The Effectiveness of Monetary Policy Responding to the Covid-19 Pandemic in Thailand : Focus on Monetary Policy

By

WATTANANARD, Wattanee

THESIS

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

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ABSTRACT

THE EFFECTIVENESS OF MONETARY POLICY RESPONDING TO THE COVID-19

PANDEMIC IN THAILAND: FOCUS ON MONETARY POLICY

By

Wattananard, Wattanee

This research analyzes the scenario of execution of a monetary policy during the COVID-19 pandemic in Thailand and 10 South East Asia countries. The concept of monetary policy shows that it is an instrument to deal with inflation rate, unemployment, and gross domestic product (GDP) in the economic downturn. The most significant determinant of GDP effect on inflation rate and unemployment in the pandemic period. A multipronged package of fiscal, monetary policies is applying these objectives in Thailand policy to alleviate some of an unpresented economy. The study shows a new database response to COVID-19 pandemic by collecting these on a comparable basis across 11 countries in Southeast Asia region. Because monetary policy are critical players to support and provide sufficient economy for the COVID-19 situation. Central banks are gaining a critical role in driving their alleviation in the financial system. However, the scope of monetary policy is enormous. The study will analyze the factors which affect the monetary policies and enhance the resilience and alleviation of the pandemic and financial system.

Keywords: COVID-19, Monetary policy, Vaccination, Southeast Asia, Mortality rate, New confirmed cases.

Chapter 1: Introduction

Meanwhile, the COVID-19 pandemic is having a serious impact around Thailand and threatening the health security of 500 thousand Thai citizens. Thailand reported a record high of 75 COVID-19 fatalities over two days. There were 9,276 new cases with 8,998 in the general population and 278 among prison inmates as of July 9, 2021. At the first time, some of countries would be an understatement or underestimate. However, the pandemic has changed how we work, learn, travel, and interact as social distancing. The first case in Thailand was reported a case outside China, on 8 Jan 2020. Concurrently, the Thai government has to respond to the outbreak such as social distancing measures, online school, and work from home.

On April 3, Lockdown measures and a curfew were implemented, for example, travel restriction for both foreigner and Thai citizens who would like to travel in Thailand was suspended in April 2020. So far, the Thai economy impact of Covid-19 has been severe, mainly Thailand is a major tourist attraction packed with visitors as a tourism hub. The tourism industry, which makes up close to 15 percent of Thailand's GDP, is struggling to survive and changing its business structure from mass tourism to valuable tourists. Suddenly, the bank of Thailand cut the policy rate from 1.25 to 0.5 percent during February to May 2020 and continuing the monetary relaxing cycle that began in Aug 2019.

During the pandemic in Thailand, the BOT's monetary policy response and the fiscal policy response are in the same direction, which recovers the tourism sectors and domestic demand. At the meeting on May 5 and June 23, 2021, The BOT maintained the policy rate at 0.5 percent because the third wave of pandemics affected the Thai's GDP, which is forecast to 0.7 percent, lower than expected at the end of the year year-end, 2021). In my view, the prospects' economics in Southeast Asia remain depressed, and the repercussions of pandemic affect the poverty, unemployment, and human development would set back. In addition, there are three key factors have been important in Southeast Asia's COVID-19 crisis; controlling the virus to protect economic depressed, vaccination to revive and boost economic activity, and

macroeconomic policy required fiscal policy to lead the role while the monetary policy of central bank was crucial for stabilizing financial market.

Some articles show that under the COVID-19 pandemic, central banks' monetary policy will be effectiveness or imbalance of financial market, a rapid growth of sovereign debt, a sharp increase in unemployment and inflation, and a sharp decrease in GDP (Andryushin S.A., 2020).

On the Southeast Asia region, many central banks support government in expansional fiscal policy such as tax and interest rate cut, aggregate demand and employment. The central banks in the Southeast Asia region follow the monetary policy in advanced countries by decreasing interest rates and reduced reserve requirement and purchasing government bonds (ASEAN,2020).

In this scenario, Thailand did not indeed perceive the effects of the COVID-19 until March 2020, when many of the citizens who tested positive with the virus started to jump among men drawn to a boxing stadium and a night club. In this case, 109 new confirmed cases were related to boxing stadiums, then the Ministry of Public Health of Thailand (MPHD) had requested the peoples who went to the boxing stadium returning to their home to self-quarantine to protect their family. Definitely, the total confirmed cases were bringing to 1,245 cases, it covers 76 provinces and the number of mortalities was increasing to 6 deaths within 24 hours (WTO, 2020). Finally, Thailand's government imposed the closure of schools, businesses, public places, and all international flights stopped on April 5,2020 (MPHD, 2020).

In effect, the Thai economy felt the effects of the restrictions almost immediately. According to the Credit Suisse Research Institute, the unemployment rate has increases 2 percent in Q2 of 2020 in the Bangkok area, and Thailand's jobless rate has more than tripled since 2010. Besides, the Gross Domestic Product (GDP) fell -6.6% year-on-year in December 2020, and the inflation rate dropped 0.3% year-on-year in the same period (BoT, 2020). Specifically, previous statistical data can imply a negative relationship of the unemployment rate between GDP and inflation (Laurence M et al.,2013). The impact

of this relationship on the unemployment rate is increasing, GDP and inflation have been decreasing faster. Hence, the unemployment rate led to lower household income, higher household debt, and lower inflation, which is reflected in reduced GDP and inflation as a sign of a recession and deflation period.

The linkage between monetary policy and fiscal policy is very close. Central banks have been gaining a critical role in driving their sustainability in the financial system over the past decade. The driving of sustainable economics during pandemic, which is unprecedented, is expected to have serious long-term implications. The most intimidating for policy's COVID-19 crisis is strengthen the confident of foreign and domestic investors, employees, and employers during the economic downturn from both the fiscal and monetary policy (Shri Mata V., Katra, 2020).

This study aims to analyze the factors that affect economic downturn between Thailand and Southeast Asia region. Hence, it will focus on the on the monetary policy. Through this study, the gap that the Bank of Thailand and central bank in Southeast Asia region can progress the effectiveness of sustainable growth in COVID-19 situation will revealed. The central banks will emphasize interest rate, GDP, inflation, and unemployment in its operation. Thus, the study would enhance the resilience and sustainability of the pandemic and monetary policy. On the other hand, the monetary policy will be the key factor that stimulates the real economy to alleviate and adapt economic downturn to sustainable growth. This is a great chance to investigate the alleviative factors that lead to sustainable economic growth that will fit both the Thai and Southeast Asia economies.

The paper proceeds as follows. Section 2 is the introduction of monetary policy among Southeast Asia region, and literature reviews. Section 3, the monetary policy of BOT and challenges of BOT concerning the pandemic will be shown. Research methodology and hypothesis development are presented in Section 4. The 5th section will contain information about how the research collected and gathered data. Discussion and recommendations will be described in Section 6 and 7, respectively. The final section will

present the conclusions and the current barriers, gaps of study, implications for policymakers (BOT) and

further research suggestions.

Chapter 2: Literature Review

The initially COVID-19 crisis has shocked the Southeast Asia region, with the negative GDP, a sharply unemployment and inflation. During the initial part of the crisis, it would likely be the worst economic situation and social scars. In Southeast Asia economies, income per capita will be 6 percent lower in 2024 (IMF, 2021). The measurement of central banks has been to immigrate in part of speed and scope. In terms of the Southeast Asia region, the central banks have sustainable economic recovery and stability. The four key issues are reduction in interest rate, reserve requirement, purchase of government bonds, and exchange rate intervention. These would require both fiscal and monetary policy to work simultaneously. The early response among the Southeast Asia region focused on easing the economic downturn on business bankruptcies and allied institutions by ensuring smooth credit and loan support or interest rate subsidy to SMEs sectors (Shri Mata V., Katra, 2020). The preliminary evidence also supports the notion that the response of central banks to COVID-19 had decreasing unemployment and inflation and positive GDP, particularly the tourism sector during the pandemic (Mosser, 2020).

