its applicability in detecting the likelihood of fraud. The results reveal that the manipulatory companies tend to be more stable, more leveraged, have higher profitability, cooperate with the government's project, have more related-party transactions, and conduct more auditor changes. Also, manipulatory companies are less liquid, less changing their director, less supervised, and less displayed C.E.O.'s picture compared to companies that are not likely to commit fraud.

This study has implications for prospective investors and stakeholders to analyze the company's financial statement so as not to get trapped in its unethical behavior, which can help them make better financial decisions than before. As for the Indonesian government, this study can be used as a reference for the Directorate General of Taxes in making a guideline related to tax audits so that tax auditors will not be able to be deceived by good financial reports. Despite being the first study to examine the applicability of the fraud hexagon components in combination with Beneish's model, this study is not without its limitations. First, it only applies some proxies of fraud components. The subsequent researchers are expected to use other proxies such as the personal financial need for pressure, nature of the industry for the opportunity, size of the audit committee for rationalization, Corporate Governance Index (CGI) for capability, and other possible proxies for arrogance and collusion. Second, this study chose only manufacturing companies in Indonesia as the samples. Future researchers should expand it to all non-financial companies to give the more actual condition in Indonesia. Moreover, researchers can use another model to detect fraud, such as the Dechow F-Score Model, to see the likelihood of fraud in Indonesia based on a different theory.

REFERENCES

Abdullahi, R., & Mansor, N. (2017). Fraud Triangle Theory and Fraud Diamond Theory. Understanding the Fraud Triangle Theory and Fraud Diamond Theory. Understanding the Convergent and Divergent For Future Research. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *5*(4), 38–45. https://doi.org/10.6007/IJARAFMS/v5-3/1823.

ACFE. (2020). Report To the Nations: 2020 Global Study on Occupational Fraud and Abuse. *ACFE Report*, 1–88. Retrieved from: https://www.acfe.com/report-to-the-nations/2020.

Achmad, T., Ghozali, I., & Pamungkas, I. D. (2022). Hexagon Fraud: Detection of Fraudulent Financial Reporting in State-Owned Enterprises Indonesia. *Economies*, *10*(1), 13. https://doi.org/10.3390/economies10010013.

Adhariani, D., & Siregar, S. V. (2018). How Deep is Your Care? Analysis of Corporations' "Caring Level" and Impact on Earnings Volatility from the Ethics of Care

Perspective. *Australasian Accounting, Business and Finance Journal*, *12*(4), 43–59. https://doi.org/10.14453/AABFJ.V12I4.4.

Agrawal, A., Jaffe, J. F., & Karpoff, J. M. (1999). Management Turnover and Governance Changes Following the Revelation of Fraud. *The Journal of Law and Economics*, *42*(S1), 309–342. https://doi.org/10.1086/467427.

Ahmed, T., & Naima, J. (2016). Detection and Analysis of Probable Earnings Manipulation by Firms in a Developing Country. *Asian Journal of Business and Accounting*, *9*(1), 59–81.

Antawirya, R. D. E. P., Putri, I. G. A. M. D., Wirajaya, I. G. A., Suaryana, I. G. N. A., & Suprasto, H. B. (2019). Application of Fraud Pentagon in Detecting Financial Statement Fraud. *International Research Journal of Management, IT and Social Sciences*, *6*(5), 73–80. https://doi.org/10.21744/irjmis.v6n5.706.

Aris, N. A., Mohd Arif, S. M., Othman, R., & Zain, M. M. (2015). Fraudulent Financial Statement Detection Using Statistical Techniques: The Case of Small Medium Automotive Enterprise. *Journal of Applied Business Research (JABR)*, *31*(4), 1469-1478. https://doi.org/10.19030/jabr.v31i4.9330.

Ariyanto, D., Jhuniantara, I. M. G., Ratnadi, N. M. D., Putri, I. G. A. M. A. D., & Dewi, A. A. (2021). Detecting Fraudulent Financial Statements in Pharmaceutical Companies: Fraud Pentagon Theory Perspective. *Accounting*, *7*(7), 1611–1620. https://doi.org/10.5267/j.ac.2021.5.009.

Beasley, M. S., Carcello, J. V, & Hermanson, D. R. (1999). Fraudulent Financial Reporting: 1987-1997: An Analysis of U.S. Public Companies Research. *Research Report American Institute of Certified Public Accountant (AICPA) Historial Collection*.

Beneish, M. D. (1999). The Detection of Earnings Manipulation. *Financial Analysts Journal*, *55*(5), 24–36. https://doi.org/10.2469/faj.v55.n5.2296.

Bire, A. R., Sauw, H. M., & Maria. (2019). The Effect of Financial Literacy Towards Financial Inclusion Through Financial Training. *International Journal of Social Sciences and Humanities*, *3*(1), 186–192. https://doi.org/10.29332/ijssh.v3n1.280.

Christie, A. A. (1990). Aggregation of Test Statistics. An Evaluation of the Evidence on Contracting and Size Hypotheses. *Journal of Accounting and Economics*, *12*(1–3), 15–36. https://doi.org/10.1016/0165-4101(90)90039-7.

Dalnial, H., Kamaluddin, A., Sanusi, Z. M., & Khairuddin, K. S. (2014). Accountability in Financial Reporting: Detecting Fraudulent Firms. *Procedia - Social and Behavioral Sciences*, *145*, 61–69. https://doi.org/10.1016/j.sbspro.2014.06.011.

Fathmaningrum, E. S., & Anggarani, G. (2021). Fraud Pentagon and Fraudulent Financial Reporting: Evidence from Manufacturing Companies in Indonesia and Malaysia. *Journal of Accounting and Investment*, *22*(3), 625–646. https://doi.org/10.18196/jai.v22i3.12538.

Fitri, F. A., Syukur, M., & Justisa, G. (2019). Do the Fraud Triangle Components Motivate Fraud in Indonesia? *Australasian Accounting, Business and Finance Journal*, *13*(4), 63–72. https://doi.org/10.14453/aabfj.v13i4.5.

Free, C. (2015). Looking through the Fraud Triangle: A Review and Call for New Directions. *Meditari Accountancy Research*, *23*(2), 175–196. https://doi.org/10.1108/MEDAR-02-2015-0009.

Halilbegovic, S., Celebic, N., Cero, E., Buljubasic, E., & Mekic, A. (2020). Application of Beneish M-score model on Small and Medium Enterprises in Federation of Bosnia and Herzegovina. *Eastern Journal of European Studies*, *11*(1), 146–163.

Ham, C., Seybert, N., & Wang, S. (2018). Narcissism is a Bad Sign: CEO Signature Size, Investment, and Performance. *Review of Accounting Studies*, *23*(1), 234–264. https://doi.org/10.1007/s11142-017-9427-x.

Hasnan, S., Rahman, R. A., & Mahenthiran, S. (2013). Management Motive, Weak Governance, Earnings Management, and Fraudulent Financial Reporting: Malaysian Evidence. *Journal of International Accounting Research*, *12*(1), 1–27. https://doi.org/10.2308/jiar-50353.

Husna, A., & Satria, I. (2019). Effects of Return on Asset, Debt to Asset Ratio, Current Ratio, Firm Size, and Dividend Payout Ratio on Firm Value. *International Journal of Economics and Financial Issues*, *9*(5), 50–54. https://doi.org/10.32479/ijefi.8595.

Indarto, S. L., & Ghozali, I. (2016). Fraud Diamond: Detection Analysis on the Fraudulent Financial Reporting. *Risk Governance and Control: Financial Markets and Institutions*, *6*(4), 116–123. https://doi.org/10.22495/rcgv6i4c1art1.

Kamal, M. E. M., Salleh, M. F. M., & Ahmad, A. (2016). Detecting Financial Statement Fraud by Malaysian Public Listed Companies: The Reliability of the Beneish M-Score Model. *Jurnal Pengurusan*, *46,* 23-32. https://doi.org/10.17576/pengurusan-2016-46-03.

Locatelli, G., Mariani, G., Sainati, T., & Greco, M. (2017). Corruption in Public Projects and Megaprojects: There is an Elephant in the Room! *International Journal of Project Management*, *35*(3), 252–268. https://doi.org/10.1016/j.ijproman.2016.09.010.

Lou, Y.-I., & Wang, M.-L. (2009). Fraud Risk Factor of The Fraud Triangle Assessing the Likelihood of Fraudulent Financial Reporting. *Journal of Business & Economics Research (JBER)*, *7*(2), 61–78. https://doi.org/10.19030/jber.v7i2.2262.

Marks, J. T. (2012). The Mind Behind The Fraudsters Crime : Key Behavioral and Environmental Elements. *Crowe Horwath LLP*, 1–62. Retrieved from: www.crowe.com.

Nuryani, N. N. J., Satrawan, D. P. R., Gorda, A. A. N. O. S., & Martini, L. K. B. (2018). Influence of Human Capital, Social Capital, Economic Capital towards Financial Performance & Corporate Social Responsibility. *International Journal of Social Sciences and Humanities (IJSSH)*, *2*(2), 65-76. https://doi.org/10.29332/ijssh.v2n2.128.

Omukaga, K. O. (2021). Is the Fraud Diamond Perspective Valid in Kenya? *Journal of Financial Crime, 28*(3), 810-840. https://doi.org/10.1108/JFC-11-2019-0141

Persons, O. S. (1995). Using Financial Statement Data to Identify Factors Associated with Fraudulent Financial Reporting. *Journal of Applied Business Research (JABR)*, *11*(3), 38-46. https://doi.org/10.19030/jabr.v11i3.5858.

Sari, S. P., & Nugroho, N. K. (2020). Financial Statements Fraud dengan Pendekatan Vousinas Fraud Hexagon Model: Tinjauan pada Perusahaan Terbuka di Indonesia. *Procedding of the 1st Annual Conference on Ihtifaz: Islamic Economics, Finance, and Banking (ACI-IJIEFB)*, 409–430.

Sawangarreerak, S., & Thanathamathee, P. (2021). Detecting and Analyzing Fraudulent Patterns of Financial Statement for Open Innovation Using Discretization and Association Rule Mining. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(2), 128. https://doi.org/10.3390/joitmc7020128.

Sihombing, K. S., & Rahardjo, S. N. (2014). Analisis Fraud Diamond dalam Mendeteksi Financial Statement Fraud: Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia (BEI) Tahun 2010-2012. *Diponegoro Journal of Accounting*, *3*(2), 1–12.

Skousen, C. J., Smith, K. R., & Wright, C. J. (2009). Detecting and Predicting Financial Statement Fraud: The Effectiveness of the Fraud Triangle and SAS No. 99. In *Advances in Financial Economics, 13*(99), 53–81. https://doi.org/10.1108/S1569-3732(2009)0000013005.

Sroka, W., & Lrinczy, M. (2015). The Perception of Ethics in Business: Analysis of Research Results. *Procedia Economics and Finance*, *34*(15), 156–163. https://doi.org/10.1016/S2212-5671(15)01614-7.

Stice, J. D. (1991). Using Financial and Market Information to Identify Pre-Engagement Factors Associated with Lawsuits against Auditors. *The Accounting Review*, *66*(3), 516–533.

Suyanto. (2009). Fraudulent Financial statement Evidence from Statement on Auditing Standard No . 99. *Gadjah Mada International Journal of Business*, *11*(1), 117–144. https://doi.org/10.22146/gamaijb.5539.

