

Riba and Modern Economy in Indonesia

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Abstract

This study investigates the impact of usury on the economy including economic growth, investment, and consumption in Indonesia. This study employed "autoregressive vectors" to model the causal relationship between variables in 21-year data analysis from 2000 to 2020. This study relies on data provided by the World Bank. In our research, we look at Indonesia's real interest rate, economic growth, consumer spending, and investment utilization. To examine the causal relationship between real interest rate, economic growth, consumer expenditure, and investment in Indonesia. The interest rate has a negative reciprocal relationship, which means that the interest rate suppresses the real sector which includes economic growth, domestic consumption, investment. This proves that the higher the interest rate, the more burden on the real sector. Of course this has a negative impact on the economy. In today's modern economy in Indonesia, the interest system as one of the economic factors and determinants of monetary policy is common in the Indonesian economy. However, interest or in Islam called usury is something that needs to be avoided or minimized because it burdens the economy, especially in the modern economy in Indonesia.

Keywords: Riba, Economy, Indonesia, Interest Rate, Economic Growth.

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Background

Riba and today's modern economy have transformed into bank interest which is considered normal in the economy. However, usury certainly has consequences in the economy. Because usury makes the process of controlling the amount of cash really out of bounds which of course burdens the real sector, even though it is known that cash disbursement is the responsibility of the state, and the central bank issues cash according to the needs of the economy, and within important limits (Prabowo, Sulisningrum, & Harnani, 2021). The criteria that protect the economy from the consequences of inflation (a rise in the general price level), are known as monetary policy tools. There is no doubt that inflation generated through usury arises out of state control because the multiplier that works on the basis of creating cash in commercial banks is the weakening of the value actually lent (Viphindartin, Wilantari, & Bawono, 2022).

An increase in the general price level, and its causes vary and may be uncontrollable, such as an increase in the price of a factor of production which increases the price of a finished good, and it may be due to the scarcity of a certain element of production, or a certain final good, which increases the demand for it and reduces its supply, causing the price to rise their height, and

many other reasons (De Vries & Marcondes, 2020). Inflation is due to usury, as banks work to lend money in exchange for an interest rate, and through a multiplier mechanism, the amount of this borrowing will be multiplied in the economy, which increases the money supply in the economy and thereby decreases the purchase value of money (Wilantari, Widarni, & Bawono, 2021; Sasongko, Bawono, & Prabowo, 2021).

Capital (as an element of production) becomes incompatible with other elements of production (land, labour, organization) because through usury it has become an independent element from other elements, but automatically derives profit from goods and services (cash is sold or rented and generate cash and so on (Clark, 2020). This is what makes today's global economy a financial economy based on money and financial derivatives. As for the desired economy, i.e. Islamic economy, it is considered a real economy based on buying and selling of goods and services (Prabowo, Sulisnaningrum, & Harnani, 2021 ; Rusminingsih, Damayanti , 2021).

Riba causes a misdistribution of wealth, because the surplus class and those who have money exceed their needs and keep it in the bank, of course, from the class, if they are not rich, then they are not poor (Siddique & Siddique, 2022). Poor or at least in need of money. In a treatment similar to the usury treatment, the deficit category takes money from the surplus category and returns it more than the actual value borrowed, which means that the deficit category remains a deficit category, and the surplus category increases as a financial surplus, reflecting a misdistribution of wealth (Selim, 2019). This is if we assume that the deficit category will repay the loan with an increase on a specified date, but the reality shows that part of this category will not be able to repay the loan, which entails a deferment penalty that accumulates and accumulates until the borrower is imprisoned, or leads to the bank's forfeiture of his property. However, the poor are getting poorer, and the rich are getting richer (Hoffmann, Rao, Surendra, Datta, 2021).

Interest is simple as it is called in the bank, but the worst thing in practice is that the bank deals with compound interest, that is, the borrower has to pay interest on the amount borrowed and the interest earned on it, and so on, interest on the amount in addition to interest on the Benefits (Zegarra,2017). Money in the modern economy does not become standardized and deviates from its function as a medium of exchange, and becomes a commodity to be sold or rented, and a person who does not have standards in the same sense (Baur & Dimpfl, 2021). And money was discovered from time to time only as a standard of value and a medium of exchange for goods and services, after the world suffered from the negatives of the previous barter system, but again suffered after money lost its function, and this function was replaced by a new job, namely creating new money, without selling or buying real goods or services, and one of the most important modern tools: financial derivatives (Bawono, & Prestianawati, 2019). So, money is creating money without economic value added, but only the process of collecting cash, and increasing the money supply, which will affect and decrease the purchase value of money, which will cause inflation, because the amount you pay to buy commodities becomes insufficient to buy the same commodity, because the value of money falls (Drean, 2021). This study investigates the impact of usury on the economy including economic growth, investment, and consumption in Indonesia.