Broadly, the central banks play an important role in mitigating and adapting the risk of real economic activity during the distressing situation. To drive easing the financial stress to the private sector, two paths support the monetary policy by conventional and unconventional instruments. First, most central banks in the Southeast Asia region cut interest rates. The relaxation of macroprudential tools might limit the amplified impact of the demand and supply shock on the real economy, especially on decrease reserve ratio requirement and temporary relaxation of lending program. By comparison, in advanced countries, the monetary policy response to the COVID-19 crisis has been in terms of the zero bound interest rate and asset purchases. This sector will introduce the correlation of the BOT, central bank in the Southeast Asia region, and monetary policy to support the COVID-19 crisis.

In fact, the COVID-19 crisis has led that the interest rate leaves at record low might not be desirable outcomes. Moreover, developing countries have greater fragilities compared to developed and advanced countries. This can have serious implications for the central bank in Southeast Asia countries except for

Singapore in terms of expanded capital outflow and the depreciation of the local currencies and lead to a spike in Irish anchoring the inflation expectation (Hofman, Nier, and Kamber, 2020).

The BOT acts as the lender of last resort to the financial system that the BOT to ensure adequate access to liquidity and protect bankruptcy amongst financial and non-financial institutions for long term economic growth. For instance, Thailand did not indeed perceive the effect of the COVID-19 until March 2020, when many of the citizens who tested positive with the virus started to jump among men drawn to a boxing stadium and a nightclub. Finally, Thailand's government closed schools, business, public places, and all international flights stopped on April 5,2020 (MPHD, 2020). Thus, the Thai economy felt the effects of the restrictions almost immediately. In fact, the Bank of Thailand's monetary policy (BoT) is operating under the Flexible Inflation Targeting Framework since 2000, and the BOT has decreased the policy rate three times in 2020 to a record low of 0.5% (BoT, 1942).

For the monetary policy-driven approach, many central banks intervene in the market by issuing monetary easing policies and tightening to encourage growth while keeping inflation under control and easing the stress in business units.

Summary

This chapter provides critical data used to develop the hypothesis. The secondary research shows factors that force the central bank's monetary policy to apply for the COVID-19 crisis. It also shows the measurement of each factor that can be used to develop the hypothesis to answer the research question "What determines the monetary policy in COVID-19 crisis from central bank perspective?"

Role and Challenges of central banks during the COVID-19 crisis

The mortality pattern per million people in Southeast Asia during April 2020 – September 2021 shows an increasing trend (Figure 1). It indicates that the mortality was highest in Malaysia (705.42), followed by Indonesia (529.10), Philippines (340.72), Myanmar (314.48) and so on.

Figure 1 Pattern of the COVID-19 Mortality in Southeast Asia
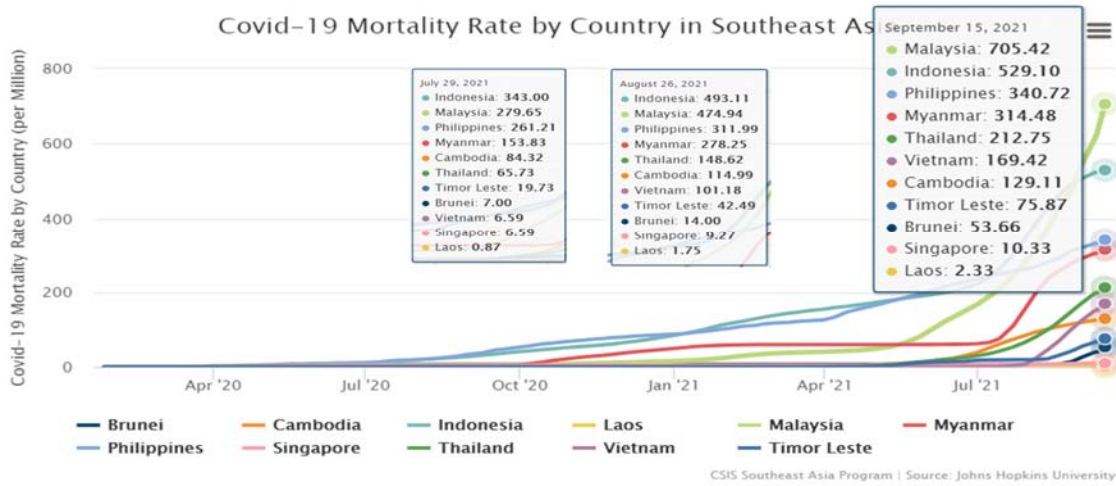
Note. From the Centre for Strategic and International Studies (CSIS) Southeast Asia Program, Johns Hopkins University.

The pattern of confirmed COVID-19 cases in Southeast Asia during Febuary 2020 – September 2021shows raising trend (Figure 2). Figure 2 shows that the number of confirmed new cases was the highest in Indonesia (4.188 million), Philippines (2.347 million), Malaysia (2.082 million), Thailand (1.462 million) and so on.

Figure 2 Pattern of new confirmed COVID-19 cases in Southeast Asia
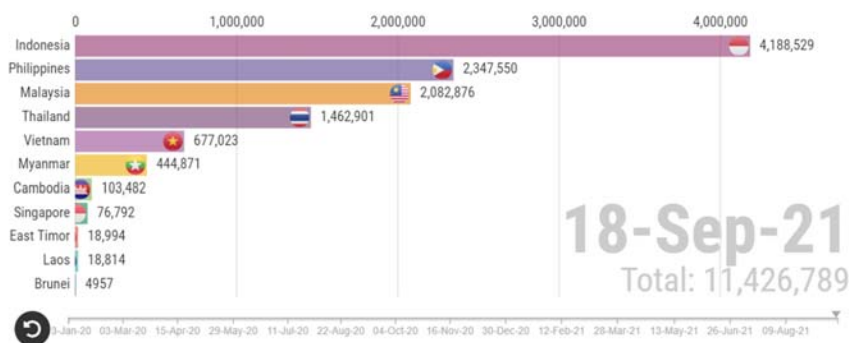
Note. From Johns Hopkins University, WHO as of 10:00 CET • July 30-31 data on Philippines sourced from its Department of Health website. Created by Yvonne T. Chua

The GDP growth pattern in Southeast Asia is severely impacted due to COVID-19 (Figure 3). This is why central banks across the countries are trying to boost aggregate demand and supply by generating money and lending programs into the economic system with the support of monetary policy to reduce financial stress.

Figure 3 Pattern of GDP growth in Southeast Asia
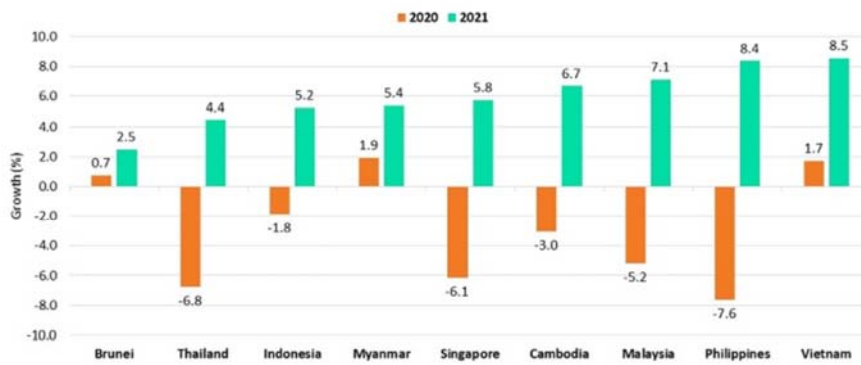
Source: GlobalData Business Fundamentals

