Theoretical Basis of Interest Channel Effect in Operation of Money Policy

Author's Details:
[(1)]Thi Dieu Phuc Pham [(2)]Thi Huyen Nguyen [(3)]Thi Huyen Le
[(1) (2) (3)]University of Economics - Technology for Industries, Vietnam
Correspondence: Thi Dieu Phuc Pham, 456 Minh Khai, Hai Ba Trung, Ha Noi

Abstract:
The article has conducted an overview of studies in the world and in Vietnam on the effect of interest rate channel in operating monetary policy. From there, we study the factors affecting the effectiveness of monetary policies in interest rate control activities. From there propose the idea of experimental research.
Keywords: *Effect, monetary policy, interest rates.*

1. Introduction

Monetary policy (monetary policy) is one of the State's macro policies, it includes a whole set of measures that the central bank uses to regulate monetary conditions of the economy to implement targets such as monetary stabilization, inflation control, economic growth support and macroeconomic stability. Studies both at home and abroad have highlighted the important role of the monetary policy transmission channel and show that the effectiveness of monetary policy depends on the effectiveness of transmission channels, expressed in the level and speed of transmission. from the actions of operating the monetary policy tools of the central bank (central bank) to the system of operational objectives, intermediate objectives and thereby affect real variables of the economy.

The monetary policy transmission mechanism is built based on the approach of factors affecting monetary demand through a system of transmission channels including interest rate channel, exchange rate channel, asset price channel and credit channel (Mishkin , two thousand and thirteen). The current trend of countries in the world is to choose interest rate management because of the effectiveness and suitability of this indicator both in theory and in practice, so the mechanism of monetary policy transmission through the interest rate channel. has attracted the attention of many researchers with conclusions about the importance of this channel in operating monetary policy, especially in developed markets. The interest rate channel in the monetary policy transmission mechanism of the Central Bank is the transmission mechanism of the monetary policy to the economy through the chain reaction between interest rates and prices in the market. Monetary policy through direct or indirect effects of interest rates on investment and spending behavior of entities, thereby affecting aggregate demand and the balance of the economy achieved at the target level. However, in fact, the effect of monetary policy in general and interest rate channel in particular is greatly affected by factors beyond the ability of the central bank to influence such as influences from the international market; the quality of the balance sheet of the banking system; financial market operating environment; fiscal status and fiscal policy dominance, etc. These effects can cause the initial impacts of the monetary policy on macro targets to be deflected, or delayed, or even created. undesirable changes, and thus less effective policy impacts.

In Vietnam over the past time, in the face of unfavorable developments in the world and domestic economy, the State Bank of Vietnam (SBV) has made great efforts in operating a flexible monetary policy, combining regulation. money supply and interest rates. As a result, remarkable achievements have been achieved such as: monetary stability, inflation control; the operation of the system of credit institutions has gradually stabilized according to the restructuring roadmap; The money market has been gradually established according to international standards with the leading role of the interbank money market. However, if we separate the impact of monetary policy to consider its ultimate effect on the economy, it can be seen that the impact effect of the monetary policy is still limited. The interbank interest rate reacted to the SBV's moves to tighten or loosen monetary policy, but the relationship between the directive rate (refinancing rate, rediscount rate) and the interbank rate The bank is still lax, the change of this directive interest rate pair has not had an impact on the

interbank interest rate, the effective intervention of monetary policy tools has not been clearly shown (including industrial tools). open market) during the stressful period of the available capital of the banking system (as in 2008, 2011). In addition, the pass-through from LNH to deposit and lending rates as well as the effects of lending rates on aggregate demand components are rather low and laggy, and thus have an impact. influence the ability to achieve macroeconomic goals in policy administration.

2. Literature review

2.1. Research situation in the world

(i) Study the transmission mechanism of interest rate in monetary policy management

The interest rate channel in the monetary policy transmission mechanism of the Central Bank is the transmission mechanism of the monetary policy to the economy through the chain reaction between interest rates and prices in the market. Monetary policy through direct or indirect effects of interest rates on investment and spending behavior of entities, thereby affecting aggregate demand and the balance of the economy achieved at the target level. Thus, we can see that the interest rate mechanism can be divided into two phases. The first stage is the direct influence from the use of monetary policy tools (compulsory reserve, refinancing interest rate, open market operations, ...) of the central bank to the short-term interest rate selected as the spending activities and from there the influence spread from this short-term interest rate to the market interest rate level. The next stage is the impact of market interest on investment and consumption behavior of the public, thereby affecting aggregate demand.

