The Impact Of Interest Rates On Thailand's Real Economy, as Measured by Real GDP, Consumption, and Investment

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Abstract

The goal of this research is to determine how interest rates affect the real economy, as measured by real GDP, consumption, and investment. This is important to do to see the impact of interest rates on the real sector because interest rates are prohibited in the Islamic financial system. We use vector analysis for the influence between variables so that we can understand the direction of influence between interest rates, GDP, investment, and consumption. The direction of interest rates' effects on GDP and consumption shows that they have a strong negative impact on the real sector. The direction of the negative association suggests that the financial system of Islam, which has zero or no based on interests interest rates on capital, can encourage the real sector to thrive better than the traditional financial system, which uses interest as a cost of capital.

Introduction

The influence of interest rates on economic development and effective demand is one of the most controversial topics in economic theory. One group of theorists suggests that the interest rate has a direct (opposite) effect on investment and production, while others postulate that there is no direct relationship between these variables, because the interest rate changes the distribution of income. Therefore, it indirectly affects the effective demand and, through these channels, economic growth. This led to various monetary policy proposals aimed at modifying economic growth and market size (Deleidi & Mazzucato, 2019). Our hypothesis is that the interest rate has a weak effect on the financing of accumulation and production: therefore, its effect on effective demand and economic growth occurs through changes in the distribution of income. This mechanism is strong in developing countries, in particular interest rates have the primary objective of stabilizing exchange rates, controlling inflation and, in this way, stabilizing the purchasing power of financial wealth, reducing the participation of wage earners in total income. With an inverse link between the interest rate and investment and a direct association with saving, the interest rate is a key factor in influencing investment (I) and saving (S) spending, on the basis of which it is postulated that saving precedes investment (ex-ante saving theory), money is neutral, and flexibility in interest rates ensures a balance between savings and investment (Roussel, Ali, & Audi, 2021).

The Efficient Market Hypothesis provides a more detailed perspective on how the capital market operates. Fama (1992, 1970) believes, among other things, that a capital market is a place that ensures the free movement of money, and the availability of information to all agents, and is moreover free. This ensures that the title's financial price is a balance, given the information

available. According to this viewpoint, the capital market serves as the primary venue for financial intermediation. Its purpose is to disperse limited financial resources, known as savings (S), among investment projects (i) with the best returns, i.e. guarantee investment financing at a rate that maximizes economic growth. , given the available resources (Vitolla, Salvi, Raimo, Petruzzella, & Rubino, 2020). The capital market is where surplus and deficit agents congregate to finance productive capital through the buying and selling of financial titles. By valuing upfront capital and distributing profits made in the real sector between savers and entrepreneurs, the financial title price reflects the fundamental and intrinsic value of the asset, which must be equal to the book value. This implies that subsequent changes in the price of financial instruments are unrelated to one another in time and across different assets, i.e., current prices are unaffected by either the past or the present. As a result, monetary gain is unintentional and unpredictable (Dasgupta, Ghosh, & Ghosh, 2021).

The second vision is postulated by the new classical consensus. Its predecessors can be found in Wicksell (1907), picked up by John Taylor (1993), and models related to inflation targeting policies. Wicksell argues that the central bank determines a monetary interest rate that oscillates, in a limited way, around the natural rate of interest (where saving equals investment, at the full employment rate). This implies that market forces guarantee the convergence of monetary interest rates to natural interest rates. An imbalance between the monetary interest rate and the natural rate (for example, if the first is lower than the second) increases the demand for credit, the central bank's reserves decrease, and the effective demand increases, leading to a cumulative price process, which the central bank takes into account in determining the interest rate. Flower (Abel, Lóga, Nagy, & Vadkerti, 2019). The goal of this study is to investigate the impact of interest rates on the real sector and economic growth in Thailand.