Figure 4 Pattern of Policy rate in Southeast Asia economies.
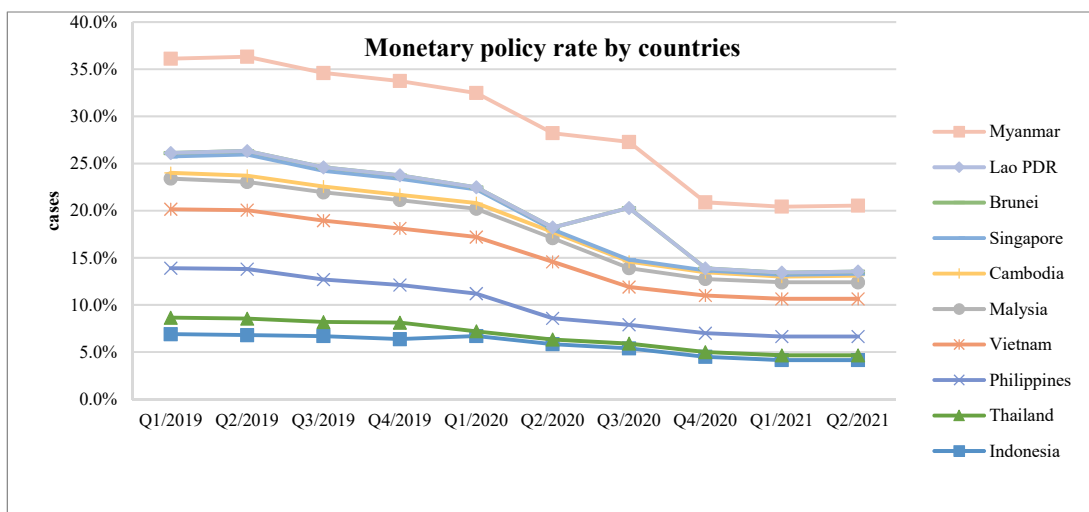
Moreover, figure 4 shows the pattern of policy rates in Southeast Asia economies. In term of the change in policy rates, the total response across the Southeast Asia region has been the same direction. Most of countries cut the interest rate or maintain interest rate to the lower bound.

The decline in economic growth and the impact on household income, financial sectors, unemployment, and inflation rate led to fiscal and monetary policy to restore stakeholders' confidence and business sectors. Table 1 shows fiscal and monetary policies supplemented each other in alleviating the impact of COVID-19 on the Southeast Asia economies.

Figure 5 Fiscal and Monetary policies in Southeast Asia economies

Country	Fiscal Stimulus Package								Monetary and Financial Sector Policy	
	Overall fiscal measures	Health system measures	Income support measures for individuals and households, excluding tax and contribution changes	Tax and contribution policy changes	Public sector subsidies to firms	Deferral of taxes and social security contributions and bringing-forward expenditure within current fiscal year	Public sector loans or capital injections to firms	Loan guarantees by the state, benefiting private borrowers	Monetary policy	Prudential regulation
Brunei Darussalam	✔	✔		✔	✔	✔	✔		✔	✔
Cambodia	✔	✔	✔	✔	✔		✔		✔	✔
Indonesia	✔	✔	✔	✔		✔			✔	
Lao PDR	✔	✔		✔		✔	✔		✔	✔
Malaysia	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Myanmar	✔	✔	✔			✔	✔		✔	✔
Philippines	✔	✔	✔		✔	✔	✔		✔	✔
Singapore	✔	✔	✔		✔	✔	✔		✔	
Thailand	✔	✔	✔	✔	✔	✔	✔		✔	✔
Viet Nam	✔	✔	✔	✔	✔	✔	✔		✔	✔

Source: OECD Country Policy Tracker (as of 4 May 2020).

Chapter 3 Research Methodology

The study develops research hypotheses from what was illustrated in the literature review. The conceptual framework is used to simplify the hypotheses. The significant framework shows 4 main areas of this study, with 4P model of transitioning to distance learning related to what determines is to the monetary policy in the COVID-19 crisis from the central bank perspective. It will examine the economies' benefit directly and indirectly from applying the monetary policy. The study summarizes the benefit of applying to 3 factors – economic growth, easing the stress in business, mortality and new confirmed COVID-19 cases, GDP, unemployment, and inflation.

As we see in the follow table, 4P model is combination of many factors which can measure to achieve the monetary policy and COVID-19 crisis

Table 1 4P model to achieve monetary policy

Qualitative analysis	Key Qualitative findings
People	This theme refers to text fragments that pinpoint variables on countries or social policy level.
Problems/Processes	This theme included the text fragments that refer to the core of the policy of central bank and encapsulated monetary policy.
Program/Platform	The countries, governments and central bank repeatedly referred to the medium through which economy occurred. I highlighted how the tangible and the intangible came together to allow for the experiences to occur. Within this theme, three categories were grouped: countries' economies, the Covid-19 cases and the monetary policy.
Phenomena/Policies	The last theme is related to the 'non-negotiables', be it at the level of the central bank, government or beyond. Within all of sectors, the governments or central banks minimize losses and maximize value in abidance with external restrictions.

As we see in the following figures, many causes affect our areas of study.

Figure 6 Conceptual Framework 2
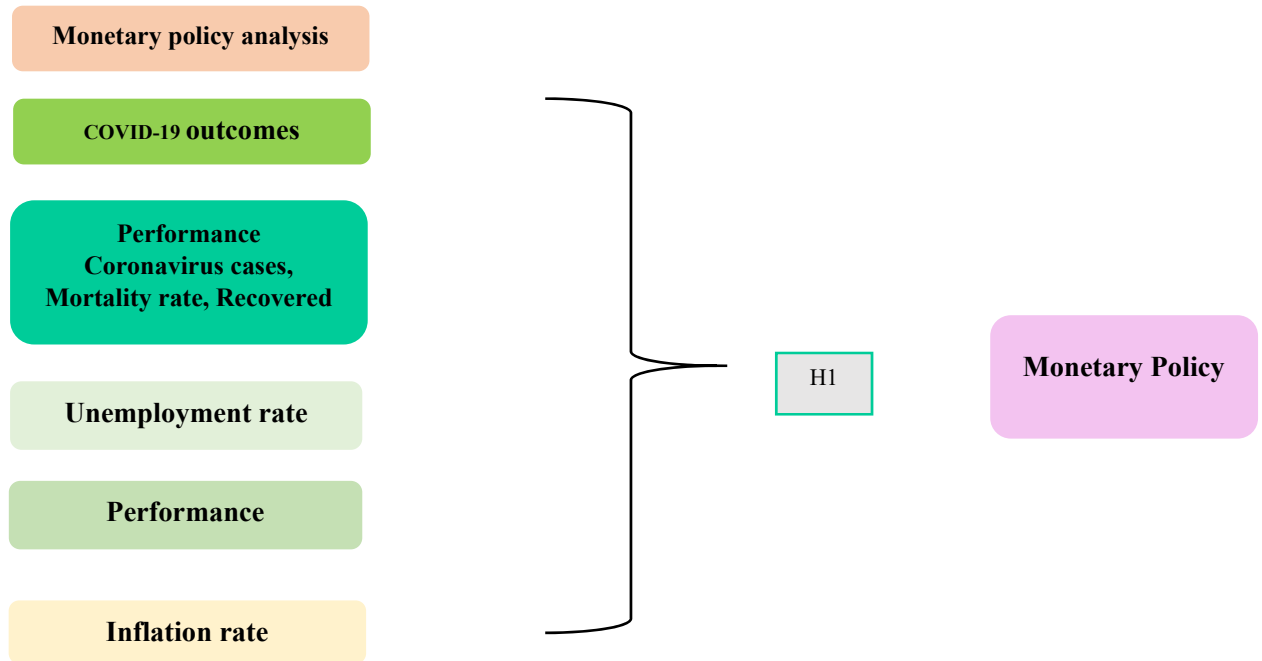
Monetary policy analysis

The effect of COVID-19 pandemic effect on Southeast Asia's labor markets: unemployment surged, GDP plunged, inflation shocked. The job losses are concentrated in fragile industries such as hotel business, transportation, wholesale, and retail of personal and household goods. The economic performance significantly relative to reported cases and mortality from COVID-19 pandemic compared to the rest of Southeast Asia's economics. The countries' success in containing the COVID-19 crisis thought shows relatively country differences. It will give a positive impact on central bank's monetary policy. However, this study focuses on the effect of monetary policy of central bank and the COVID-19 crisis. The GDP, unemployment and inflation percentage are used to study the impact on economic crisis and sustainability performance. The most important concern setting hypotheses, the reverse causality problem, is in consideration of the paper. Based on this focus, the hypothesis is:

H Coronavirus confirmed cases and mortality rate have an impact on economic growth

Summary

This chapter explains the cause and effect of each factor in this research. The conceptual framework and hypotheses are applied to simplify the idea developed from the literature review chapter. This hypothesis will be used to structure as follow: firstly, examined the literature on descriptive statical methodology, elaborated the number of confirmed cases and mortality, lastly monetary policy and economic data such as GDP, unemployment, and inflation the data used to estimate the impact of monetary policy response to COVID-19 crisis.