Umar, H., Partahi, D., & Purba, R. B. (2020). Fraud Diamond Analysis in Detecting Fraudulent Financial Report. *International Journal of Scientific and Technology Research*, *9*(3), 6638–6646.

Vousinas, G. L. (2019). Advancing Theory of Fraud: the S.C.O.R.E. Model. *Journal of Financial Crime*, *26*(1), 372–381. https://doi.org/10.1108/JFC-12-2017-0128.

Xin, Q., Zhou, J., & Hu, F. (2018). The Economic Consequences of Financial Fraud: Evidence from the Product Market in China. *China Journal of Accounting Studies*, *6*(1), 1–23. https://doi.org/10.1080/21697213.2018.1480005.

Yusof, M., Khair, A., & Simon, J. (2015). Fraudulent Financial Reporting: An Application of Fraud Models to Malaysian Public Listed Companies. *The Macrotheme Review: A Multidisciplinary Journal of Global Macro Trends*, *2*(4), 144–160.

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Tax Avoidance Mediated by Constitutional Ownership as Moderating Variables

Feryal Amima Widadi[1*], Bambang Subroto[2], Aulia Fuad Rahman[3]
[1,2,3]Fakultas Ekonomi dan Bisnis, Universitas Brawijaya, Malang, Indonesia
E-mail: [1]amimaferyall@gmail.com, [2]bambang@ub.ac.id, [3]fuad@ub.ac.id
[*)]Corresponding Author

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Abstract
This study analyzes Tax Avoidance Mediated by Institutional Ownership as a Moderating Variable. The analytical method used is Partial Least Square (PLS), with a sample of seventy-seven food and beverage manufacturing companies listed on the IDX for 2014 - 2020. The findings of this study show that thin capitalization, profitability, and return on assets (ROA) on tax avoidance are influenced by institutional ownership. This condition is one of the challenging issues to overcome in terms of tax avoidance for manufacturing companies in the food and beverage sector of the food and beverage sector listed on the Indonesia Stock Exchange. The results of this study can be used as a reference in making decisions for company owners and managers. Before investing their shares, investors will evaluate whether tax avoidance by the company will provide benefits to overcome the tax burden or vice versa.

Keywords:
tax avoidance, profitability, thin capitalization, return on asset (ROA), institutional ownership

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INTRODUCTION

Several factors contribute to the problem of tax avoidance in Indonesia. The tax ratio reflects the government's ability to collect tax revenues or absorb GDP from taxes from the general public—the greater the tax ratio of a country, the better the tax collection performance. In Indonesia, the tax ratio is still meager and cannot be increased by tax collection. The low tax ratio in Indonesia shows that the tax function has not been fully utilized. In 2014, the tax ratio in Indonesia was 11.4%; in 2015, the ratio was 10.7%; in 2016, the ratio was 10.4%; in 2017, the ratio was 10.7%; and in 2018, the ratio was 10.4%. The tax ratio achieved by Indonesia is lower than other ASEAN countries. Only a few ASEAN countries have a tax ratio achievement below Indonesia in 2018, such as Myanmar, because Indonesia's tax ratio achievement is lower when compared to the tax ratio achieved by other ASEAN countries such as Vietnam, Thailand, Singapore, and Malaysia.

Taxation is very important in ensuring the continuity of government administration and state life. The fact shows that although the purpose of tax revenue in Indonesia continues to increase yearly, the proportion of collected tax revenue tends to remain stable. In short, Indonesia's tax ratio in 2015 was 11.6%. The following year, the tax ratio fell to 10.8%. After that, the tax ratio decreased to 10.7%. The tax ratio grew to 11.6% and decreased to 10.69% in 2019. The Directorate General of Taxes (DGT) strives to maximize tax collection through tax intensification and counseling. However, this effort is not without challenges, one of which is tax avoidance. Thin capitalization is one strategy that can be used to avoid paying taxes. Thin capitalization refers to a company relying on debt rather than equity to raise funds (OECD, 2012).

Because interest expense on debt can decrease taxable income, debt can be used to increase the value of an organization. Following the trade-off theory, it is said that one benefit or quality must be sacrificed to increase another part with the advantage and quality of other benefits. Therefore, the corporation, in this case, sacrifices its profits to pay interest. However, the interest on the loan itself can benefit the company; because it meets one of the requirements for a tax deduction from the government and can be used as a loophole for tax avoidance. The larger the thin capitalization, the greater the interest expense that must be paid, which will almost certainly reduce the company's income and the amount of income tax owed.

There is no doubt that Indonesia will conduct further research on applying the law on interest restrictions in the country's tax system. Interest-limitation restrictions are often considered effective in preventing tax avoidance in other countries. However, Syahidah & Rahayu (2018) noted that in Indonesia, the guidelines that were in effect in 2016 should provide concessions for business actors seeking financing. In PMK169, the maximum amount of corporate debt used to compensate for income tax (PPh) is four times the amount of capital owned by a business. Minister of Finance Regulation 169/PMK.10/2015 affects the capital structure of companies in Indonesia. Various study findings show that thin capitalization regulations for companies in OECD countries efficiently reduce tax management through debt obtained through particular relationship loans (Buettner et al., 2012).

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Several studies on thin capitalization have been conducted before. Thin capitalization positively impacts tax avoidance (Taylor & Richardson, 2012; 2013). Evidence of a relationship between the company's profitability and institutional ownership has been discovered (Hamdan & Al-Sartawi, 2013). Investors prefer to invest in companies with low profitability ratios (Barucci & Falini, 2015). Salihu et al. (2015) suggest the possibility of multinational companies exploiting their international scales of operations to avoid taxes.

Institutional ownership is critical in minimizing agency conflicts between shareholders and management (Jensen & Meckling, 1976; Lopes, 2022). Agency theory state that each person is driven entirely by his or her interests, resulting in a conflict of interest between the principal and agent (Panda & Leepsa, 2017). Institutional investors with significant shareholding and voting rights can force management to prioritize the company's success over personal interests. Thus, institutional ownership can potentially erode the practice of thin capitalization and profitability in the face of tax avoidance.

Agency theory assumes that each individual is solely motivated by his or her interests. It will create a conflict of interest between the principal and the agent. Jensen & Meckling (1976) and Lopes (2022) reveal that institutional ownership is vital in minimizing agency conflicts between shareholders and managers. Institutional investors with considerable shareholdings and voting rights can force managers to focus on the company's performance and avoid opportunities to attach importance to their interests. Therefore, institutional ownership can weaken the practice of thin capitalization and profitability against tax avoidance.

The more profit the business makes, the more income taxes it has to pay. According to the agency hypothesis, it will seek to manage its tax burden so that it does not reduce the agency's performance rewards as a consequence of the tax burden eroding the firm's earnings. This condition implies that agents will often engage in tax avoidance operations. A company with significant institutional ownership demonstrates its capacity to oversee management. Institutional ownership, as a component of corporate governance, can deter agents from making aggressive efforts to reduce corporate tax burdens.

Profitability is a factor in determining the tax burden because businesses that earn large profits can pay taxes consistently, while businesses that earn little profits and suffer losses pay minimal taxes (Fernández-Rodríguez & Martínez-Arias, 2012). According to agency theory, the agent will try to manage his tax burden in such a way that it does not reduce the compensation for the agent's performance due to reduced corporate profits due to the tax burden. Thus, agents will use company resources to maximize agent performance compensation, particularly by reducing the tax burden to maximize company profits. As profits grow, the amount of income tax payable increases proportionally. A profitable business may pay a higher tax rate than an unprofitable business. Thus, it can be stated that companies with large profit margins will often do tax avoidance to reduce their tax liability.

Return On Assets (ROA) is another element that impacts tax avoidance. ROA is a metric that measures a company's financial success; the higher the ROA value that can be achieved by a company, the better the company's financial performance. ROA is a measure of business profitability that informs outsiders about the efficacy of business operations. The company's net profit increased in proportion to its profitability. ROA is one of the profitability measures studied in this study because it is associated with net income and income tax levies. The higher the ROA number or value, the more effectively the business uses its assets to create enormous profits. An increase in profit results in an increase in ROA. Profit growth contributes to the accumulation of tax debt. The company will make every effort to pay as little tax as possible. As a result, tax avoidance is a possibility in this business. Profitability seems to positively influence avoidance (Darsani & Sukartha, 2021; Sonia & Suparmun, 2019). However, even so, profitability negatively influences tax avoidance (Iwanty & Surjandari, 2022). However, the evidence of a significant influence of Return on Assets on tax avoidance was also discovered (Andika et al., 2021; Harahap, 2021).

Based on the current phenomenon and the differences in the findings of previous studies, the authors are encouraged to conduct research with the addition of a moderating variable, namely institutional ownership. Institutional ownership as a watchdog over the choices of company executives. Institutional ownership, as a component of sound corporate governance, may deter management from aggressively reducing corporate tax liability. This condition shows that the more effective corporate governance is implemented, the less corporate tax avoidance actions will occur by management.

This research relates to Taylor & Richardson (2013), which looked at thin capitalization practices of Australian registered companies using the Income Tax Assessment Act 97 (ITAA 97), which regulates thin capitalization, and discovered that thin capitalization had an impact on tax avoidance. This study differs from earlier studies in that it includes profitability as a dependent variable and institutional ownership as a moderating variable.

A significant negative correlation was found between the average number of shares held by institutional investors and the average number of individual shares (Tong & Ning, 2014). Furthermore, the positive and significant impact of institutional ownership, hence high institutional ownership, reduces the probability of tax avoidance in the business (Gugong et al., 2014; Eskandar & Ebrahimi, 2020; Hasan et al., 2017; Jiang et al., 2021; Kholbadalov, 2012; Khurana & Moser, 2013; Oktaviyani & Munandar, 2017). Meanwhile, no influence of institutional ownership on tax avoidance was also discovered (Khani et al., 2013; Mehrani & Seyedi, 2014; Mehrani et al., 2017; Sari et al., 2020).

The current study is focused on manufacturing companies in the food and beverage sub-sector of the product and consumer sub-sector. This study uses the product and consumption sectors of the food and beverage sub-sector because manufacturing companies in the food and beverage industry sub-sector make a significant contribution to national economic growth and tax revenue. The food and beverage industry is a significant source of national investment. This condition can be seen from the results of its performance and changes in share prices, which are continuously reported in terms of increasing productivity, investment, exports, and employment. This study aims to determine the

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impact of thin capitalization, profitability, and return on assets (ROA) on tax avoidance, as well as the role of institutional ownership.

METHODS

The sample of this study was selected by purposive sampling with the following criteria; first, Manufacturing companies in the industrial and consumer goods sectors listed on the Indonesia Stock Exchange from 2014-to 2020. Second, Manufacturing Companies in the food and beverage subsector. The food and beverage sector was not delisted on the IDX during the 2014-2020 period. Third, Manufacturing Companies in the food and beverage sub-sector of the goods and consumption industry that did not suffer losses during the 2014-2020 period and Manufacturing Companies in the food and beverage sub-sector of consumer goods and consumption industries that had complete data needed during the 2014 – 2020. Based on the sample selection. We obtained a sample of 77 companies (details see Table 1).