Literature Review

Thailand's Islamic Finance Ecosystem is expanding quickly as overall Sharia-compliant assets rise. Sustainable Islamic finance has great potential as it meets the needs of a wide range of investors (Naeem, Farid, Arif, Paltrinieri, & Alharthi, 2023). Contemporary reality imposes many needs in the field of finance, and to meet these needs, jurists specializing in financial transactions are working diligently and working to innovate many financing products and solutions that are compliant with Islamic law that meet the needs of individuals and companies (Ercanbrack, 2019). Islamic investment is largely focused on real sector investments. It is very different from conventional investment which is divided into two, namely investment in the real sector and interest-based investment. Islamic finance is used by a lot of people and organizations since it has several benefits. Islamic finance is the study of financial resources, use them, use them, and invest them with the aim of making a profit or contributing to achieving the benefits of individual, societal and terrestrial development, within the framework of Islamic law, its rules. and purpose (Marwan & Haneef, 2019). Murabaha is considered to be one of the most well-known financing tools, as it provides a practical solution for buying various commodities, such as banks, at the request of customers who wish to purchase and purchase commodities from the source and resell them. The bank rents out cars to customers in accordance with monthly payments and an agreed term. At the end of the period, the bank offers the customer to buy the car, but if the bank promises to transfer ownership to the customer, the promise will be fulfilled as long as the customer has made all payments (Billah,2019).

Istisna contract made by a bank with a customer who wants to build a certain building according to certain specifications and a certain period of time to complete the construction. If the delivery

date is earlier than the date mentioned in the contract among the bank and the client, the bank will enter into a contract with the contractor to build the same building in accordance with the same specifications. The contractor and the client are not one person or have a direct relationship with him, and the client's relationship with the contractor ends after receiving an offer from him and submitting it to the bank. The contract value or part thereof may not be prepaid by the client to the contractor, yet exact measurements of the construction criteria must be made (Salem,2013). Investing in equities that meet its requirements is acceptable under Islamic law. However, Islam prohibits interest-based investment instruments such as depositors and bonds. Islamic investment instruments that are not interest-based substitutes for deposits or bonds are Sukuk. Sukuk are a legal substitute for financial bonds issued by conventional banks and are regarded as certificates confirming to the owner of equal ownership of specific assets, as the latter are considered as loans from the holder to the authority that issued them, and the holder receives periodic financial benefits. Periodic returns resulting from profits from an invested project, or returns from renting out property or property owned by the issuer and leasing it back (Elhaj et al,2015).

There are several forms of sukuk, namely Ijarah sukuk, Mudharabah sukuk, and agency instruments. In Sukuk Ijarah, the holder of the instrument through a specific purpose company purchases a leaseable asset such as real estate, for example, and then leases it to the issuer of the instrument with a promise to resell it to the issuer at the end of the instrument's period, and through this process obtains periodic returns. In Sukuk Mudharabah, the instrument holder, through a special purpose company, appoints the issuer of the instrument as a "mudarib" to manage the invested capital. This type is called "limited mudharabah", and both parties share the return generated from the investment in a certain ratio according to what is agreed in the contract between them. Investors are more into agency instruments than speculative instruments. In an agency instrument, the agency instrument holder, through a special purpose company, assigns the instrument issuer to manage the invested capital according to the activities agreed in the agreement made between the two parties that achieve the minimum profit specified in the investment management agreement. The Sukuk issuer guarantees capital as an agent in it and also guarantees the profit limit specified in the agency agreement between the two parties (Uddin et al,2020). Islam also allows mutual funds as long as they follow Islamic sharia called Sharia Mutual Funds. Sharia mutual funds are investments that are made up of a financial pool that receives contributions from a number of shareholders with the intention of investing in assets like stocks, Sukuk, and other instruments used in the financial markets that adhere to sharia laws (Sandwick et al,2021).

Research Method

To see the direction of influence between variables, an autoregressive vector is used with an autoregressive vector model as follows:

$$CO_t = \beta_0 + CO_{t-1} + \beta_1 GDP_{t1} + \beta_2 I_{t2} + \beta_3 IR_{t3} + e_t$$
$$GDP_t = \beta_0 + GDP_{t-1} + \beta_1 CO_{t1} + \beta_2 I_{t2} + \beta_3 IR_{t3} + e_t$$
$$I_t = \beta_0 + I_{t-1} + \beta_1 GDP_{t1} + \beta_2 CO_{t2} + \beta_3 IR_{t3} + e_t$$
$$IR_t = \beta_0 + IR_{t-1} + \beta_1 GDP_{t1} + \beta_2 I_{t2} + \beta_3 CO_{t3} + e_t$$

Gross Domestic Product is GDP. I an investment, C is consumption, and IR is the interest rate. Before estimating, all data must be ensured to be stationary, so a stationarity test is carried out using the ADF test. When the data is stationary, autoregressive vector estimation can be performed. We draw on secondary data from the World Bank. We use the deposit interest rate as the basis for calculating the interest rate (Ir). To see the real sector, we use the real gross

domestic product (GDP) as an indicator. For consumption, we use final consumption expenditure as an indicator of consumption (C). And to see investment (I) in the real sector, we use net investment in non-financial assets in Thailand.