Chapter 4 Data Collection

From the literature review, we found 4 factors - reduction in interest rate, reduction in reserve requirement, purchase of government bonds, and exchange rate intervention – will determine the monetary policy in COVID-19 crisis from central bank perspective. This study gathering the data of 3 significant BIS working papers "a global database on central banks' monetary responses to COVID-19", the monetary policy of Bank of Thailand from 2020, and interest rate policy responses to COVID-19 crisis of IMF from 2019-2020. 3 indicators identify the significant monetary policy and COVID-19 crisis (confirmed cases, mortality, and economic growth. The significant banks are central bank of Singapore (MAS), central bank of Malaysian (BNM), central bank of Indonesia (BI), central bank of Philippines (BSP), the central bank of Myanmar (CBM), the central bank of Lao P.D.R (BOL), the central bank of Cambodia (NBC), the central bank of Brunei Darussalam (AMBD), and the central bank of Vietnam (SBV). This study uses various data to examine the hypothesis.

Summary qualitative statistics of monetary policy in the data set

To monetary policy, the 10 central banks extensively sustain financial sectors' operation and maintain the household debt, private and non-private business sectors (Table 3). Monetary policy aims to ensure liquidity for banking system, preservable inflation rate and GDP, provide targeted unemployment, and mitigate the severe economic impact of COVID-19 crisis. Therefore, most central banks in the Southeast Asia region take action by expansionary monetary policy by cutting interest rate which impacts household behavior, and level of economy can expect, and tightening requirements for bank and financial institution to maintain liquidity. In addition, most countries are actively protected from the volatility of their financial markets.

Table 2 Key Monetary Policy responses to Address COVID-19 crisis in Southeast Asia

	Reduction in Policy Rate	Reduction in Reserve Requirement	Purchase of Government Bonds	Exchange rate intervention
Brunei		X		
Cambodia		X		X
Indonesia	X	X	X	X
Laos	X	X		
Malaysia	X	X		
Myanmar	X	X		
Philippines	X	X		
Singapore				X
Thailand	X		X	
Vietnam	X			

Sources: Covid-19 Crisis Response in ASEAN Member States, OECD 2020, KPMG, ESCAP

Table 3 Central bank measures by categories

Tool type	Measures	TH	IN	PH	VN	MY	KH	SG	BN	LA	MM
Interest	Policy rate cut	√	√	√	√	√				√	√
Lending operations	Liquidity provision	√	√	√		√	√			√	√
	Targeted lending	√		√	√				√		
	Loan-to-value		√			√					
Asset purchases	Government bonds	√	√	√							√
	Corporate bonds	√									
Foreign exchange	USD swap line							√			
	Swaps							√			
Reserve policy	Requirement ratio	√	√	√	√	√	√				√
	Compliance			√		√					
Business sector	SMEs	√		√				√		√	
	Fintech		√			√		√			
	Micro-finance	√			√						
	Real estate					√					
Stock Market	Repurchase		√								
	Relaxed the obligation		√			√		√			
	Mutual Fund	√									

Note. From author's compilation using IMF data.

Summary of data

Table 3 highlights the mix of monetary policy responses in Southeast Asia countries. Most countries response in terms of reduction in the policy rate and decrease in reserve requirement. The interest rate support measures in term of inflation are fluctuated during the COVID-19 crisis. The reduction in reserve requirement were made in entire region, except for Singapore, Vietnam, and Thailand. The reduction in reserve requirement measures in term of boosting money supply and expanding economy. Most countries do not receive a response in term of policy of purchasing government bonds, and intervene exchange rate excepts for Thailand, Indonesia, Singapore, and Cambodia respectively.

The purchasing government bonds support measures in terms of supporting government spending that respond to the health system, such as testing and treatment capacity, social protection, and vaccination. Next, intervention in exchange rate from the monetary policy has responded to stabilize the foreign currency, making private and non-private sectors comfortable with using domestic currency. Finally, this research uses the Purchasing of government bonds to measure the effect of the effectiveness of monetary policy during COVID-19 crisis.

Table 4 Intervention of central banks in Southeast Asia

Tool type	Measures	TH	IN	PH	VN	MY	KH	SG	BN	LA	MM
Interest	Policy rate cut	0.50%	3.50%	2%	2.50%	1.75%	x	x	x	5%	9.50%
Lending operations	Liquidity provision	1%	3.50%	12%		2%	8%			5%	3.00%
	Targeted lending	- SMEs' lending at 2% per year (TH 500 Bn).	- To ease the minimum down payment requirements for automotive loan - Increasing the size of refinancing	- Restore lending capacity	- Limited the capital of short-term lending by 50 bps. for priority sectors.	- Erasing percent of LTV to 70 percent for third mortgages.			- Lending rate		
Asset purchases	Government bonds	- Government bonds (THB 100 Bn).	- The government offer bond for sell in initially market - The lender of last resort for commercial banks - Stable bond market	- The government offer bond for sell in secondary market - Purchased PHP 300 billion							- Extend maturity date for the government treasury bill.
	Corporate bonds	- A Corporate Bond Stabilization Fund (BSF), (THB 400 Bn).									

Tool type	Measures	TH	IN	PH	VN	MY	KH	SG	BN	LA	MM
Foreign exchange	USD swap line							- US$60 billion swap arrangement between FED and MAS			
	Swaps							- USD liquidity to Singapore banks			
Reserve policy	Requirement ratio	- reserve requirement ratio from 5.0% to 3.5%	- Reduced LTV for real estate - Lowering reserve requirement ratios for banks	- Decreased commercial banks' reserve requirement ratio from 200 bps to 12 percent	- Reduction short-term funding to finance long term loans for one year	- Reduction ratio from 100 bps to 2 percent	- reserve requirement on hold at 7 percent				- reserve requirement ratio from 5.0% to 3.5%
	Compliance			- Tightening of compliance report.		- relaxing easing of regulatory and supervisory compliance on banks					

Tool type	Measures	TH	IN	PH	VN	MY	KH	SG	BN	LA	MM
Business sector	SMEs	- Grace period of principal and decreasing interest rate for 6 months - Non-classified NPL - Soft Loan THB 50 Bn.		- Reduced credit risk weights to 50%				- Help and support to meet the insurance commitments - a Simplified Insolvency Programme for restructing debt.		- Supporting 200 Bn. Kip and Post-Covid 1,800 Bn. Kip for recovery.	
	Fintech		- Closing the gap and more interact between the banking sectors and Fintech - Promoting digital payment			- hiring and training subsidies - Extend financing for firms and improve digitization		- a $125 million support FinTech capabilities - Encouring employee training and manpower costs - Enhancing digital platform and operational flexibility - Strengthening FinTech companies' tool.			

Tool type	Measures	TH	IN	PH	VN	MY	KH	SG	BN	LA	MM
	Micro-finance	- Soft-loan schemes			- No interest - The amount value is about VND 16.2 trillion or 0.2% of GDP. - Lending program VND 41.82 billion or 0.3% of injection package. - Inject liquidity and set grace period at 0% interest rate.						
	Property					- The mortgagee package was decreased from RM300,000 to RM 250,000 million - Real Property Gains Tax exemption					

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Tool type	Measures	TH	IN	PH	VN	MY	KH	SG	BN	LA	MM
Stock Market	Repurchase		- A new share buyback policy without a prior shareholders' meeting								
	Tightening the regulation.		- Mark-to-market valuation - Erasing liquidity ratio - Decreasing NSFR requirements - Relaxing Capital Conservation of bank's exposure.			- Relaxing the best practice commercial listed companies. - Waived fees in term of licensing fees and entities.		- Cap total dividends per share			
	Mutual Fund	- Supporting MFLF to help commercial banks to sustain liquidity at interest rate less 50 basis points.									