Table 1. Research Sample Criteria

Company Criteria	Total
Manufacturing companies in the consumer and goods industry sectors were listed consecutively on the Indonesia Stock Exchange in 2014 - 2020.	32
Manufacturing companies in the goods and consumption industry sector of food and beverage sub sector were delisted on the IDX during the 2014-2020 period	(3)
Manufacturing companies in the goods and consumption industry sector of the food and beverage sub sector that moved sectors on the IDX during the 2014 - 2020 period	(2)
Manufacturing companies in the goods and consumption industry sector of the food and beverage sub-sector that experienced losses during the 2014 - 2020 period	(5)
Manufacturing companies in the goods and consumption industry sector of the food and beverage sub sector that did not have the complete data needed during 2014 – 2020 period	(11)
Total sample	11
Observation year	7
The total sample was multiplied by six years of observation	77

Some factors in this study will eventually be employed as dependent, independent, and moderating variables. Tax avoidance is the only dependent variable in this research, while thin capitalization, profitability, and ROA are the independent variables. At the same time, this study's moderating variable is institutional ownership. Tax avoidance is a lawful action that involves decreasing one's tax liability without violating any tax regulations. Tax avoidance is quantified in this research as the CASH ETR (cash effective tax rate), which is the difference between cash spent on tax expenses and profit before tax (Dyreng et al., 2010). Thin capitalization refers to companies prioritizing debt financing above equity in their capital structure to fund corporate operations (Taylor & Richardson, 2013).

Profitability is determined by the return on investment ratio, which indicates a business's success. Profitability is a metric used to evaluate a business's performance. It is calculated using a variety of financial measures, one of which is the return on investment (ROI). This formula calculates the owner's return on investment. Specific analyses utilize this ratio as a final criterion for making investment choices in a business.

Return on assets (ROA) is a ratio that measures the relationship between the outcomes (return) and the number of assets utilized by a firm (assets utilized). This ratio compares earnings after interest and taxes to total assets and indicates how efficiently a firm can generate profits from current economic resources.

External parties that also hold shares in the corporation are referred to as institutional owners. Institutional ownership refers to the ownership of business shares by institutions such as insurance companies, banks, investment companies, and other institutions. In general, institutional ownership has a high share of ownership, which improves the monitoring process for management. A high degree of institutional ownership will lead to increased oversight efforts by institutional investors, which will help prevent managers from acting opportunistically. In this research, institutional ownership is defined as immediate ownership. Direct ownership in a public firm is known as immediate ownership. The chain of ownership is not tracked under this ownership idea, and the quantity of ownership a shareholder has is defined by the proportion of shares inscribed in his name.

Structural Equation Modeling with Partial Least Squares (SEM-PLS) algorithm was used to analyze this study. The SEM-PLS approach is used in data analysis to answer the research objectives, which aim to analyze the factors that influence tax avoidance with institutional ownership as a moderating variable (Hair et al., 2017). The approach of CB-SEM analysis using software such as AMOS and LISREL is not advised for predictive analysis, as the objectives of CB-SEM are quite demanding regarding theory confirmation and parameter accuracy (Davcik, 2014). Since there are several independent variables in this study, using PLS-SEM analysis is more relevant than using CB-SEM analysis because it can analyze multiple independent variables simultaneously (Hair et al., 2017). SmartPLS 3.2 software processes the accumulated data obtained (annual reports). The data analysis process begins with the development of a structural model, followed by validation and reliability testing of the measurement model (outer model), significance testing of the relationships between variables (inner model), and a categorical moderation test (PLS-MGA).

There are various criteria for determining the validity of a research instrument, including Convergent Validity, determined by the loading factor and Average Variance Extracted-AVE, and Discriminant Validity, determined by the Fornell-Larcker and Cross-loading criterion. The reliability test was conducted using the composite reliability and Cronbach's alpha coefficients. The formative indicator's weight concerning its construction must be considerable. To determine if the outer weight value is significant, it is compared to the standard Z-score value for $\alpha = 0.05$, which is 1.96. If the outer weight value of the t-statistic is more than 1.96 or the p-value is more significant, the weight value of

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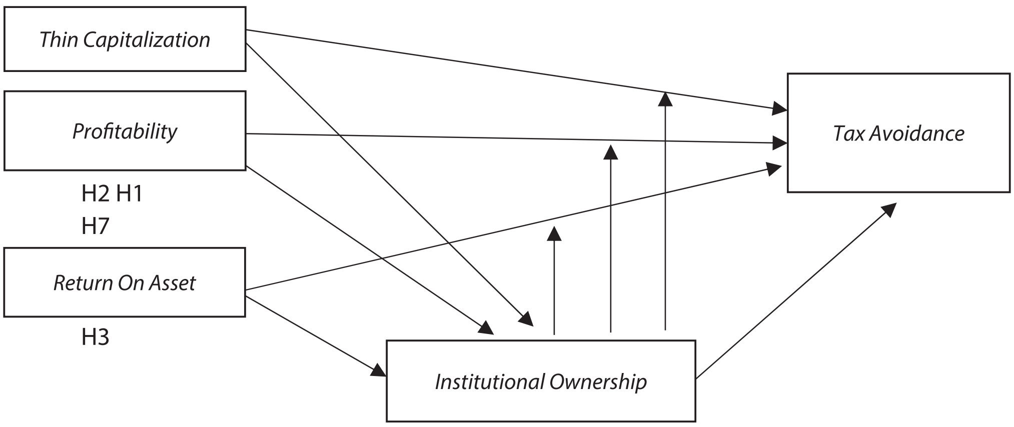
the formative indicator with the concept is significant. We ran tests on the structural model to determine the link between latent components. Various structural model tests are available, including R-Square (R^2), Effect Size (f Square), Q2, and GoF. The following sections provide a more in-depth examination of each inner model test.

In hypothesis testing, we will look at estimates of the path coefficient (original sample O) and t-statistics or p-values showing endogenous constructs' significant influence on exogenous constructs. The indicators have a major contribution to reflecting or reforming latent constructs. The model's internal measurements also include a step for testing this hypothesis. The Bootstrapping approach is used to calculate the route coefficients estimated above. A positive value implies positive effect and a negative value indicates negative influence, according to the original reading of sample O. For t-statistics and significance threshold (α = 0.05): If the t-statistics > 1.96 (normal Z score value) and the p-value is 0.05, the effect is considered to be significant.

Figure 1. Research Conceptual Framework



RESULTS AND DISCUSSION

Each latent construct must have an AVE value > 0.5 to reflect a good Tax Avoidance measurement model. The AVE value for the variables in this study can be seen in Table 2. As shown in Table 2, it is known that each indicator of the latent construct can explain 50% or more of the variance (Wong, 2013).

Table 2. Average Variant Extracted (AVE) Value

Variable	AVE Value
Thin Capitalization	0,686
Profitability	0,718
Institutional Ownership	0,773
ROA	0,653
Tax Avoidance	0,770

In the SEM-PLS analysis, a construct is declared reliable if it has a composite reliability value > 0,6 and is strengthened by Cronbach's Alpha value > 0,7. The results of the composite reliability test are shown in Table 3. Composite reliability values of 0.6 – 0.7 and Cronbach's alpha values of > 0.7 are considered good reliability (Sarstedt et al., 2011). According to Table 3, all constructs have composite reliability values and Cronbach's alpha >0.7, so it can be concluded that they are reliable.

Table 3. Value of Composite Reliability and Cronbach's Alpha

Variable	Cronbach's Alpha	Composite Reliability
Thin Capitalization	0.849	0.897
Profitability	0.799	0.883
Institutional Ownership	0.857	0.911
Roa	0.867	0.903
Tax avoidance	0.849	0.909

The evaluation stage of the structural model (inner model) consists of testing the goodness of the model (model fit) and the hypothesis. The model's goodness was tested by taking into account the R-square (R2) and Q-square (Q2) values. Partial hypothesis testing was carried out by paying attention to the significant value of the relationship between variables (direct and indirect effects).

The value of R-square (R2) is used to determine the predictive power of the structural model in the SEM-PLS analysis. The criteria for R-square values close to 0.67 are considered vital, while 0.33 is moderate and 0.19 is weak (Chin & Newsted, 2012). The R-square value shows in Table 4.

Table 4. R-Square Value

Endogenous Variables	R-Square	Criteria
Institutional Ownership	0.509	Strong
Tax avoidance	0.583	Strong

Based on Table 4, it can be seen that the R-square value of the endogenous variable of institutional ownership is 0.509. This value explains that the strength of the thin capitalization and profitability variables in predicting institutional ownership is 50.9%. Furthermore, the r-square value for the tax avoidance variable is 0.583. This value explains that the strength of the variable capitalization thin, profitability, institutional ownership, ROA, and ROA*institutional ownership in predicting tax avoidance is 58.3%. In addition to the R-Square value, the Q-square value is also used to determine the model's goodness, where the higher the Q-Square value indicates that the structural model is more suitable (fit) with the data (Sarstedt et al., 2011). The Q-square test in this study can show in Table 5.

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As shown in Table 5, it is known that the sum of the Q-Square values in the two endogenous variables is 0.798. These results mean that the amount of data diversity described by this research model is 79.8%. At the same time, the remaining percentage of 20.2% is explained by other factors outside the research model. Thus, this research model is declared to meet the requirements of goodness (model fit).

Table 5. Q-square Test Result

Variable	SSO	SSE	Q^2 (=1-SSE/SSO)
Institutional Ownership	600,000	383,713	0.360
Tax avoidance	600,000	337,286	0.438

Hypothesis testing was carried out by observing the original sample estimates (O) to determine the direction of the relationship between variables, t-statistics (T), and p-values (P) to determine the level of significance of the relationship. The original sample value close to +1 indicates a positive relationship, while a value close to -1 indicates a negative relationship (Sarstedt et al., 2011). A t-statistics value of more than 1.96 or a p-value smaller than the significance level (<0.05) indicates that a relationship between variables is significant—the results of testing the research hypothesis are shown in Table 6.

Table 6. Value of Relationship Between Variables (Direct and Indirect Effects)

Variable Relationship	O	T	P	Information
Thin Capitalization -> Institutional Ownership	0.294	2,701	0.007	Significant Positive
Profitability -> Institutional Ownership	0.337	3,200	0.001	Significant Positive
ROA -> Institutional Ownership	0.261	3,859	0.041	Significant Positive
Institutional Ownership -> Tax Avoidance	0.291	4,779	0.001	Significant Positive
Thin Capitalization -> Institutional Ownership -> Tax Avoidance	0.086	2,299	0.022	Significant Positive
Profitability -> Institutional Ownership -> Tax Avoidance	0.098	2,477	0.014	Significant Positive
ROA-> Thin Capitalization -> Institutional Ownership	-0.170	2,484	0.013	Significant Negative
Thin Capitalization -> Tax Avoidance	-0.053	0.771	0.441	Negative Not Significant
Profitability -> Tax Avoidance	0.230	2,919	0.004	Significant Positive
ROA -> Tax Avoidance	-0.028	0.732	0.465	Negative Not Significant

Table 6 shows that thin capitalization, profitability, return on assets (ROA), and institutional ownership all impact tax avoidance. The findings also revealed that institutional ownership significantly impacted the relationship between thin capitalization, profitability, and return on assets (ROA) concerning institution ownership. However, Thin Capitalization and ROA do not affect tax avoidance.