Result and Discussion
Before making estimates, the data is tested, namely the stationarity of the data. Table 1 displays the test results.

Table 1. Results of a stationarity test

	Stat.	Prob.**
Fisher test	11.0015	0.2016
Choi Z test	0.56865	0.7152
		Prob.
CO		0.9905
GDP		0.9362
I		0.0156
IR		0.2823

Considering the test's outcomes, it can be concluded that all the data are stationary so that autoregressive vector estimation can be done.

Table 2. Vector analysis

	CO	GDP	I	IR
CO	0.192241	-0.89113	0.01217	-5.54E-12
	-0.65462	-2.05342	-0.53176	-1.50E-11
	[0.31031]	[-0.45584]	[0.02704]	[-0.36133]
GDP	0.065991	0.155332	0.197327	-4.59E-12
	-0.2385	-0.74815	-0.16207	-5.60E-12
	[0.27669]	[0.20762]	[1.21751]	[-0.82181]
I	1.63E+00	4.24E+00	2.18E-02	1.92E-11
	-4.29E-01	-1.34E+00	-3.48E-01	-1.00E-11
	[3.79606]	[3.15160]	[0.06267]	[1.91601]
IR	-7.52E+09	-2.47E+10	-2.28E+10	-4.64E-01
	-1.90E+10	-6.00E+10	-1.50E+10	-4.45E-01
	[-0.39560]	[-0.41475]	[-1.47574]	[-1.04311]
C	-4.36E+10	-2.97E+11	6.83E+10	4.38E-01
	-9.80E+10	-3.10E+11	-8.00E+10	-2.31E+00
	[-0.44283]	[-0.96003]	[0.85351]	[0.18987]
R-sq.	9.98E-01	9.92E-01	2.90E-01	5.16E-01
Adj. R-sq.	9.96E-01	9.86E-01	-2.78E-01	1.30E-01

Sum sq. resids	1.95E+21	1.92E+22	1.29E+21	1.07E+00
S.E. equation	1.40E+10	4.38E+10	1.14E+10	3.27E-01
F-stat.	5.62E+02	1.56E+02	5.10E-01	1.33E+00

Based on the estimated findings of the VAR, the significant coefficient of the relationship is contrasted with the t-stat, it is possible to determine the direction of the influence relationship between variables and a sign (-) for the negative direction and no sign (-) for the positive direction. This demonstrates that consumption has a positive favorable impact on subsequent consumption. GDP is not much harmed by consumption. Investment is significantly influenced favorably by consumption. IR are significantly impacted negatively by consumption.
Consumption is significantly influenced favorably by GDP. GDP significantly influences GDP in a good way. Investment is significantly influenced favorably by GDP. IR are significantly negatively impacted by GDP. Consumption is significantly influenced favorably by investment. The GDP is no significantly positive on investment. Interest rates have no significant negative effect on consumption. Interest rates have no significant negative effect on GDP. IR are significantly impacted inversely on investment. IR have a negative impact on interest rates. Based on the estimation results, it can be seen that interest rates have a negative trend on all variables indicating that interest rates can become a burden to the economy in the real sector, although not significant. This demonstrates that the real sector of the economy benefits more from reduced interest rates. To see the direction of influence, an impulse response graph is presented which shows the response of each variable to changes in each variable. Figure 1 displays the outcomes of the impulse response.