Note. From author's compilation using IMF data.

Table 4 shows shortly summaries the monetary policy-specific trend among countries in policy rate, short term and long-term policy, inflation, exchange rate, monetary and inflation targeting, deposit rates. Furthermore, Table 5 describes the key monetary policy of Southeast Asia central banks intervene financial sectors by countries. Central banks have available to encourage sustainable economic growth by controlling neither hot nor cold.

The pandemic is breaking global crisis it is not especially Southeast Asia region. In term of Southeast Asia countries its spread has left governments struggle with lockdown policy to tackle the spread of the pandemic. It has resulted in direct and indirect linkage with the financial sectors. However, the economic downturn has to impact the profitability of banking sectors and businesses. Especially, the commercial banks are not capitalized, the stock market has been a big shift and affects to saving account for individual investors, and some analysts and investors worry about the instability of further lockdowns and delays in vaccination might trigger more volatility of business sectors.

Unfortunately, 2021-2022 are difficult years for job expansion, declining unemployment, and new job opportunities. In terms of intervention, the COVID-19 crisis is more responsive to the monetary authorities' intervention. Therefore, it is not easy and requires a morn on time and strong direction from monetary policies.

The ASEAN organizes meetings, including with the United States, China, and the European Union (EU), to analyze the best solutions to the COVID-19 crisis. During 2020, the ASEAN meetings such as ASEAN-US Summit and ASEAN summit were canceled by the pandemic. As a result, the measurement of central banks in ASEAN lacks an integrated response across the countries and regions in the first wave of the pandemic. The following section describes a summary of the BOT response to the COVID-19 crisis.

In addition to the COVID-19 crisis, from the measurement's central bank perspective, the interest rate is cut interest rate at the lower bound by 0.5 percent as of July 2020. Further, to support financial industry, household debt, SMEs, and corporate companies, the BOT adjusted and amended soft loans to small and medium-sized enterprises, already reached the first wave until the third wave are B300 to B500

billion for lending to SMEs, Micro-SME, and Corporate. The loan has a grace period of 6 months which the free principal for the first 6 months and interest rate is not more than 2 percent per annum in 2 years of the total loan.

Moreover, tightening monetary policy is supported for debt restructuring for small and medium-sized enterprises in fragile sectors. The BOT adjusted preemptive response opposite to bad debt -or non-performing loans classification. The central bank keeps tightening non-performing loans in terms of erased interest rates and increasing loan payment periods. The BOT also informs the measures is SMEs suffering from the third wave of the COVID-19. Firstly, the BOT allowed financial institutions to use the definition of SMEs on their own, while the BOT defined SMEs with a credit line of no more than B100 million. Secondly, while SMEs are struggling with an economic downturn, the financial institution can include a reduction of principal and interest rate and changing term's loan from short-term to long-term and the debtor's ability.

The BOT intervenes in external business sectors such as the stock market and real estate industry during the COVID-19 crisis to avoid volatile markets by injecting liquidity to maintain a stable price and currency rate fluctuation. The total measures have been significantly in part of urgent support and alleviate response's policy. However, Thailand quickly imposes a lockdown while Thai's vaccine is slowly because of the failure of government's procurement. The result of slow vaccination in Thailand led to new confirmed cases and the increase in the mortality rate by 6% since March 2020.

Definitely, the fragile business sectors such as tourism, hotel, and transportation sectors are certainly projected to continue to struggle to face the worst economic downturn in the Southeast Asia region due to its absolute non-confident to the tourism industry. Concurrently, two hundred of pro-democracy protesters stand in Bangkok to call for the government's resignation, defying a warning from authorities about the COVID-19 cases and vaccination since June 2021. Emphatically, it is significant reliance on either the government or the central bank trade-off between human right crisis and the

COVID-19 crisis' priorities in two months later. Therefore, Thai's economy is more severe than the first round.

From the monetary and macro-financial perspective, the BOT sustained the monetary policy while Thai's economy is worse than last year.

Chapter 5 Research Result from Qualitative data

Data from Chapter 5 (data collection) was analyzed in this chapter. In this chapter, Hypothesis 1 will be examined. To study the relationship between monetary policy and economy during the COVID-19 crisis.

H   **The effectiveness of monetary policy responding to the COVID-19 crisis in Thailand.**

In Thailand, the first COVID-19 infection was reported on 13 January 2020. At that moment, the government rapidly comprehensive response a vary measurements for instance social distancing, lockdown, and interest rate cut. However, the second and third wave of the COVID-19 in Thailand have stated since April 1, increasing the average confirmed case around 11,000 and 100 fatalities in the third wave. Furthermore, the daily confirmed cases is severe   and the death rate are increasing, but the vaccination is continuing downward. Therefore, analyst predict Thailand's economic delay recovery and be more fragile in 2021. Since the start of the COVID-19 crisis, the BOT and central banks in Southeast Asia region cut policy rate to signal shifts the accommodative monetary policy and started decreasing interest rate along with reducing reserve requirement, tightening lending program and government offer to sell bond.

The reduction in interest rate is observed in developed countries as well as Southeast Asia region. For instance, the BOT cut its policy rate to 0.5 percent to a record low level, the central bank of Indonesia reduced its bank rate 3.5 percent, the central bank of Myanmar cut its policy rate to 9.5%, while the central bank of Singapore and Brunei did not response to policy rate cut.

In term of foreign exchange and swap measures, Singapore economy suffered a declining GDP by 41.2 percent then the MAS declared the measure which is supportive of macroeconomic situation to swap line from the Federal Reserve, amounting to a US$60 billion and US$22 billion was provided to support monetary policy in Singapore. However, the central bank in ASEAN announced reduction of

liquidity provision between 1%-12% by countries. The bank of Malaysia started enlarged the loan-to-value for real estate to 70 percent. Finally, the bank of Indonesia measures to maintain volatility economic in Indonesia and the stock market, so the central bank of Indonesia established a reduction repo rate for 7-day since March 18, 2020, to maintain domestic economic growth and extend frequency for FX swap auctions for 12-month tenors.

The result of hypotheses 1 is summarized in the table below.

From Figure 7, the ratio of vaccination and active cases in Thailand compared to other countries in ASEAN is explained that the average population in Thailand is about 70 million. At the same time, the number of coronavirus vaccines has been administered about 15 million. In the other hand, in Singapore, Malaysia, Lao PDR., and Brunei, the ratio between vaccination and population is about 50 percent. Therefore, it shows that Thailand had a lower percentage of vaccinated among Southeast Asia countries. Moreover, the proportion of positive cases has been rasing because of the impact of lower vaccination.

From Figure 8, the monthly confirmed cases in Thailand sharply increase since early May 2021, the impact on the poor tends to decline of confirmed cases affect the tourism campaign collapsed. Thailand's economy is without a doubt the weakness tend to economic growth because of unemployment and income decline causes by the COVID-19 crisis. For the same reason that the government spending and the monetary policy has been limited with business unable to functional operation, and lockdown measure.