Studies on the period of direct influence from the use of monetary policy tools to money market interest rates and then the retail interest rate of the banking system.

This is the research phase of "interest rate pass-through" - the process in which banks' retail interest rates (lending rates and deposit rates) adjust to changes in interest rates. operator of the central bank.

Cottarelli and Kourelis (1994) are the first to study the pass-through from the central bank's operating rate to the lending rate and conclude that interest rate pass-through is very different between countries. The research of Paisley (1994) and Mojon (2000) reconfirms the conclusions of Cottarelli and Kourelis when Paisley does not find complete pass-through in the mortgage interest rate at the British construction organization while Mojon shows the pass-through. fully in the lending and deposit rates in 5 eurozone countries (Belgium, Germany, France, Spain and the Netherlands). The study of Christoffer KS and Thomas W. (2006) in the next phase shows the results of a relatively large heterogeneity in the transmission from money market interest rates to banks' retail interest rates. between European countries, specifically manifested in the difference in the long-run pass-through and the adjusted rate coefficients between countries. This shows the inconsistency and synchronization in the retail interest rate system in Europe.

Using self-distributed regression model (ADRL), research by Marco, Espinosa and Alessandro (2003) in Chile, USA, Canada, Australia, New Zealand and 5 European countries with monthly data from 1993-2002 point out that in the long run interest rate pass-through in Chile is incomplete, more volatile and less continuous than other countries, however short-run pass-through is faster and has a greater impact than countries. other. The results show that the differences between Chile and other countries are mainly due to external shocks rather than differences in market power within the banking system. Research in Eastern European countries (Czech Republic, Hungary and Poland) by Jesús, Balázs and Thomas (2004) estimated the ECM error correction model based on the ADL model also shows interest rate elasticity. The market in the long run for change of policies varies from country to country. There is complete pass-through for all market rates in Poland, only a few types of market rates in Hungary, and in Czech Republic incomplete pass-through. At the same time, the study also shows a significant difference between countries in the pass-through from the operating rate to the money

market rate. In Hungary, the long-term amplitude of variation is relatively stable in the opposite, in the Czech Republic, the long-term fluctuation of market interest rates tends to increase at a relatively low level.

The responses of interest rates and deposit rates are also very different and the response also depends on the terms of the interest rates. Research by Mojon (2000) and Sander and Kleimeier (2004) both showed that the lending interest rate reacted faster than the deposit rate to the change in the monetary policy of the central bank; Long-term rates react more slowly than short-term rates and there is a pass-through mismatch. Pass-through to lending rates is higher when market rates are rising than when they are falling.

Using the ECM error correction model, Bondt (2002) also found pass-through to most of the lending rate but not completely to the deposit rate when examining the Euro area. Chong et al. (2006) examined deposit rates at different terms and lending rates at commercial banks and finance companies in Singapore also showed that commercial banks adjusted their interest rates slowly. than with downward adjustments. Chong's study also found that the rate of adjustment varies across financial products and between banks and finance companies.

Niels, Harbo and Peter (2011) analyzed pass-through effects from the executive rate of the Swedish Central Bank to the market rate and retail interest rate before and during the 2007 financial crisis. The pass-through response from the executive rate to the market rate in the short term is quite high. During the financial crisis, the link between the executive rate and the market rate is weak due to covers large and volatile credit risks. Before the crisis, the pass-through from market interest rates to retail interest rates was slow but still transmission was complete in the long run. Retail interest rates for non-financial firms are adjusted more quickly for households. The financial crisis does not affect short-term pass-through from the market rate to the retail interest rate but in the long run the transmission rate is reduced.