This study aims to determine how thin capitalization, profitability, and return on assets (ROA) affect tax avoidance and the involvement of institutional ownership in this impact. The results of this study illustrate that institutional ownership impacts thin capitalization, profitability, and ROA on tax avoidance, which is one of the challenging questions that must be addressed in business operations. The first result of the current study is that thin capitalization affects tax avoidance. These results support previous research on the effect of thin capitalization on tax avoidance (Altounjy et al., 2020; Çakmak & Taşkiran, 2020; Cómbita Mora, 2020; Meyer & Hassan, 2020; Minnick & Noga, 2012; Taylor & Richardson, 2012). The findings of this study confirm the premise of the trade-off theory that financial support by companies through the use of debt can result in a reduction in the tax burden. The thinner the capitalization, the greater the interest expense that must be paid, which of course, will reduce income and ultimately reduce the amount of income tax payable (Taylor & Richardson, 2012). Because capital gains in the form of dividends are taxed, this distinction between interest and dividend classifications can provide opportunities for tax avoidance tactics. Thin capitalization is often utilized in combination with the use of tax havens to increase the complexity of transactions with tax haven countries.

The second result of the study reveals that profitability has a positive effect on institutional ownership. According to agency theory, the agent will seek to lower his tax burden in a manner that does not jeopardize his performance reward due to decreased company revenue. Thus, company resources are allocated to maximize agent performance awards while reducing the tax burden on the firm, thus maximizing company performance. Capital owners (principals) do not wish to sacrifice a portion of the profits generated by their business activities to the state in the form of tax payments following their duties and hence undertake measures to lower the amount of tax paid without resulting in tax refunds or underpayments. As a consequence, the agent (business management) conducts tax planning attempts to reduce tax payments and tax avoidance activity.

Profitable businesses have the chance to place themselves in tax planning strategies that minimize their tax payment burden. If the profitability ratio is high, it indicates that the management is efficient. Profitability rose as a consequence of the higher profit, and hence the amount of tax to be paid increased. Alternatively, one may assert that there is a chance of corporate tax avoidance tactics. In the same line, institutional investors favor successful businesses (Barucci & Falini, 2015; Tong & Ning, 2014)

The third study result reveals that ROA has a beneficial influence on institutional ownership. Institutional investors may aid in resolving agency conflicts, namely those that emerge between management and shareholders. Gugong et al. (2014) supported this study by confirming that ROA has a positive and significant impact. Institutional monitoring may assist managers in reining in their opportunistic behavior and enhancing their organizations' overall performance. Institutional ownership lowers the cost of capital, making debt and equity financing simpler, reducing share price volatility, and allowing long-term relationships with financial institutions. The advantage of this procedure is most likely the reason for the anomalous returns shown in the fama-macbeth regression,

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which indicates that institutional ownership is increasing. A high adjusted R-square value results from accounting for the firm's fixed assets. This impact is particularly prominent in the explanation of Tobin's Q regression, which involves a higher degree of variance across enterprises. Meanwhile, non-institutional demand is static or has no balancing impact. Changes in institutional investor demand have a ripple effect on non-institutional investors since institutional investors hold one share for every one owned by individual investors (Gompers & Metrik, 2012; Striewe et al. (2013).

The study's fourth result reveals a positive influence between thin capitalization and tax avoidance. Institutional ownership has a positive and significant effect on tax avoidance. This finding indicates that the institutional ownership structure within the organization is inextricably linked to the level of supervision. The greater the institutional ownership, the stricter the level of supervision; conversely, the lesser the institutional ownership, the laxer the level of supervision, making the organization more susceptible to fraud. The more the institutional ownership, the greater the tax burden the business must bear. This condition is because the less likely the corporation is to engage in evading taxes. Depending on their size and voting power, institutional owners can compel management to prioritize economic performance and avoid self-serving behavior. These findings are consistent with previous research (Eskandar & Ebrahimi, 2020; Hasan et al., 2017; Jiang et al., 2021; Kholbadalov, 2012; Khani et al., 2013; Mehrani et al., 2017). After breaking total institutional ownership into active and passive, it is clear that active institutional owners have a favorable influence on tax avoidance and stimulate enterprises to avoid paying taxes. However, passive owners have a negative effect on tax avoidance.

As noted by Darsani & Sukartha (2021), institutional ownership has a negative influence on tax avoidance. The findings of this study disprove agency theory, which asserts that institutional ownership may resolve agency conflicts. This case may arise as a result of the fact that institutional ownership is required to supervise the operations of firm management. Institutional investors come from outside the company and are not linked with it; thus, institutional investors are more likely to follow government regulations. Furthermore, institutional investors will operate as external supervisors over the company's tax management, as institutional investors often seek to reduce the danger of tax avoidance actions that could jeopardize the company's reputation. Consequently, a high percentage of institutional ownership increases control over firm management's compliance with tax legislation, and thus institutional ownership can help limit company management's tax avoidance activities.

Institutional investors, as supervisors from the outside, will supervise the company's management to ensure that profits are made following applicable rules because institutional investors essentially monitor the extent to which management adheres to applicable rules to maximize profits. Institutional investors generally comply with existing legislation, recognizing that if there is an issue, their good reputation may be dragged into it. Thus, the greater the company's institutional ownership, the more aggressive tax policy moves can be suppressed, as institutional owners are highly concerned about the long-term impact of aggressive tax policies (Zemzem & Ftouhi, 2013; Pattiasina et al., 2019).

The fifth study result reveals that Institutional ownership significantly moderates the relationship between thin capitalization and tax avoidance. The findings of this study reflect previous research (Oktaviyani & Munandar, 2017), which indicates that a high institutional ownership level reduces the probability of tax avoidance in businesses. This condition is because the institution's owner monitors the manager's effectiveness in managing revenue and making choices, ensuring that the manager does not jeopardize the interests of shareholders. Profitability ratios demonstrate operational excellence. The company's high profitability suggests that it enables efficient earnings management. This condition enables businesses to engage in tax planning to minimize their tax liability.

To put it another way, the degree of institutional ownership impacts the company's thin capitalization practice. That is because the company's management may be able to claim interest charges as a deduction from its taxable income under the company's thin capitalization policy, which favors debt funding over equity financing in the company's capital structure. As a result of this study, institutional ownership seems to be essential in resolving conflicts of interest between principals and agents. Due to Indonesia's family-based ownership structure, the link between thin capitalization and tax avoidance cannot be influenced by the number of high and low institutional ownership of food and beverage manufacturing firms in Indonesia since ownership and control are less noticeable. To minimize internal conflicts of interest and improve financial management performance, organizations that employ debt to lower their tax burdens have to implement a supervision role that is less than optimum.

Institutional investors in Indonesia cannot adequately oversee management actions affecting the company's performance. They can also not prevent conflicts of interest between management and tax authorities, as institutional investors pay little attention to these issues (Kholbadalov, 2012). Therefore, current research cannot address the idea since it demonstrates that institutional ownership cannot moderate the effect of thin capitalization on tax avoidance.

The sixth result of the study noted that profitability and tax avoidance is significantly moderated by institutional ownership (Oktaviyani & Munandar, 2017). Since the institution's owner oversees managers' performance in managing revenue and making decisions, it will ensure they do not hurt shareholders' interests. The profitability ratio implies a competitive advantage in terms of operations. Because of the company's significant profitability, it can handle revenue well. This condition enables companies to engage in tax planning to reduce their tax liabilities.

Institutional ownership as an element of corporate governance can prevent agents from making aggressive efforts to manage the company's tax burden. Managers, as opportunistic agents, will try to maintain company profits, so they tend to minimize the tax burden. This finding supports agency theory, stating that institutional ownership plays a vital role in minimizing agency conflicts between shareholders and managers. Institutional investors with considerable shareholdings and voting rights can force managers to focus on the company's performance and avoid opportunities for their benefit.

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Profit maximization is the primary objective of the company. Most companies engage in tax avoidance to manage earned income and taxes. This condition indicates that the more profitable the business, the more tax avoidance methods the business will engage in because profitable businesses will be less reliant on tax loopholes for tax burden management. Tax rebates and other tax benefits are available to businesses that manage their assets effectively. These companies may be considered tax avoidance.

This study revealed that return on assets (ROA) positively affects tax avoidance since companies must maintain positive public perceptions of their worth to maintain profitability. When a company's profitability increases, the chance to reduce the amount of tax it owes becomes even more appealing through tax avoidance strategies. The amount of dividends that will be paid from the company's profits are directly tied to the degree of institutional ownership involved in this scenario. Amounts of dividends paid to institutional shareholders will increase in direct proportion to the size of the tax avoidance action taken by the company.

With respect to the results obtained, investors and tax authorities in the country can observe institutional ownership and active institutional ownership as a signal of the company's willingness to further tax avoidance. From these findings, companies that are active institutional owners have a good chance of avoiding paying taxes on their earnings. Except for such businesses, those whose institutional owners are more passive may be able to avoid paying taxes since the owners may not place a strong priority on profitable initiatives and improved future performance, which is also in line with prior studies (Khurana & Moser, 2012, 2013).

This study reveals that the interaction of variables has a negative but not significant effect on tax avoidance. The findings of this study contrast prior research (Sari et al., 2020) that concluded institutional ownership did not affect tax avoidance. Institutional ownership does not affect a company's decision to evade taxes. Institutional shareholders, by their size and voting rights, have an incentive to guarantee that management makes decisions that maximize their welfare to concentrate on earnings management.

According to research conducted by Khurana & Moser (2012), the size of the concentration of institutional ownership will affect the policy of minimizing the tax burden by the company. Therefore, the existence of an institutional ownership structure as one of the elements of corporate governance is a means to oversee the management of opportunistic actions that can be taken by managers, such as conducting tax avoidance activities.

Thin capitalization prioritizes debt funding in its capital structure, which can lead to tax incentives in the form of interest expense which can be treated as a deduction from taxable income. While on capital investment, the return of capital in the form of dividends will be taxed. This difference in the treatment of interest and dividends can be a gap for tax avoidance strategies. The higher the Thin Capitalization, the higher the interest expense that must be paid, which leads to eroding the company's profits and ultimately reducing the income tax payable.

Institutional ownership is a critical component of corporate governance because it acts as a moderating variable against tax avoidance on companies that adversely influence their worth. Increased institutional ownership tends to diminish tax avoidance strategies, as agency owners are responsible for monitoring and ensuring management complies with tax laws. Control and a high level of institutional oversight of ownership result in beneficial tax avoidance elements.

The ninth result of the study reveals that the profitability variable affects tax avoidance. The more efficient the company, the less tax will be paid so that the company's effective tax rate will be lower (Derashid & Zhang, 2013). A low effective corporate tax rate is a proxy for a high level of tax avoidance. This condition means that the greater the profitability, the greater the company's tax avoidance. These findings are in line with Darsani & Sukartha (2021) that profitability benefits tax avoidance. Additionally, this research supports agency theory, asserting that businesses (agents) and governments have divergent goals (principals). The government intends to increase tax revenue, whereas the manager or company aims to maximize profits and hence will seek to minimize the tax burden. The more the business profitability, the bigger the profit made, and thus the more significant the tax imposed on the profit business. Under these circumstances, businesses are unlikely to want to pay significant taxes and employ tax avoidance strategies to maximize their revenues. In relation to the agency theory, when a company seeks to maximize its earnings, there will be a conflict of interest between the tax authorities (primary) and the company or taxpayer (agent). Tax authorities seek to collect as much money as feasible, but companies want to earn significant profits while paying as little tax as possible.