From Figure 9, the policy rate in Thailand has been set at 0.5 percent since January 2021 and its recorded the lowest rate in Southeast Asia countries. The policy rate measure is expansionary money supply by increasing full employment or GDP and rising consumer spending. However, the low policy rate is poor affecting Thailand's economy because the third wave of COVID-19 raises the negative effect on labor markets and business sectors.
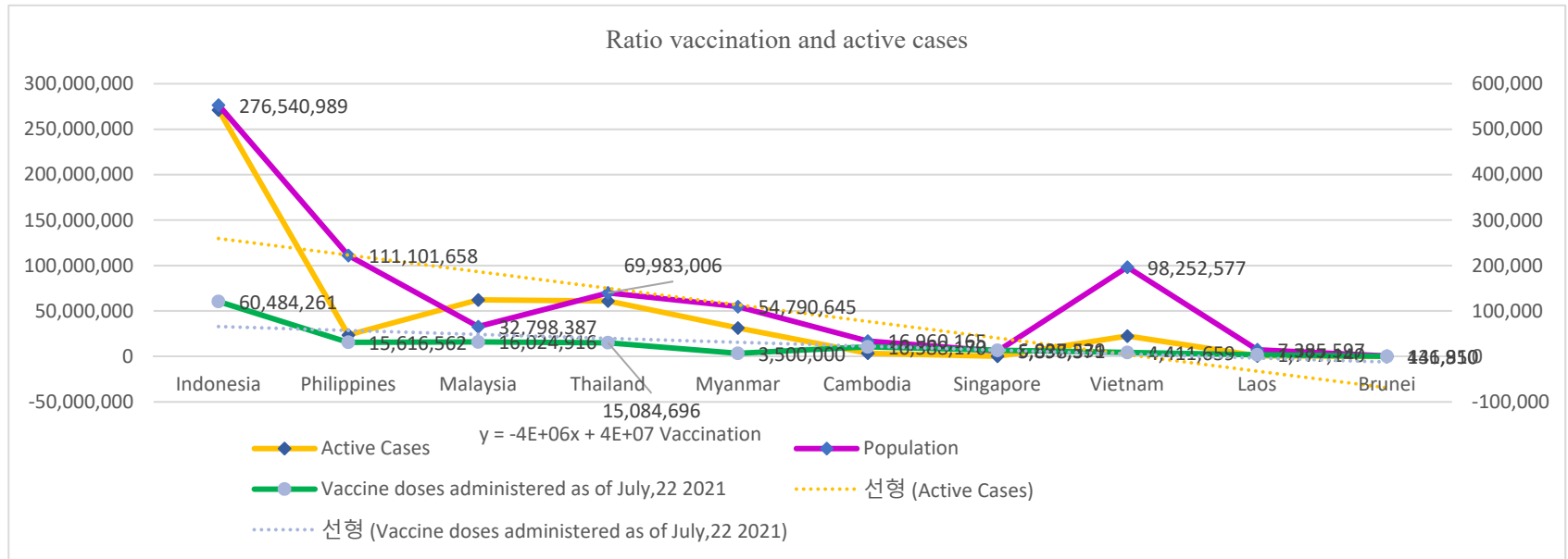
From Figure 10 and 11: the GDP and unemployment rate is negatively relationship. The COVID-19 crisis in Thailand affects 3 causes; 1) household income losses from business collapsed; 2) the services

industry has non-employed employee its leads to increase unemployment; 3) the business recovers which it means some industries, but tourism industry will never recover without the rising ratio of vaccination to 70% and lockdown policy is over. In conclusion, the monetary policy of the central bank will not push GDP up and unemployment down. In the real-world economy, either the monetary policy or government policy is the key player to shore up and mitigate the adverse economic in Thailand.
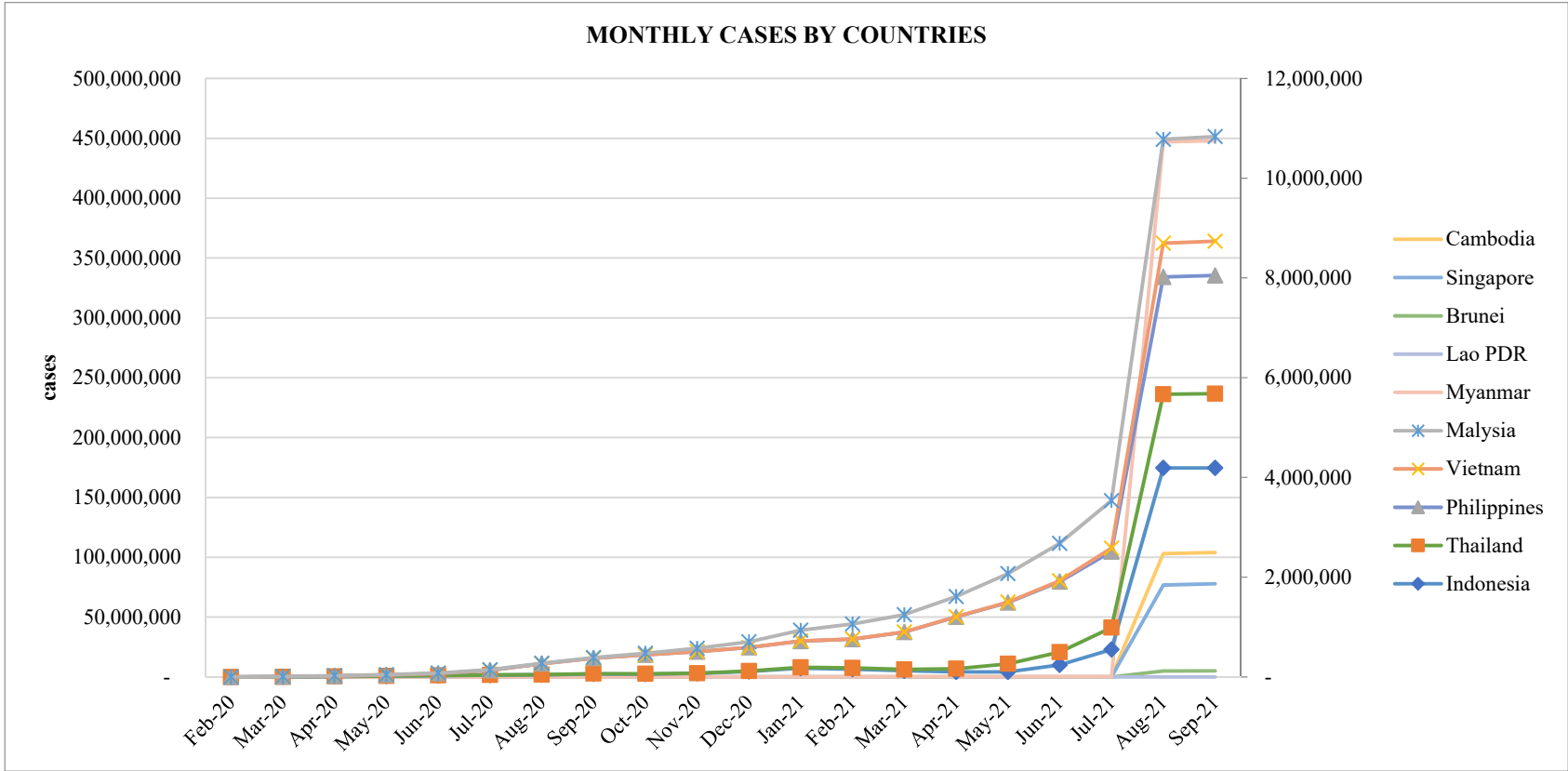
Summary

This chapter examined the effectiveness of monetary policy responding to the COVID-19 crisis in Thailand. The data are gathered from reliable sources (Bank of Thailand, BIS' report, WHO, IMF and trading economics' report). Hypothesis 1 is tested by qualitative analysis by comparing the monetary policy from the central bank in Southeast Asia. However, the impact of monetary policy is a bit ineffectiveness responding to the COVID-19 crisis. In this case, the COVID-19 crisis is not arguing about the monetary policy as the key player for this crisis but it has been supported by the fiscal policy. In particular, the strategy is proposed in the same direction which emphasizes monetary policy, fiscal policy, and COVID-19 situation such as vaccination, health care, and medical sectors.