Research Method

This study employed "autoregressive vectors" to model the causal relationship between variables in 21-year data analysis from 2000 to 2020. This study relies on data provided by the World Bank. In our research, we look at Indonesia's real interest rate, economic growth, consumer

spending, and investment utilization. To examine the causal relationship between real interest rate, economic growth, consumer expenditure, and investment in Indonesia, the following multivariate regression model was used:

$$IR_t = \beta_0 + \beta_1 EG_t + \beta_2 CO_t + \beta_3 I_t + e_t \quad \text{eq1 1}$$

$$EG_t = \beta_0 + \beta_1 IR_t + \beta_2 CO_t + \beta_3 I_t + e_t \quad \text{eq1 2}$$

$$CO_t = \beta_0 + \beta_1 IR_t + \beta_2 EG_t + \beta_3 I_t + e_t \quad \text{eq1 3}$$

$$I_t = \beta_0 + \beta_1 IR_t + \beta_2 EG_t + \beta_3 CO_t + e_t \quad \text{eq1 4}$$

Description :

IR : Interest rate

EG : Economic growth

CO : Consumption

I : Investment

E : error term

t : time series

β : the magnitude of the effect of causality

eq1: equation

This study uses vector calculations where each regression relationship will be brought together so that each variable will alternately become the dependent variable and the independent variable. The zero theory of Dickey-Fuller, taken from the PP test, and $p=1$ is the formula in $\Delta y_t = (\rho - 1)y_{t-1} + u_t$, in which Δ – for the first time different operators. This research used the following equation for the "unit root test":

$$\Delta Y_t = \alpha_0 + \beta_0 T + \beta_1 Y_{t-1} + \sum_{q=1}^p (i-1)^q \alpha_{1q} \Delta Y_{t-1} + e_t$$

Description:

Y as the variable is being examined for unit root

T as the variable which indicates the "linear trend," the "lag difference" means is ΔY_{t-1} , α_0 are shown as "constant term," with the "t" as a "time trend" indicator. The null and alternative hypotheses for the "unit root test" are as follows:

H0: $\alpha=0$

H1: $\alpha \neq 0$

Results and Discussion

Before a causality or VAR assumption can be met, a stationarity test must be performed. Researchers may use the Augmented Dickey-Fuller test to determine whether or not a series is non-stationary. To evaluate if the series is non-stationary, the error term is investigated, which includes the potential of autocorrelation if the series is non-stationary. The following findings were found after doing the unit root test:

Table 1. ADF's Unit Root Test on IR, EG, CO, and I data in Indonesia

Variable	Unit Root	Include in the examination Equation	Statistics for the ADF Test	5% Critical Value	Description
Interest Rate (IR)	Level	Intercept	-2.934472	0.0590	

	First Diff	Intercept	-5.490289	0.0003	Stationer
Economic Growth (EG)	Level	Intercept	-0.527808	0.8660	
	First Diff	Intercept	-1.929268	0.3129	
	Second Diff	Intercept	-3.319458	0.0293	Stationer
Consumption (CO)	Level	Intercept	-1.838596	0.3523	
	First Diff	Intercept	-1.811369	0.3640	
	Second Diff	Intercept	-3.197277	0.0371	Stationer
Investment (I)	Level	Intercept	-2.619887	0.1056	
	First Diff	Intercept	-6.547377	0.0000	Stationer

The EG and CO data are stationary on the second difference, while the IR and I data are stationary on the first difference. The Augmented Dickey-Fuller test is -3.319458 with a critical value of 0.0293. Smaller than the p-value, in this case, the EG data shows stationary in the second difference compared to the original data. The ADF test on data I a -6.547377 with a critical value of 0.0000, meaning that data I is stationary at the first difference. From here, we can take the next step in defining vector analysis.

The causality test and VAR test both need adequate lag length sensitivity. It is crucial to choose the most suitable lag time for the scenario before doing a VAR analysis or a causality test. The Akaike Information Criteria (AIC) were utilized to determine the appropriate time lag in this investigation. To calculate the permissible time lag, the shortest or lowest Akaike Information Criteria (AIC) were utilized. The gap length spans from 0 to 4 since the data utilized in this test contains yearly data with a 21-year data range. This delay is regarded as long enough to describe IR, EG, CO, and I throughout an annual period.

Table 2. AIC value at Lag 0 to 4 IR, EG, CO, and I data in Indonesia

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-105.8079	NA*	4.795207*	12.91858	13.11463	12.93807
1	-92.64200	18.58721	7.185706	13.25200	14.23225	13.34944
2	-76.32436	15.35778	10.40668	13.21463	14.97908	13.39002
3	-49.59843	12.57691	12.72048	11.95276	14.50141	12.20610
4	1867.190	0.000000	NA	-211.6694*	-208.3366*	-211.3381*

Table 2 shows the findings of the Optimum Lag test. The AIC value at Lag 0 to 4 indicates that the length of the Lag variables IR, EG, CO, and I are in AIC, SC, and HQ at Lag 4. Since the results of the three criteria are the same, the fourth lag will be selected. During this period, the interactions between IR, EG, CO, and I are shown in this table. Based on the data, there is no preliminary effect for the four variables, so according to the test requirements, the best lag lies in lag 4.