Therefore, the modest quantity of profit earned by the business will influence the steps taken to maximize the amount of net profit earned by the business. The more profitable a business is, the more profit it may make; consequently, the tax on the profit generated will be even more significant. Naturally, with such a considerable profit margin, businesses do not want to pay significant taxes and frequently avoid them (Wiratmoko, 2018). Thus, the greater the profit of a business, the greater its proclivity to engage in tax avoidance methods to decrease its tax burden. This is corroborated by Sonia & Suparmun (2019), indicating that profitability positively influences tax avoidance. Based on theory and prior study, it may be deduced that the more profitable a company is, the more tax avoidance efforts are made by management.

However, these findings contrast with the study carried out by Iwanty & Surjandari (2022). Profitability has a significant negative effect on tax avoidance. This result implies that profitable businesses are more likely to comply with tax filing and payment. Each year, an increasing number of corporate profits in this research sample orient their tax policy toward compliance, owing to the company's tax compliance. The outcomes of this study are consistent with agency theory, which states that the agent generates profits for the organization and is capable of meeting its commitments to shareholders. High profitability indicates that the business is operating profitably, which can encourage outside investors to invest in the business and avoid tax avoidance behavior, which raises negative

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signals that can harm the company's reputation, causing investors to avoid investing in companies with a poor reputation.

The last finding shows that the interaction of variables has a negative but not significant effect on tax avoidance. In conclusion, Return On Assets variable has a significant effect on the Tax Avoidance variable, which also means that the lower the profit generated on the use of the company's assets will affect tax avoidance activities. Nevertheless, the results of this study contradict research conducted by (Andika et al., 2021; Harahap, 2021), which proves that Return On Assets has a significant effect on tax avoidance. The findings indicate that as asset returns increase, the value of tax avoidance declines, and so as asset returns decrease, the value of tax avoidance increases. The findings of this study also corroborate previous research (Aminah et al., 2018; Anouar & Houria, 2017; Napitupulu et al., 2019), which concluded that asset returns affect tax avoidance and that increasing or decreasing the return value of a company's assets increases or decreases the company's tax avoidance.

Return on assets is one element that determines tax avoidance (ROA). Return on Assets (ROA) is one indicator that represents a business's profitability. The ROA technique demonstrates the profit generated by a company concerning its total assets. Moreover, ROA determines the company's potential to create profits regardless of the funding source. The higher the ratio, the more efficiently the business will utilize its assets to generate net revenue. The firm's profitability has a detrimental effect on the effective tax rate. This condition occurs because the more efficient a business is, the fewer taxes it pays, so the business's effective tax rate decreases (Derashid & Zhang, 2013). These findings are also identical to Sari et al. (2020), which indicate that return on assets (ROA) positively influences tax avoidance.

Ten research hypotheses were generated based on the theoretical ideas described earlier. Seven of these hypotheses were found to be validated by the data. It is necessary to conduct a review of existing tax regulations in order to close the loophole for taxpayers' tax avoidance and to serve as a basis for evaluating regulations with comprehensive capital structure limits for all types of businesses, especially manufacturing companies in the goods and consumption sectors of the beverage food sub-sector, and for providing solutions to the rampant thin capitalization practices in Indonesia through the evaluation process. This regulation is essential to deter tax avoidance and give legal clarity for taxpayers and tax officials when enforcing existing standards.

The research findings into thin capitalization, profitability, and return on assets (ROA) on tax avoidance moderated by institutional ownership provide theoretical implications for trade-off theory and agency theory. Since the return on capital in the form of dividends is taxed on capital investment, the theoretical application of the trade-off theory indicates that financial support by companies that comes through the use of debt can give benefits such as a reduction in the tax burden. According to agency theory, the disparity in interests between tax authorities and businesses would result in noncompliance by taxpayers or corporate management, which will impact the company's efforts to avoid paying taxes.

CONCLUSION

The analysis results conclude that thin capitalization, profitability, return on assets (ROA), and institutional ownership influence tax avoidance. The findings also reveal that institutional ownership significantly affects the relationship between thin capitalization, profitability, and return on assets (ROA) concerning institutional ownership. However, thin capitalization and ROA do not affect tax avoidance. Researchers have difficulty collecting data samples because companies experience losses and provide inaccurate or missing financial report submission data. A further limitation of this study is that it does not consider the development of factors that have a macroeconomic effect. The implications of this research are expected to provide broader insight by examining the factors that influence tax avoidance, especially in food and beverage manufacturing companies listed on the Indonesia Stock Exchange.

This study has several limitations. First, data is collected from businesses that experience losses, and data on the submission of financial reports are incomplete. For further research, data can be collected from other businesses with complete annual reports and constant profits. This condition cannot be done in this study because the authors lack access to data, so the institutional ownership factor cannot be discussed in more detail. As noted in the findings, institutional ownership has not been decomposed into pressure-sensitive investors. The investors who have business relations with the companies in which they invest, and pressure-resistant investors, as well as investors who do not have business relations with the companies in which they invest.

The following researchers can add or replace independent and moderating variables in this study to detect tax avoidance. The researchers also suggest that future research will use new sampling procedures, using simple random sampling that is designed to represent an impartial population. For example, researchers may include a sample of loss-making firms to calculate profitability ratios. It is considered a suitable technique for sampling from a broader population as every member of the population has an equal chance of being selected.

This research is expected to be the basis or reference for the Directorate General of Taxes to periodically review existing tax regulations to close tax avoidance gaps by taxpayers and as material for evaluating regulations governing capital structure limits on debt and borrowing costs. Following the principles of fairness and comprehensive business practices that apply to all types of businesses, especially manufacturing companies in the food and beverage sub-sector. It will provide solutions to the practice of thin capitalization prevalent in Indonesia through evaluating various instruments to prevent tax avoidance practices, including interest expense arrangements. This provision is needed not only to prevent tax avoidance but also to provide legal certainty for taxpayers and tax authorities and enforce regulations in the field.

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REFERENCES

Altounjy, R., Alaeddin, O., Hussain, H. I., & Sebastian, K. O. T. (2020). Moving from Bricks to Clicks: Merchants' Acceptance of the Mobile Payment in Malaysia. *International Journal of EBusiness and EGovernment Studies*, *12*(2), 136–150.

Aminah, A., Chairina, C., & Sari, Y. Y. (2018). The Influence of Company Size, Fixed Asset Intensity, Leverage, Profitability, and Political Connection to Tax Avoidance. *AFEBI Accounting Review*, *2*(02), 107–120.

Andika, R., Nasution, A. R., Aspan, H., & Aryza, S. (2021). Analysis of The Effect of Institutional Ownership Profitability, Sales Growth And Leverage on Tax Avoidance on Construction Subsector Companies Listed on the Indonesia Stock Exchange. *Journal of Management Analytical and Solution*, *3*(3), 1-9.

Anouar, D., & Houria, Z. (2017). The Determinants of Tax Avoidance Within Corporate Groups: Evidence from Moroccan Groups. *International Journal of Economics, Finance and Management Sciences*, *5*(1), 57-65.

Barucci, E., & Falini, J. (2015). Institutional Investors and Corporate Governance in Italy: An Analysis of Their Stockholdings. *Working paper*, University of Degli Studi Pisa, Italy.

Buettner, T., Overesch, M., Schreiber, U., & Wamser, G. (2012). The Impact of Thin-Capitalization Rules on the Capital Structure of Multinasional Firms. *Journal of Public Economics, 96*(11-12), 930-938. https://doi.org/10.1016/j.jpubeco.2012.06.008.

Çakmak, Z., & Taşkiran, C. (2020). Development of Civil Literacy Scale: A Study of Validity and Rreliability. *Review of International Geographical Education Online*, *10*(3), 431–444.

Chin, W. W., & Newsted, P. R. (2012). Structural Equation Modeling Analysis with Small Samples Using Partial Least Squares. *Statistical Strategies for Small Sample Research*, *1*(1), 307–341.

Cómbita Mora, G. (2020). Structural Change and Financial Fragility in the Colombian Business Sector: A Post Keynesian Approach. *Cuadernos de Economía*, *39*(SPE80), 567–594.

Darsani, P. A., & Sukartha, I. M. (2021). The Effect of Institutional Ownership, Profitability, Leverage and Capital Intensity Ratio on Tax Avoidance. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, *5*(1), 13–22.

Davcik, N. S. (2014). The Use and Misuse of Structural Equation Modeling in Management Research: A Review and Critique. *Journal of Advances in Management Research*, 11(1), 47-81. https://doi.org/10.1108/JAMR-07-2013-0043.

Derashid, C., & Zhang, H. (2013). Effective Tax Rates and the "Industrial Policy" Hypothesis: Evidence from Malaysia. *Journal of International Accounting, Auditing and Taxation*, *12*(1), 45–62.

Dyreng, S. D., Hanlon, M., & Maydew, E. L. (2010). The Effect of Executives on Corporate Tax Avoidance. *The Accounting Review, 85*(4), 1163-1189.

Eskandar, H., & Ebrahimi, P. (2020). Tax Avoidance and Institutional Ownership: Active vs. Passive Ownership. *International Journal of Finance & Managerial Accounting*, *5*(17), 95–106.

Fernández-Rodríguez, E., & Martínez-Arias, A. (2012). Do Business Characteristics Determine an Affective Tax Rate? *Chinese Economy*, *45*(6), 60-83. https://doi.org/10.2753/CES1097-1475450604.

Gompers, P. A., & Metrick, A. (2012). Institutional Investors and Equity Prices. *The Quarterly Journal of Economics*, *116*(1), 229–259.

Gugong, B. K., Arugu, L. O., & Dandago, K. I. (2014). The Impact of Ownership Structure on the Financial Performance of Listed Insurance Firms in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *4*(1), 409-416.

Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An Updated and Expanded Assessment of PLS-SEM in Information Systems Research. *Industrial Management & Data Systems, 117*(3), 442-458. https://doi.org/10.1108/IMDS-04-2016-0130.

Hamdan, A., & Al-Sartawi, A. (2013). Corporate Governance and Institutional Ownership: Evidence from Kuwait's Financial Sector. *Jordan Journal of Business Administration*, *9*(1), 191–203.

Harahap, R. (2021). Analysis of the Effect of Institutional Ownership Profitability, Sales Growth and Leverage on Tax Avoidance in Construction Subsector Companies. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, *4*(3), 5010–5018.

Hasan, I., Kim, I., Teng, H., & Wu, Q. (2017). The Fffect of Foreign Institutional Ownership on Corporate Tax Avoidance: International Evidence. *Research Discussion Papers 26/2016*, Bank of Finland.

Iwanty, K. I., & Surjandari, D. A. (2022). The Effect of Sales Growth, Responsibility, and Institutional Ownership on Tax Avoidance with Profitability as Moderating Variables. *Journal of Economics, Finance and Accounting Studies*, *4*(1), 423–436.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics, 3*(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X.