Figure 7 Ratio vaccination and active cases in ASEAN

Ratio vaccination and active cases

276,540,989

60,484,261

111,101,658

69,983,006

15,616,562

32,798,387

16,024,916

54,790,645

3,500,000

16,968,165

6,036,571

98,252,577

4,411,659

7,385,597

446,850

15,084,696

y = -4E+06x + 4E+07 Vaccination

Active Cases · · · · · · Population

Vaccine doses administered as of July,22 2021 · · · · · · 선형 (Active Cases)

· · · · · · 선형 (Vaccine doses administered as of July,22 2021)

Note. From author's compilation using WHO data.

Figure 8 Monthly the confirmed new cases in ASEAN countries.

MONTHLY CASES BY COUNTRIES

Legend: Cambodia, Singapore, Brunei, Lao PDR, Myanmar, Malaysia, Vietnam, Philippines, Thailand, Indonesia
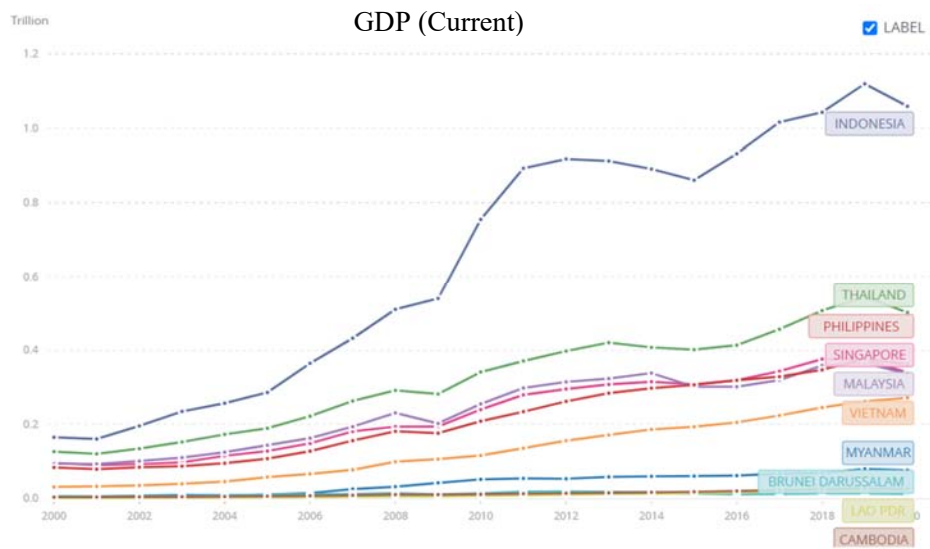
Note. From author's compilation using the World meters data.

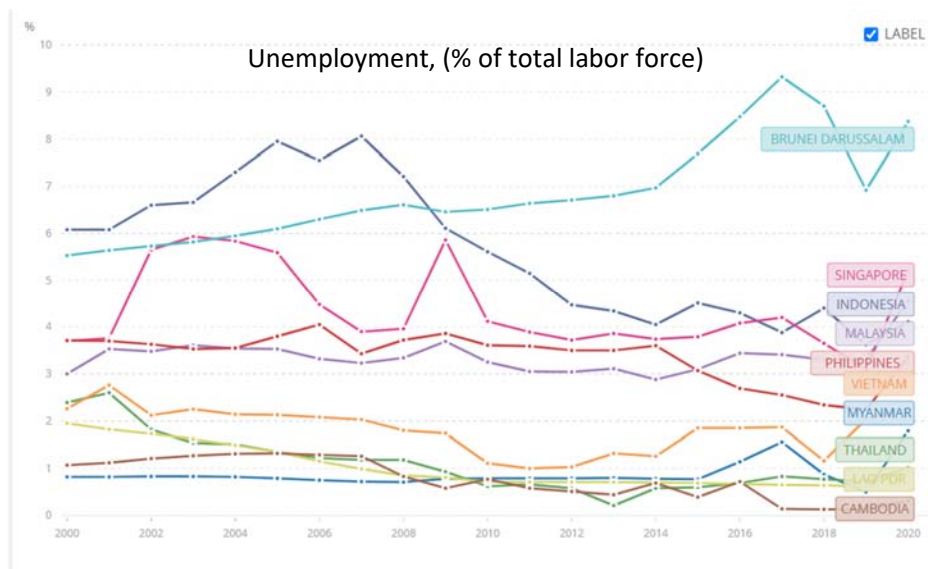*Figure 9 Policy rate in ASEAN.*
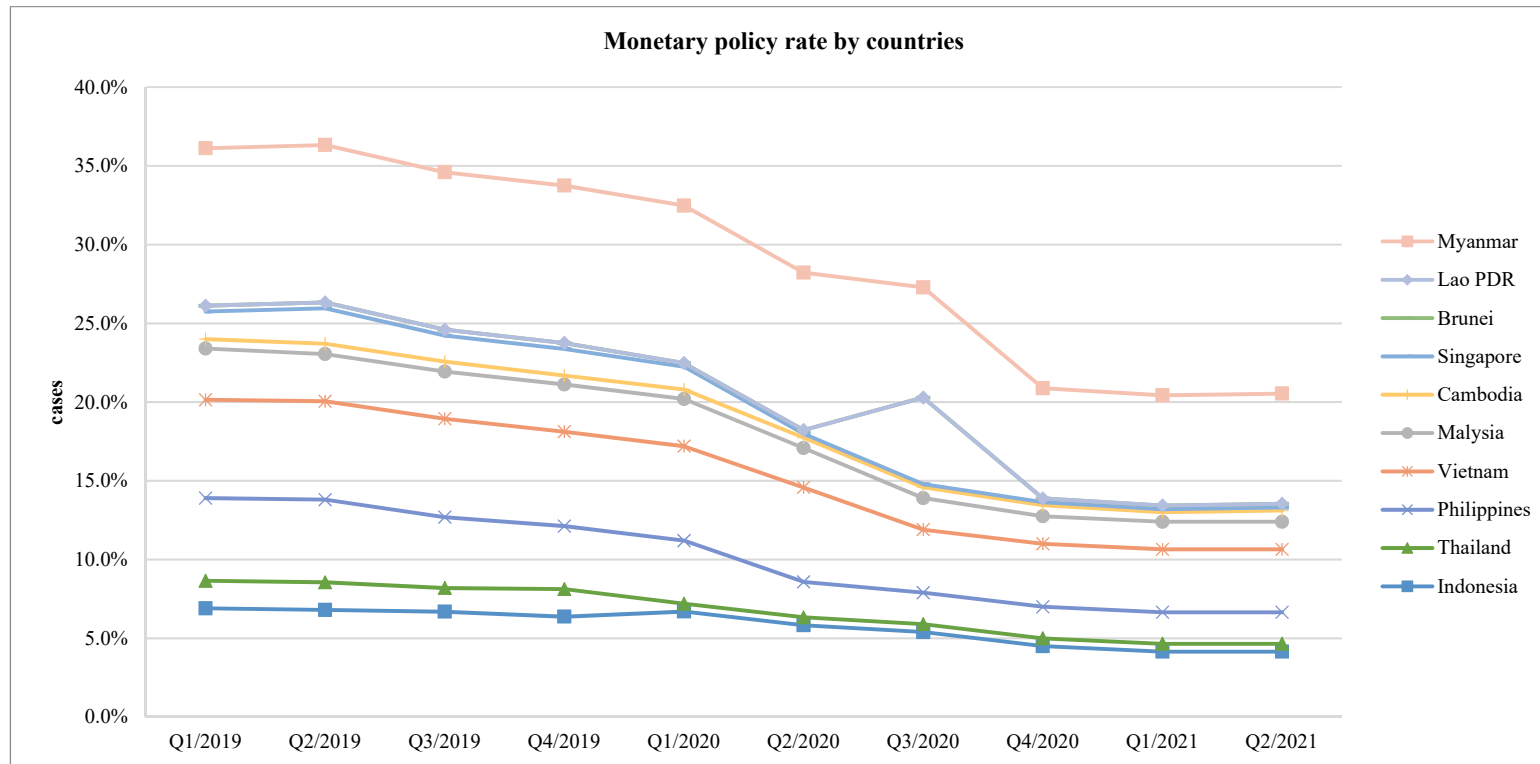
Note. From author's compilation from the trading economics data.