Figure 1. Response Impulse Graph

From the impulse response results presented in figure 1. it can be seen that each variable can respond from the zero periods, which means that each variable can respond to each other and go to the equilibrium point.To see the forecasting of the direction of movement of each variable in the accumulated direction of influence of each variable, forecasting of the direction of movement of each variable is presented in figure 2.
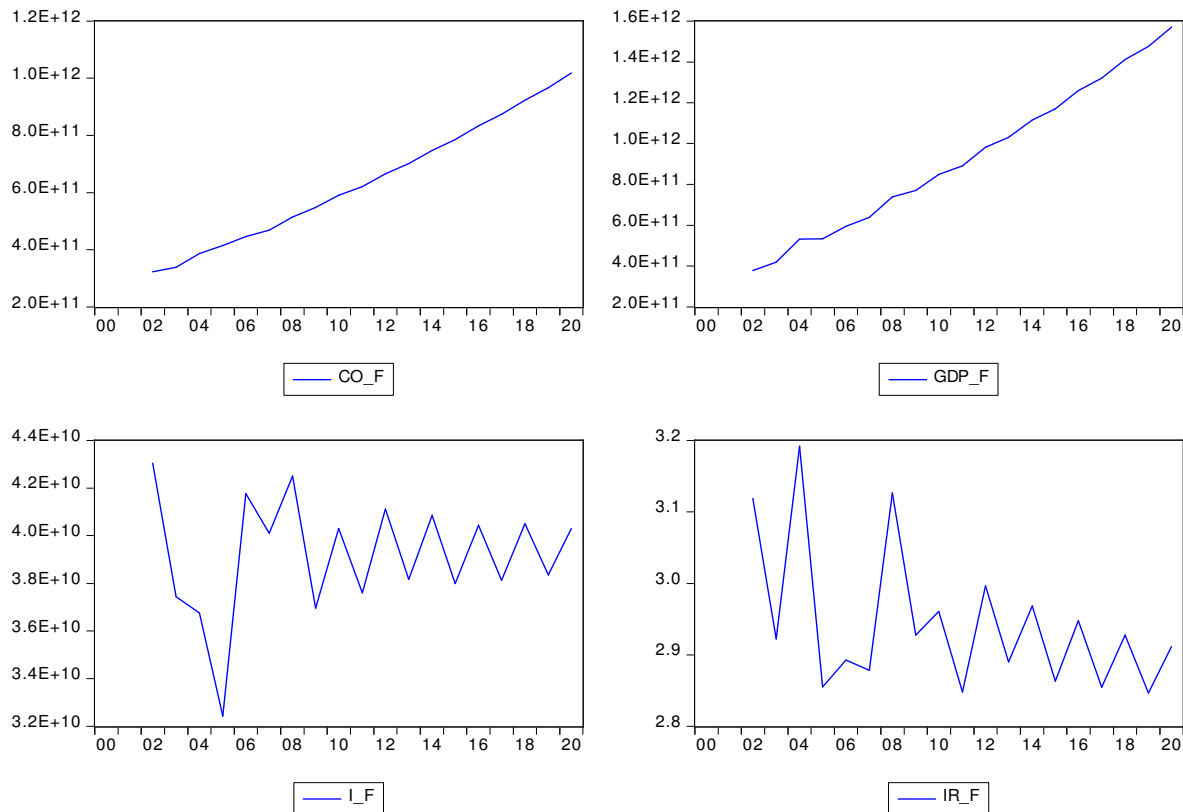

Figure 2. Forecasting Graph

From the forecasting results, it can be seen that the direction of consumption movement from 2000 to 2020 continues to increase as well as GDP which shows a trend in the same direction of movement. For the investment chart, it looks like it moves up and down in balance and interest rates also fluctuate up and down but the trend tends to decrease.

From the results of forecasting estimates for each variable, it can be indicated that the direction of interest rates is opposite to the variables of consumption and economic growth. Where economic growth is an indicator of the real sector. This indicates that interest rates have a negative impact on the real sector and vice versa. It can be concluded that Islamic finance with an interest-free system or zero interest rate can encourage superior to the traditional banking system in the real sector which uses the interest rate as the cost of capital.

Conclusion

The direction of interest rates' effects on GDP and consumption shows that they have a strong negative impact on the real sector. The direction of the negative association suggests that the financial system of Islam, which has zero or no based on interests interest rates on capital, can

encourage the real sector to thrive better than the traditional financial system, which uses interest as a cost of capital.

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