Jiang, Y., Zheng, H., & Wang, R. (2021). The Effect of Institutional Ownership on Listed Companies' Tax Avoidance Strategies. *Applied Economics*, *53*(8), 880–896. https://doi.org/10.1080/00036846.2020.1817308.

Khani, A., Imani, K., & Molaei, M. (2013). Investigating the Relationship Between the Industry Expertise of Auditor and Tax Avoidance of Companies Listed in Tehran Stock Exchange. *Audit Science*, *13*(51), 43–68.

Kholbadalov, U. (2012). The Relationship of Corporate Tax Avoidance, Cost of Debt and Institutional Ownership: Evidence from Malaysia. *Atlantic Review of Economics: Revista Atlántica de Economía*, *2*(1), 7–36.

https://journal.uinjkt.ac.id/index.php/etikonomi
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Khurana, I. K., & Moser, W. J. (2012). Institutional Ownership and Tax Aggressiveness. *AAA 2010 Financial Accounting and Reporting Section (FARS) Paper.*

Khurana, I. K., & Moser, W. J. (2013). Institutional Shareholders' Investment Horizons and Tax Avoidance. *The Journal of the American Taxation Association*, *35*(1), 111–134.

Lopes, H. (2022). The Deontic Basis of the Firm –Implications for Corporate Governance. *European Management Review, In-Press.* https://doi.org/10.1111/emre.12506.

Mehrani, S., Moradi, M., & Eskandar, H. (2017). Institutional Ownership Type and Earnings Quality: Evidence from Iran. *Emerging Markets Finance and Trade*, *53*(1), 54–73. https://doi.org/10.1080/1540496X.2016.1145114.

Mehrani, S., & Seyedi, S. J. (2014). Survey Relation between Tax Avoidance and Tax Difference in Listed Companies in Tehran Stock Exchange. *Accounting and Auditing Research*, *6*(24), 50–75.

Meyer, D. F., & Hassan, A. S. (2020). Analysis of The Impact of Exchange Rate Volatility on The South African Government Bond Market. *International Journal of Economics and Finance*, *12*(2), 271-289. https://doi.org/10.34109/ijefs.202012202.

Minnick, K., & Noga, T. (2012). Do Corporate Governance Characteristics Influence Tax Management? *Journal of Corporate Finance*, *16*(5), 703–718.

Napitupulu, I. H., Situngkir, A., & Edelia, A. (2019). Triggers of Tax Avoidance Practices in Indonesia. *International Journal of Economics, Business and Management Research*, *3*(11), 185-191.

OECD. (2012). *Tax and Development: Thin Capitalisation Legislation*. Retrieved from: https://www.oecd.org/ctp/tax-global/5.%20thin_capitalization_background.pdf.

Oktaviyani, R., & Munandar, A. (2017). Effect of Solvency, Sales Growth, and Institutional Ownership on Tax Avoidance with Profitability as Moderating Variables in Indonesian Property and Real Estate Companies. *Binus Business Review*, *8*(3), 183–188.

Panda, B., & Leepsa, N. M. (2017). Agency Theory: Review of Theory and Evidence on Problems and Perspectives. *Indian Journal of Corporate Governance*, *10*(1), 74–95.

Pattiasina, V., Tammubua, M. H., Numberi, A., Patiran, A., & Temalagi, S. (2019). Capital Intensity and Tax Avoidance: An Indonesian Case. *International Journal of Social Sciences and Humanities*, *3*(1), 58–71.

Salihu, I. A., Annuar, H. A., & Obid, S. N. S. (2015). Foreign Investors' Interests and Corporate Tax Avoidance: Evidence from an Emerging Economy. *Journal of Contemporary Accounting & Economics*, *11*(2), 138–147.

Sari, D., Andrianto, D. E., & Rosmana, H. (2020). The Effect of Return On Asset and Institutional Ownership on Tax Avoidance. *PalArch's Journal of Archaeology of Egypt/Egyptology*, *17*(4), 2968–2979.

Sarstedt, M., Henseler, J., & Ringle, C. M. (2012). Multigroup Analysis in Partial Least Squares (PLS) Path Modeling: Alternative Methods and Empirical Results. In Sarstedt, M., Schwaiger, M., & Taylor, C. R. (Eds). *Measurement and Research Methods in International Marketing,* pp. 195-218. Emerald Group Publishing Limited. Bingley.

Sonia, S., & Suparmun, H. (2019). Factors Influencing Tax Avoidance. *Proceeding of the 5th Annual International Conference on Accounting Research (AICAR 2018)*, 238–243.

Striewe, N., Rottke, N., & Zietz, J. (2013). The Impact of Institutional Ownership on REIT Performance. *Journal of Real Estate Portfolio Management*, *19*(1), 17–30.

Taylor, G., & Richardson, G. (2012). International Corporate Tax Avoidance Practices: Evidence from Australian Firms. *International Journal of Accounting*, *47*(4), 469-496. https://doi.org/10.1016/j.intacc.2012.10.004.

Taylor, G., & Richardson, G. (2013). The Determinants of Thinly Capitalized Tax Avoidance Structures: Evidence from Australian Firms. *Journal of International Accounting, Auditing and Taxation*, *22*(1), 12–25. https://doi.org/10.1016/j.intaccaudtax.2013.02.005.

Tong, S., & Ning, Y. (2014). Does Capital Structure Affect Institutional Investor Choices? *The Journal of Investing*, *13*(4), 53–66.

Wiratmoko, S. (2018). The Effect of Corporate Governance, Corporate Social Responsibility, and Financial Performance on Tax Avoidance. *The Indonesian Accounting Review, 8*(2), 245-257. https://doi.org/10.14414/tiar.v8i2.1673.

Wong, K. K.-K. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques Using SmartPLS. *Marketing Bulletin*, *24*(1), 1–32.

Zemzem, A., & Fthouhi, K. (2013). The Effects of Board of Directors' Characteristics on Tax Aggressiveness. *Research Journal of Finance and Accounting, 4*, 140-147.

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Factors Affecting The Credit Growth of Vietnamese Commercial Banks

Diep Thanh Tung[1], Nguyen Van Thuan[2]
[1]**Tra Vinh University, Vietnam**
[2]**Agribank, Ben Tre Province, Vietnam**
E-mail: [1]dttung@tvu.edu.vn, [2]thuannguyenvan10011977@gmail.com
[*)]**Corresponding Author**

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Abstract
This research analyzes the factors that affect the credit growth of the Vietnamese commercial banking system. This study use data from the annual reports and financial statements of 16 commercial banks listed on the HOSE, HNX, and UPCOM exchanges that have operated continuously from 2011 to 2020. Two linear regression models were employed with two dependent variables: the credit growth rate and credit size. The findings indicate that credit size in the previous period, the annual growth rate of capital mobilization, bank size, and return on assets (ROA) positively affect the credit growth of Vietnamese commercial banks while liquidity ratio negatively affects them. Also, the bad debt ratio's effect on credit growth is unclear. Hence, some suggestions and recommendations are given for commercial banks to maintain stable, safe, and sustainable credit growth.

Keywords:
credit growth, bank, finance

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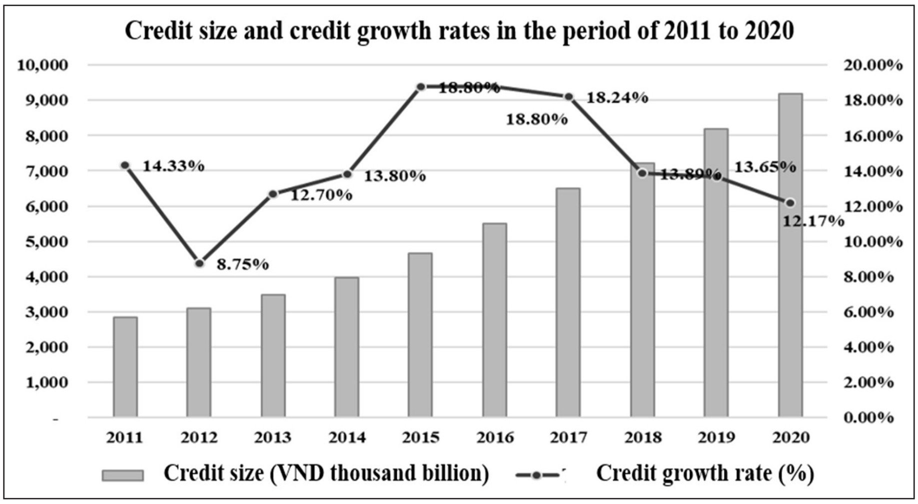
INTRODUCTION

In a market economy, bank credit is not only an economic lever but also an instrument used by the government of a nation to adjust its economy (Ananzeh, 2016). It regulates production, divides social labor, adjusts the amount of issued and circulated money, effectively uses temporarily idle capital flows in society, reduces inflation, and stabilizes the purchasing power of money. Obviously, through the role of credit in the operation of commercial banks and credit institutions under the market mechanism of the government's macro-management, bank credit has promoted economic growth, facilitating entities, financial organizations, and individuals with capital for effective production and business performance. It contributes to socio-economic development and curbs inflation. However, if it is not strictly controlled, it can cause an imbalance between money and goods, resulting in high inflation. Therefore, it is essential to determine the factors that affect banks' credit growth.

The world economic crisis in 2008-2009 severely affected the economies of most countries, including Vietnam. Specifically, during this period, Vietnam's GDP growth was low, inflation was high, and many enterprises operated at a loss. These led to bankruptcy and an increase in bad debts that affected the business activities of the entire banking system. After the global economic crisis, the credit growth of Vietnam's banking system in 2009-2010 increased relatively high compared to 2008. From 2009 to date, the credit growth has been unstable: sometimes it grows very high and decreases at other times. 2020 is considered a year of great difficulties and challenges for the world economy and Vietnam specifically. The COVID-19 pandemic has complicated progress, disrupting the socio-economic activities of all countries worldwide alongside the US-China trade war. Natural disasters and pandemics significantly impact Vietnam's economy and its people's lives. In 2020 the credit growth of Vietnam's commercial banking system only reached 12.17% compared to the end of 2019. After increasing continuously from 2013 to 2016, this is the lowest growth rate since 2014 to date.

Figure 1. Credit Size and Credit Growth of the Banks from 2011 -2020



Source: The State Bank of Vietnam (2011 to 2020)

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Credit growth is generally affected by two main factors: macro-factors and micro-factors. In practice, many studies have investigated the relationship between credit growth and its influencing factors in the scope of countries worldwide, particularly Vietnam. Some of these studies include those of Tamirisa & Igan (2008), Aydin (2008), Inekwe (2010), Tracey & Leon (2011), Guo & Stepanyan (2011), Laidroo (2012), Imran & Nishatm (2013), Abid et al. (2014), Rabab'ah (2015), Dhar & Bakshi (2015), Singh & Sharma (2016), Pasaribu & Mindosa (2021). Another study was also done in Vietnam, such as Dao et al. (2020) and Duong & Yen (2011).

For macro-factors, economic growth leads to higher credit growth and high inflation (Kremer et al., 2013). Domestic and foreign funding also contributes positively to credit growth (Guo & Stepanyan, 2011; Pasha & Bastanzad, 2015). Countries' monetary policies are also factors that affect credit growth to varying degrees (Abuka et al., 2019; Mahrous et al., 2020). In the study of Pham & Nguyen (2020), credit expansion even had a negative impact on economic growth in Vietnam in the long term.