Following the stationarity test, the next step is a cointegration test. The cointegration test is conducted after the researchers have determined the degree of stationarity in the variables employed. The cointegration test is one of the methods for determining whether or not the variables in a model have a long-term connection. If cointegration is discovered between two variables during testing, it might be inferred that the variables have a long-term connection. The findings of the cointegration test using the cointegration test are as follows:

Tabel 3. Cointegration test

Hypothesized	Eigenvalue	Trace Stat	Critical Value	Prob
None	0.654689	43.38838	47.85613	0.1234
At most 1	0.567118	23.18547	29.79707	0.2371
At most 2	0.317877	7.276956	15.49471	0.5457
At most 3	0.000452	0.008592	3.841466	0.9258

The cointegration test results from table three above show that there is no cointegration because the probability is greater than 0.05. VAR (Vector Autoregressive) is a multivariate forecasting model that is used to construct a forecasting system from interrelated time series data and to analyze the dynamic effects of the presence of random factors that interfere with the system.

Table 4. Vector Model Analysis

	IR	EG	CO	I
IR	0.347130	-0.145542	-0.005633	-0.031630
	(0.32306)	(0.16984)	(0.15925)	(0.03812)
	[1.07450]	[-0.85693]	[-0.03538]	[-0.82967]
EG	0.129728	-0.388112	-0.306611	-0.396927
	(2.33234)	(1.22616)	(1.14968)	(0.27523)
	[0.05562]	[-0.31653]	[-0.26669]	[-1.44217]
CO	-2.596949	0.311449	-0.590026	0.009579
	(1.62282)	(0.85316)	(0.79994)	(0.19150)
	[-1.60027]	[0.36506]	[-0.73759]	[0.05002]
I	-3.212489	-0.287247	-0.625972	0.238036
	(2.29911)	(1.20870)	(1.13331)	(0.27131)
	[-1.39727]	[-0.23765]	[-0.55234]	[0.87736]
C	46.30950	1.083986	3.388157	1.413773
	(18.6026)	(9.77981)	(9.16980)	(2.19521)
	[2.48941]	[0.11084]	[0.36949]	[0.64403]
R-squared	0.495509	0.197054	0.223972	0.561805
Adj. R-squared	0.091916	-0.445303	-0.396851	0.211249
Sum sq. resids	169.2662	46.78264	41.12864	2.357081
S.E. equation	4.114197	2.162930	2.028020	0.485498

F-statistic	1.227744	0.306767	0.360766	1.602612
Log likelihood	-47.73665	-35.52003	-34.29636	-7.133188
Akaike AIC	5.972279	4.686319	4.557511	1.698230
Schwarz SC	6.419645	5.133685	5.004877	2.145596
Mean dependent	5.628661	4.977976	4.544521	1.799507
S.D. dependent	4.317398	1.799132	1.715920	0.546660

The relationship between IR and IR itself is significantly positive, with a coefficient of 0.347130 and a t-statistic of 1.07450, the relationship between IR and EG is significantly negative, with a coefficient of -0.145542 and a t-statistic of -0.85693, which means the lower the IR, the higher the EG. Likewise, the relationship between IR and CO is significantly negative with a coefficient of -0.005633 and a t-statistic of -0.03538, meaning that the lower the IR, the higher the CO. The relationship between IR and I was significantly negative, as evidenced by the coefficient -0.031630 and t-statistic -0.82967. This shows that a low real interest rate, will encourage economic growth, as well as consumption levels that are in line with economic growth, in fact, it will increase as the real interest rate decreases. In line with consumption and economic growth, the investment will also increase along with lower interest rates.

Granger causality is a test that determines if two study variables have a causal or reciprocal link by determining whether they statistically impact each other (two-way or reciprocal relationship), have a unidirectional relationship, or have no relationship at all (do not influence each other).

Table 5. Granger Causality

Null Hypothesis:	Obs	F-Statistic	Prob.
EG does not Granger Cause IR	19	0.60483	0.5598
IR does not Granger Cause EG		0.46559	0.6371
CO does not Granger Cause IR	19	0.71774	0.5050
IR does not Granger Cause CO		0.87400	0.4389
I does not Granger Cause IR	19	0.09846	0.9069
IR does not Granger Cause I		1.12446	0.3525
CO does not Granger Cause EG	19	0.09572	0.9093
EG does not Granger Cause CO		1.10983	0.3569
I does not Granger Cause EG	19	0.28746	0.7545
EG does not Granger Cause I		2.22746	0.1446
I does not Granger Cause CO	19	0.18782	0.8308
CO does not Granger Cause I		0.28183	0.7586

The results of Granger causality analysis with IR, EG, CO, and I variables indicate that there is no one-way relationship because the significance level (p-value) is less than or equal to 0.05.

Conclusion

The interest rate has a negative reciprocal relationship, which means that the interest rate suppresses the real sector which includes economic growth, domestic consumption, investment. This proves that the higher the interest rate, the more burden on the real sector. Of course this has a negative impact on the economy. In today's modern economy in Indonesia, the interest system as one of the economic factors and determinants of monetary policy is common in the Indonesian

economy. However, interest or in Islam called usury is something that needs to be avoided or minimized because it burdens the economy, especially in the modern economy in Indonesia.

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