Figure 10 GDP in ASEAN countries

Note. From Tradingeconomics.com

Figure 11 Unemployment in ASEAN countries.

Note. From Tradingeconomics.com

Chapter 6 Discussion and Recommendation

Discussion

The study's purpose is to identify the effectiveness of monetary policy responding to the COVID-19 crisis in Thailand: with a focus on monetary policy by analyzing the factors which affect the development of sustainable economic growth in Thailand which is centered on the COVID-19 crisis. The research hypothesis developed from the research question "What determines the monetary policy in COVID-19 crisis from central bank perspective?" Through this study, the relationship between monetary policy and motivating factors (mortality, confirmed new cases of COVID-19, vaccination, policy rate, GDP, and unemployment) will be identified in 3 areas of study. The hypothesis is measured by conducting a qualitative analysis from IMF, World bank, Bank of Thailand, WTO, BIS and so on.

Following the empirical analysis results, all hypotheses proved that the effectiveness monetary policy loan has depended on many variables. It was statistically proven that fiscal policy influences the monetary policy (Government spending, job losses, economic growth) with different significant levels. The COVID-19 crisis related news/event disclosure economic growth has a positive impact on private and non-private sectors specially tourism sectors. The more COVID-19 crisis related news/event (included human right news) will lead to a higher unstable economic growth. In additionally, the results from the event study similarity with the analysis, as they do confirm the impact between the COVID-19 crisis-related news/event and economic growth. Investors' attitude has a positive impact on the reputation of the monetary and fiscal policy. Customers also have a better attitude to the COVID-19 crisis. On the other hand, the real economic crisis is not criticizing about the right solution of monetary policy because it has a lot of obstacles to mitigate the COVID-19. For instance, how much has been cut the policy rate? The central bank reduce interest rate at 0.5 percent is suitable or a waste of time.

From the qualitative data, the policies in sector 6 are using in many countries (Singapore, Malaysia, Brunei, Indonesia, Vietnam, etc.). The study suggests that the central bank should consider the 5 most important policies – the central bank regulations/principles, the government best practices, the COVID-19

risk management guidelines, Health care system, and the speed of Vaccination in Thailand to support the sustainable economic growth during pandemic. Other monetary policies may be used to support the relief of a severe economy. For example, providing possible reasons why the government and the central bank is not in a hurry to find the best practice for pandemic in Thailand together.

In conclusion, the statistically significant qualitative result of this study is that the effectiveness of monetary policy to mitigate the severe economic downturn during pandemic but does not confirm that monetary policy leads to a better way for sustainable growth. In terms of crisis, job losses-related factors have an impact on unemployment. The unemployment disclosure affects the GDP which represents investors' perception. The investors' attitude toward the government influences the business sectors. And the right obstacle defining leads the effectiveness of the central bank policy support.

Policy Implication

This research shows that the monetary policy, the confirmed cases, mortality, policy rate, GDP, and unemployment determine the COVID-19 crisis from the central bank and government perspective. The reduction of policy rate leads to increasing business opportunities (financial performance) and enhancing Thailand's economy which in line with the empirical studies. Central banks should support the fiscal policy initiatives in every country because they are key to change and influence the sector even it does not ensure that the monetary policy lead to better way for tackling the pandemic.

These results support that the central bank should launch a policy to widen the interest in fragile sectors such as the tourism industry and transportation sectors. Regulation is one of the most important parts to drive the growth of Thailand's economy. To influence monetary policy, the policy rate should have an impact on bank financial performance, business sectors, and/or reputation directly or indirectly to motivate household income increase and reduce job losses. The fiscal policy can be mandatory or voluntary, but the voluntary policy is preferable for long-term sustainable development. The voluntary policy will

boost non-financial sectors and financial sectors. However, the central bank should define the root causes and obstacles for designing practical, suitable policies.

The monetary policy is not the only key to drive the economy during the COVID-19 crisis. The reputation perception from the governor and business sectors confirms that they are interested in the monetary and fiscal policy concept. The public has heightened pandemic awareness. The event or rewards on the COVID-19 pandemic concern monetary and fiscal policy are one of the keys to pressure business sectors regarding the pandemic reputation. As the central bank's policy or the government system on pandemic concerns will pressure the sector and increase awareness on the COVID-19 and the sustainable economic growth. It will signify the new mandate which the central bank is focusing on.

Recommendation

The Central Bank's role is not focused only on financial institutions, but it also covers the root private sectors such as person who does not have knowledge in digital banking and financial knowledge to drive sustainable economic growth in Thailand.

As the government declared the lock down and restriction to mobility, its affect the economic recovery. The central bank should find the best effective policy, in particular raising household income, boost economy in financial sectors and shift the mindset for Thai's society concern about the spread of COVID-19. Thai citizen should have responsibility in pandemic and the government should clearly communicate measures' government to the public.

The second possible way is to acknowledge the private and non-private sectors by collecting knowledge from the government and the central bank. The knowledge will bring the best practical advice and contribute to the mindset of risks related to pandemic, and why it dangerous to the business and household sector, how to measure, and what should employee and employer manage the COVID-19 risk.

The insecure tourism and services sectors will force the central bank to implement the effective monetary policy. The number of unemployment or income lose disclosure of economic analyst is an important monetary policy that the central bank also should consider. These policies may increase the competitiveness in social distancing concerns in the tourism and service industry, create some peer pressure

on other courtiers in ASEAN that are late to start on this issue. The perceived benefit will be the monitoring, evaluation, and further study of the COVID-19 crisis.

The data is an important tool to monitor and evaluate the monetary policy of central banks. The central bank should set up a database for effective monitoring, evaluating, building pandemic awareness, and further study of the policy. The database will not just be a tool to generate awareness, but it will also support other factors to stimulate sustainable economic growth.

Chapter 7 Conclusion and Limitation

Conclusion

Following the empirical analysis results, the hypotheses proved that the monetary policy has an impact on those response variables. It was statistically proven that the monetary policy less influences the economic performance (GDP, Unemployment, and Inflation rate). Furthermore, the result from the event study positive relate to the new confirmed cases in daily, but they do not confirm the impact between the economic performance and COVID-19 situation. However, the statistically significant testing result of this study is that the effectiveness of monetary policy increases the economic growth and but do not confirm that the monetary policy lead to better fiscal policy.

Limitation and Future research

As the COVID-19 crisis and the monetary policy is a new concept in central bank, qualitative and quantitative data on monetary policy during the COVID-19 crisis in Thailand is limited. There is no specific standardized monetary policy report, and not all Southeast Asia countries are provided the sustainability report. The monetary policy is defined by each central bank's policy, which may lead to having different classifications. The main focus studied on each subsector faces difficulty. The historical data is limited because the monetary policy during pandemic report of the IMF, World Bank, BIS, Bank of Thailand, and Central bank in ASEAN are only within the last 2 years.

News data are collected manually and there is less information on COVID-19's economy. For the event study, the effect of other events (nonenvironmental-related) is not carved out. The environment and other events for each central bank may occur within the same day or different time period. The sentiment of other news was not assessed. The abnormal outcome is not the whole effect of the pandemic. Estimation and analyzing periods are difficult to determine for there is always a tradeoff between accuracy and parameter shifts (Sitthipongpanich, 2011).

To reiterate, monetary policy in the COVID-19 crisis is a new concept in Thailand, the number of studies and data on the COVID-19 is limited. Hence, its impact may take several years to demonstrate. The conclusion on the impact of the monetary policy on those motivating factors may be too early to be decided in the conclusion. It would require more rigorous research and data. The required data should be statistically, theoretically, and empirically conducted. It is recommended that further research should be conducted to study the sentiment of environmental-related and other news on central bank and government, and other risks. It is imperative to conduct monetary policy research, and in-depth analysis on the COVID-19 perspective on the central bank's monetary policies. Other future research such as empirical or comparative studies on monetary policy or definition should be conducted to explore the appropriate policy that will fit Thailand's financial system and culture and be consistent with international standards.

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Appendices