Within the scope of this study, the authors focus on the factors affecting the credit growth of commercial banks in Vietnam. In the context of the country, the macro factors affecting the banking system's credit growth are assumed to be the same. Therefore, this study is interested in the effects of micro factors, internal features of the banks such as credit growth in the previous period, bank size, bad debt ratio, liquidity ratio, and ROA. The research question of this study is: What factors affect the credit growth rate of the banking system of Vietnam, and which policies should be imposed to promote the stable credit growth rate of the banking system? The credit growth of Vietnam's commercial banking system changes continuously. These determinants of credit growth can change over different periods. In this study, we used data from 2011 – to 2020 to update the banks' data and make policy recommendations appropriate for this period.

METHODS

Along with the development of the economy, credit activities in Vietnam are also growing and becoming perfect. Banks' credit activities play a crucial role in generating income for banks and stabilizing and developing a country's economy. Therefore, unstable credit growth will affect not only the banking system but also the whole economy of a nation (Pawłowska, 2016). Credit growth is always the top concern for the Vietnamese commercial banking system because reasonable and qualified credit growth will create a stable and safe source of income for the banks and promote national economic growth. However, if it is not strictly controlled, it can cause an imbalance between money and goods, resulting in high inflation. Therefore, it is essential to find out the factors that affect the banks' credit growth.

In the entire world Vietnam inclusive, many researchers have been studying this problem, such as Tamirisa & Igan (2008), Aydin (2008), Foos et al. (2010), Laidroo (2012), Tracey & Leon (2011), Guo & Stepanyan (2011), and Singh & Sharma (2016). In general, credit growth is influenced by two main factors: external macroeconomic factors and internal micro factors within the banks. Within the scope of this research, we look at the primary influence of micro factors inside the banks (such as credit growth in the previous period, bank size, bad debt ratio, liquidity ratio, capital mobilization rate, and ROA) on the credit growth of Vietnamese commercial banks. It is based on the assumption that in a country and the same period, the influence of macro factors on credit growth is the same for all commercial banks.

To analyze the factors affecting the credit growth of Vietnamese commercial banks, we apply linear regression models with two dependent variables, namely the credit growth rate and credit size. In contrast, the independent variables are the micro factors inside the bank. The study proposed two research models with the following general form:

Model 1: Dependent variable is the credit growth rate

$$Credit\_Gr_{i,t} = \beta_0 + \beta_1 {*} Credit\_Gri,_{t-h} + \beta_2 {*} Size_{i,t-}h + \beta_3 {*} NLP_{i,t-h} + \beta_4 {*} LIQ_{i,t-h} + \beta_5 {*} ROA_{i,t-h} + \beta_6 {*} Deposit\_Gr_{i,t-h} + \varepsilon_{it}$$

Model 2: Dependent variable is credit size

$$LnLoan_{i,t} = \beta_0 + \beta_1 {*} LnLoan_{i,t-h} + \beta_2 {*} Size_{i,t-h} + \beta_3 {*} NLP_{i,t-h} + \beta_4 {*} LIQ_{i,t-h} + \beta_5 {*} ROA_{i,t-h} + \beta_6 {*} Deposit\_Gr_{i,t-h} + \varepsilon_{it}$$

The authors could not collect all data on the Vietnamese commercial banking system; thus, they used a database sample of 16 commercial banks officially listed on three exchanges (HOSE, HNX, and Upcom) from the period 2011 - to 2020. The microdata was collected from annual reports and audited financial statements of commercial banks. The data are in the form of panel data.

Many factors affect Vietnamese commercial banks' credit market speed, from quantifiable to non-quantifiable factors. To evaluate the influence of the factors on the credit market of Vietnamese commercial banks, the method used in this article is the quantitative method. This study mainly used regression models, with the dependent variables being the annual increase/decrease in the credit balance and the loans of customers. In addition, the independent variables include micro factors inside the banks such as credit growth in the previous period, bank size, bad debt ratio (NPL), liquidity ratio (LIQ), the annual increase in mobilized capital, and return on total assets (ROA).

Many methods are used to estimate the model, such as Pooled OLS, FEM, and REM. However, one drawback of the three models (Pooled OLS, FEM, and REM) is that they cannot handle the latent endogeneity due to simultaneity and omitted variables. The simultaneous effect shows a two-way causal relationship between dependent and independent variables. It means that the banks' credit growth can have the opposite effect on the factors inside the bank (bank size, debt-to-equity ratio). Thus, the regression of these variables can be correlated with random error leading to endogeneity. In the model, the independent variable is used as the lagged variable of the dependent variable. In other words, the model contains endogenous variables.

Moreover, the data used in this research were only collected on 16 listed commercial banks over ten years (T<N). Therefore, the appropriate research method is the Feasible

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Generalized Least Squares (FGLS). The FGLS estimation model will overcome the outstanding drawbacks of the three Pooled, FEM, or REM models.

Research data are in the form of panel data. In the scope of this research, data of 16 commercial banks officially listed on three exchanges (HOSE, HNX, and UPCOM) are aggregated, corresponding to the period of 2011-2020. In addition, microdata is collected from annual reports and audited financial statements of commercial banks.

RESULTS AND DISCUSSION

Within the scope of this research, we analyzed four models, POOLED OLS, FEM, REM, and FGLS, respectively, with two dependent variables of Credit_Gr and LnLoan. However, as stated above, the FGLS model can effectively and almost wholly overcome the defects of the remaining models. Therefore, the FGLS model was chosen as the empirical outcome decision model, while the remaining models were used for comparison to check the empirical stability. The specific estimation results show in Table 1.

Table 1. Estimation Results of Factors Affecting the Credit Growth of Vietnamese Commercial Banks

Variable	FGLS (Model 1: Dependent variable is Credit_Gr)		FGLS (Model 2: Dependent variable is LnLoan)	
	Coefficient β	P-value	Coefficient β	P-value
$Credit\_Gr_{i,t-1}$	0.225***	0.000		
$LnLoan_{i,t-1}$			0.531***	0.000
$Deposit_{i,t}$	0.556***	0.000	0.120***	0.000
$LnSize_{i,t}$	-0.026**	0.050	0.489***	0.000
$NPL_{i,t}$	-1.230**	0.046	-0.205	0.360
$LIQ_{i,t}$	0.038	0.585	-0.264***	0.000
$ROA_{i,t}$	0.366	0.769	0.743*	0.089
C	0.195	0.021	-0.119	0.001

*, **, *** statistically significant at the 10%, 5%, and 1%, respectively
Source: The authors' estimation

The research results by the FGLS method in the model with the dependent variable Credit_Gr show that the speed of Credit_Gr in the previous period, Deposit has a positive influence on the Credit_Gr of Vietnamese commercial banks and is consistent with the initial hypothesis. Bank size and bad debt ratio have negative effects on Credit_Gr. However, according to the initial hypothesis, bank size positively affects Vietnamese commercial banks' credit market. Meanwhile, there is no evidence of the influence of the remaining variables on the banking Credit_Gr.

However, the research results using the FGLS method in the model with the dependent variable LnLoan show that the variables such as LnLoan in the previous period, Deposit, LnSize, and ROA have a positive influence on the credit market of Vietnamese commercial banks. Besides that, LIQ has a positive influence on the credit market of

Vietnamese commercial banks. Only the NPL variable does not affect the bank credit market. At the same time, for this model, the Pooled OLS, FEM, and REM models mostly have similar results to the results of the FGLS model. This result confirms the reliability of the quantitative research results according to the FGLS method.

After applying the regression model by the FGLS method, both models with dependent variables Credit_Gr and LnLoan are statistically significant and overcome the defect of variance and autocorrelation in the model. However, according to model 1 (the dependent variable, LoanGr), the regression results show that only three variables are statistically significant and consistent with the original research hypothesis. On the other hand, according to model 2 (dependent variable, LnLoan), five variables are statistically significant and consistent with the original research hypothesis. Therefore, in the scope of this research, we select model 2 with the dependent variable LnLoan to analyze the factors affecting the credit growth of Vietnamese commercial banks.

$$LnLoan_{i,t} = -0.119 + 0.531^* LnLoan_{i,t-1} + 0.120^* Deposit_{i,t} + 0.489^* LnSize_{i,t} - 0.264^* LIQ_{i,t} + 0.743^* ROA_{i,t} + \varepsilon$$

Based on the regression results in model 2, we can explain the relationship between micro factors and credit growth of Vietnamese commercial banks as follows.

Firstly, the credit balance of the previous period has a positive effect on the current period's credit growth of the banks. As analyzed above, commercial banks operate on the principle that the following year's targets must grow higher than the previous one. Based on the previous year's performance, the headquarter assigns new targets to each branch to ensure that income fund, salary, and bonus are given to each employee. The bank's management must find all solutions to achieve the targets. Credit growth is one of the most important targets that the headquarter assigns to the branch. As a bank is a financial intermediary specializing in the borrowing, lending and income from credit are the sources that account for a high proportion of the bank's profit structure. Therefore, the credit size of the previous year positively affected the current year's credit growth of Vietnamese commercial banks. It is also the factor that significantly affects credit growth among all the factors. Therefore, to achieve the credit growth target, it is necessary to pay special attention to this factor.

Secondly, the annual growth rate of mobilized capital has positively influenced credit growth. The research results of Tamirisa & Igan (2008), Guo & Stepanyan (2011), and Duong & Yen (2011) show the same outcome. Specifically, within the scope of this research, when the growth rate of mobilized capital in the year increases by 1%, the credit growth of Vietnamese commercial banks also increases by 0.12%. The bank is an intermediary organization acting both as a borrower and a lender. It means that banks mobilize idle capital of organizations and individuals in the economy to make loans and invest in organizations and individuals that are temporarily short of capital. Therefore, when a bank has a large enough mobilized capital, it has more sources to lend. Banks will promote searching for new customers who need to borrow capital to use the mobilized capital effectively. It will affect its business performance if it is not

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possible to lend out while the bank still has to pay interest on deposits to customers. Therefore, when mobilized capital increases, it will promote the banks' credit growth.

Thirdly, bank size has a positive effect on the credit growth of Vietnamese commercial banks. The results of this research are consistent with those of Singh & Sharma (2016). So far, reputable large banks and highly qualified personnel will quickly mobilize capital and then expand credit granting to entities in the economy. Therefore, it will increase the credit growth rate of the banking system. Specifically, within the scope of this research, when the bank size increases by VND 1 billion, the credit growth of Vietnamese commercial banks increases by VND 0.489 billion. Thus, based on the theoretical background and the results of the regression research along with the actual situation in Vietnam, we can conclude that the bank size has a positive effect on the credit growth of Vietnamese commercial banks.

Fourth, the bank liquidity ratio negatively affects the credit growth of Vietnamese commercial banks. This result is similar to Tamirisa & Igan (2008) and Tracey & Leon (2011). Specifically, when the bank liquidity ratio increases by 1%, the credit growth of Vietnamese commercial banks decreases by 0.264%. Due to the characteristics of the banking sector, during their operations, commercial banks must always maintain a minimum amount of cash to meet the withdrawal needs of customers promptly. Therefore, the higher the liquidity ratio, the lower the loan ratio. Specifically, the higher the liquidity ratio, the lower the credit growth. In other words, the liquidity ratio has a negative effect on credit growth.

Fifth, return on assets (ROA) positively affects the credit growth of Vietnamese commercial banks. The results of this research are consistent with those of Laidroo (2012). With the same level of invested assets, a larger ROA shows more profit generated by the banks. The profit of Vietnamese commercial banks is mainly from credit-granting activities. In other words, ROA has a positive effect on the credit growth of commercial banks. Specifically, within the scope of this research, when ROA increases by 1%, the banks' credit growth increases by 0.743%.

According to the research results, the annual growth rate of mobilized capital positively influences the credit growth of Vietnamese commercial banks. In addition, capital mobilization is an important activity, contributing to the banks' credit scale expansion. To grow the mobilized capital, banks need to regularly train customer communication skills for staff to provide them with an appropriate point of view on their position and role and be well behaved to handle different situations for each type of customer. It is to avoid dissatisfying those fastidious customers. In particular, the bank tellers are the face of the bank, so it is necessary to choose young, dynamic, devoted, and good-looking staff to do customer transactions to make an impression and create sympathy for customers. In addition, staff must practice cross-selling skills to exploit customers' needs thoroughly.

Banks need to keep a close eye on their operational areas, maintain good relationships with local authorities and agencies to exploit the number of potential customers fully, and take advantage of their relationships to look for more new customers. The bank capital mobilization products need to be diversified and improved regularly based on the needs of depositors to meet customers' needs best. That will attract more customers with different needs. Besides, it is also essential to apply remuneration policies and take care of customers. Specifically, there is a need to have a separate customer care department that regularly sends text messages to keep in touch with their customers and congratulate them on special days such as holidays and birthdays. Moreover, the banks should give gifts to their customers or organize lucky draw programs for them.

To make each staff member have self-discipline and be highly responsible, the bank leaders can assign capital mobilization targets to each staff member. At the same time, they need to organize and launch emulation movements to encourage staff morale regularly. Also, the banks should invest in communication and brand promotion such as logos, billboards, posters, and leaflets. They should regularly support social security projects to improve their reputation and image. In addition, they need to pay special attention to the balance between capital sources and capital used to achieve the best business performance. They should also ensure that the liquidity ratio is reasonably aligned with their business objectives in each period.

CONCLUSION

In the operation of the banking system, credit growth is one of the top targets that commercial banks must obtain. Credit activities have a significant influence on the financial position of the banking system. Therefore, it is necessary to provide a reasonable level of credit growth. Before making a credit growth plan, banks must consider many factors to decide the next growth rate. Research results show that credit growth is affected by credit size in the previous period, the annual growth rate of capital mobilization, bank size, liquidity ratio, and return on assets. Therefore, to develop a reasonable level of credit growth, the banks' planners, in addition to bank size and the previous year's credit growth rate, need to pay attention to the factors discussed.

Irrespective of the results obtained, the study still has certain limitations. In recent times, the operations of commercial banks in Vietnam have been facing many difficulties. Some commercial banks are subject to special control by the State bank. Therefore, the research data obtained are relatively up-to-date (2011-2020) but not complete for all commercial banks in Vietnam. Besides the quantitative variables, other qualitative factors are assumed to affect the credit growth of Vietnamese commercial banks. The factors such as interest rates, factors related to the marketing activities of the bank, policies of each bank, and even the management quality. Hence, if the data are available for further studies, it is necessary to include more data on all commercial banks in Vietnam. The data collection period should be extended, and variables representing the unique characteristics of each bank need to be added to identify better the factors affecting the credit growth system of commercial banks in Vietnam.

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REFERENCES

Abid, L., Ouertani, A. N., & Zouari-Ghorbel, N. (2014). Macroeconomic and Bank-specific Determinants of Household's Non-Performing Loans in Tunisia: A Dynamic Panel Data. *Procedia Economics and Finance*, *13*, 58-68. https://doi.org/10.1016/S2212-5671(14)00430-4.

Abuka, C., Alinda, R. K., Minoiu, C., Peydró, J. L., & Presbitero, A. F. (2019). Monetary Policy and Bank Lending in Developing Countries: Loan Applications, Rates, and Real Effects. *Journal of Development Economics*, *139*, 185-202. https://doi.org/10.1016/j.jdeveco.2019.03.004 .

Ananzeh, I. E. N. (2016). Relationship Between Bank Credit and Economic Growth: Evidence from Jordan. *International Journal of Financial Research*, *7*(2), 53-63. https://doi.org/10.5430/ijfr.v7n2p53.

Aydin, B. (2008). Banking Structure and Credit Growth in Central and Eastern European Countries. *IMF Working paper Series*, 08/215.

Dao, L. K. O., Nguyen, T. Y., Hussain, S., & Nguyen, V. C. (2020). Factors Affecting Non-Performing Loans of Commercial Banks: the Role of Bank Performance and Credit Growth. *Banks and Bank Systems*, *15*(3), 44-54, https://doi.org/10.21511/bbs.15(3).2020.05.

Dhar, S., & Bakshi, A. (2015). Determinants of Loan Losses of Indian Banks: a Panel Study. *Journal of Asia Business Study*, *9*(1), 17-32, https://doi.org/10.1108/JABS-04-2012-0017.

Duong, N. T., & Yen, T. H. (2011). Factors Affecting Bank Credit Growth in Vietnam. *Banking Journal*, *24*, 27-33.

Foos, D., Norden, L., & Weber, M. (2009). Loan Growth and Riskiness of Banks. *Journal of Banking and Finance*, *34*, 2929-2940, https://doi.org/10.1016/j.jbankfin.2010.06.007.

Guo, K., & Stepanyan, V. (2011). Determinants of Bank Credit in Emerging Market Economies, *IMF Working Paper Series*, 11/51.

Imran, K., & Nishatm, M. (2013). Determinants of Bank Credit in Pakistan: A Supply Side Approach. *Economic Modeling*, 35(C), 384-390, http://doi.org/10.1016/j.econmod.2013.07.022.

Inekwe, M. (2010). Effect of Inflation on Non-Performing Loans in the Banking Industry in Nigeria. *Journal of ARID Zone Economy*, *12*(1), 179-184.

Kremer, S., Bick, A., & Nautz, D. (2013). Inflation and Growth: New Evidence from a Dynamic Panel Threshold Analysis. *Empirical Economics*, *44*(2), 861-878. https://doi.org/10.1007/s00181-012-0553-9.

Laidroo, L. (2012). Lending Growth and Cyclicality in Central and Eastern European Banks. *TUTECON Working Paper*, WP-2014/4.

Mahrous, S. N., Samak, N., & Abdelsalam, M. A. M. (2020). The Effect of Monetary Policy on Credit Risk: Evidence from the MENA Region Countries. *Review of Economics and Political Science*, *5*(4), 289-304. https://doi.org/10.1108/REPS-07-2019-0099.

Pasaribu, P., & Mindosa, B. (2021). The Bank Specific Determinants of Loan Growth and Stability: Evidence from Indonesia. *Journal of Indonesian Economy and Business*, *36*(2), 93-123. https://doi.org/10.22146/jieb.v36i2.1385.

Pasha, M. V., & Bastanzad, H. (2015). The Impact of Macroeconomic Indicators on the Non-Performing Loans (Case of Iran). *Journal of Money and Economy*, *10*(1), 63-82.

Pawłowska, M. (2016). Market Structure, Business Cycle and Bank Profitability: Evidence on Polish Banks, *Bank i Kredyt, 47*(4), 341-364.

Pham, H & Nguyen, P. (2020). Empirical Research on The Impact of Credit on Economic Growth in Vietnam. *Management Science Letters*, *10*(12), 2897-2904, https://doi.org/10.5267/j.msl.2020.4.017.

Rabab'ah, M. (2015). Factors Affecting the Bank Credit: An Empirical Study on the Jordanian Commercial Banks. *International Journal of Economics and Finance*, *7*(5), 166-178, https:// doi.org/10.5539/ijef.v7n5p166.

Singh, A., & Sharma, A. (2016). An Empirical Analysis of Macroeconomic and Bank-Specific Factors Affecting Liquidity of Indian Banks. *Future Business Journal*, *2*(1), 40–53, https://doi.org/10.1016/j.fbj.2016.01.001.

Tamirisa, N., & Igan, D. (2006). Credit Growth and Bank Soundness in New Member States. *IMF Working Paper*, Washington D.C.

Tracey, M. (2011). The Impact of Non-performing Loans on Loan Growth: an econometric case study of Jamaica and Trinidad and Tobago. *Working Paper Bank of Jamaica Research Conferenc*e.

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6. Table format should contain only heading and contents. Please provide the top and bottom lines, along with the line(s) that separate the heading and the contents. Example:

Table 1. The Growth of Third Party Fund, Financing and Asset (Billion rupiah)

	2012	2013	2014	2015	2016	2017
Fundraising	52.271	76.036	115.415	147.512	174.018	186.608
Financing	46.886	68.181	102.655	147.505	179.284	187.886
Asset	66.090	97.519	145.467	195.018	229.557	244.197

Source: Islamic banking statistics, Bank of Indonesia

7. The manuscript is prepared in a quarto paper, single-sided, and single-space format. A new paragraph should start 5 characters from the left margin, using 12-size, garamond font type.
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11. Sub titles are written using capital letters, started from the left margin.
12. Sub of sub titles are written using capital letters only at the beginning of each word except for connecting words. They should be started from the left margin.
13. References should be those of the last ten years publication, unless they are key references.
14. Citation in the text body should be written using the family name and years of publication. Example:
    a. Hill (2001) suggests that the objective of depreciation ….
    b. According to Kotler (2010), intra industry trade can be …
    c. Wagner (in McCain, 1990) states that …
    d. The definition of flypaper effect is … (Wagner, 1976).
15. Tables and figures should be presented as follows:
    a. The name of tables and figures should follow a numbering system (Arabic numbering system). The names of the tables and figures are on the top parts of the tables, respectively.
    b. The tables and figures should provide the source of information, if any, at the bottom part of both.
16. References should be written in alphabetical order, without any number. They should be written using the following criteria:
    a. For books, the format should follow the following example:

       Al Arif, M. N. R. (2015). *Pemasaran Stratejik Pada Asuransi Syariah.* Jakarta: Gramata.
    b. For papers that are part of a book, the format should follow the following example:

       Bahl, R. (2000). *How to Design a Fiscal Decentralization.* in Sahid, Y. (eds.), *Local Dynamics in an Era of Globalization,* 25-26, London: Oxford University Press.
    c. For journal, the format should follow the following example:

       Keong, Y. C. (2005). Energy Demand, Economic Growth, and Energy Efficiency –The Bakun dam-induced Sustainable Energy Policy Revisited. *Energy Policy,* 33(5), 679-689. https://doi.org/10.1016/j.enpol.2003.09.017.
17. The manuscript in microsoft word should be sent through online submission at: http://journal.uinjkt.ac.id/index.php/etikonomi/user/register; or; through email to: etikonomi@uinjkt.ac.id
18. A brief CV that records full name, academic title, institution, telephone, facsimiles, and mobile number should accompany the manuscript.
19. The decision of the manuscript are:
    a. Accepted, or
    b. Minor revision, or
    c. Major revision, or
    d. Rejected.
20. Further information about the journal can be seen at http://journal.uinjkt.ac.id/index.php/etikonomi