Research by Pih, Siok and Wai (2012) examines the effectiveness of market rate pass-through to banks' retail interest rates in several Asian countries. The study uses the SUR (Seemingly Unrelated Regression equations) model for the conclusion that transmission from money market interest rates to deposit and lending interest rates is slow and stagnant; The pass-through effect on deposit rates is slightly higher than the pass-through effect on lending rates. Especially after the 1997 crisis, in most of these countries, interest rates on deposits and loans adjusted more slowly, indicating the effectiveness of low monetary policy, lack of financial markets and level of association. Fiscal entry is lower in these economies, with the exception of Malaysia. Alberto (2003) using the VAR / VECM model to study interest rate pass-through in Argentina 1993-2000 shows the opposite result when concluding that under normal financial conditions with short-term stability, interest rates will be higher for high risk loans, when there is a great deal of volatility pass-through takes place in most interest rates.

Using the Phillips Loretan method in the long run and the ECM error correction model in the short term, Ming-Hua Liu et al. (2005) studied the transmission level and the retail interest rate adjustment rate when interest rates Changes in administration over the period 1994-2004 in New Zealand show that the level of pass-through over the long run is different for each type of retail interest. In which, short-term interest rate has transmission rate and adjustment speed faster than long-term interest rate. However, this study found no significant evidence of asymmetric correction. Meanwhile, Muhamed Zulkhibri (2012) used the EMC error correction model to study the pass-through effect from money market interest rates to different types of retail interest rates in Malaysia to result in pass-through. Interest rates on deposits and loans are both incomplete, the rate of adjustment is very asymmetric and is only more statistically significant when implementing the expansionary monetary policy.

Using the VAR model to study interest rate pass-through in Australia, Johann Burgstaller (2005) found that the long-run pass-through in the bond market is higher than in the money market. Paula Antao (2009) using ECM model researched in Portugal shows that the long-term impact of a change in market interest rate on loan interest rate is close to 1 while the effect on deposit interest rate is small. than. Research in Poland by Chmielewski (2003) shows that there are lags and heterogeneity in retail interest rate transmission and that the more profitable banks tend to adjust deposit and loan rates quickly and strongly. than banks with less profit;

Banks with lower quality loans tended to adjust corporate loan interest rates more quickly and more strongly than banks with low-risk portfolios.

Meshach (2010) using ECM model to study transmission in South Africa in the period 1980-2007 also results in the strongest adjustment of lending interest rates, followed by treasury bond interest rates and finally interest rates. deposit rates at banks.

Studies on the effects of interest rates on investment and consumption, thereby affecting macro variables of the economy.

Studies on the interest rate selection trend as the operating target of monetary policy have shown the number of countries using short-term interest rates as the main tool for signaling the monetary policy of the central bank, and thus interest rates. interest rate has become an important transmission channel in operating monetary policy of the central bank. According to Mishkin (1996), in developed countries such as the US, Japan, UK, Germany, interest rate is the main transmission channel of monetary policy, while for developing and emerging countries, the channel of monetary policy interest rates are very weak (especially in the period 1980 to 1990). However, research by Mohanty & Turner (2008) shows that the role of interest rate channel in these countries has increased over time. In Thailand, the interest rate channel became more important after the country was affected by the 1997-1998 crisis. In the Philippines, the central bank's lending rates dominate transmission channels for a long time. Interest rate pass-through from executive rates to lending and deposit rates is also increasing in the Czech Republic and Poland. In Mexico, the role of the exchange rate has decreased considerably in early 2000 and interest rates begin to contribute more to the variation in output and inflation in the short and long run. And so, more and more countries with emerging market economies are following the monetary policy regulatory framework adopted by developed countries.

Using the Panel Data model, research by Paul B., Catherine F. and Philip V. (2001) on Belgium in the period 1985-1998 shows that tight monetary policy with an increase in the central bank's direction rate reduces profits of businesses. Researches using VAR model of Gert P. and Frank S. in some European countries 1980-1998, studies by Rongrong S. (2010) in China 1996-2008, research of Demary, M. (2010) in 10 OECD countries in the period 1970-2005 all pointed out that a temporary increase in the short-run nominal and real interest rates has a negative effect on output in the studied countries. .

Recent studies of interest rate channels also show the impact of interest rates on output and inflation, but the lag and the magnitude of the effect vary widely between countries. Using the VAR model to measure the effect of monetary policy in Turkey, Hank (2008) showed that when monetary tightening has a temporary effect on output but a long-term effect on prices. Using this same model, research by Borys et al. (2008) in the Czech Republic shows that prices and output decline for about a year after an interest rate hike shock. Research by Borys and Horváth also highlights the response of tradable goods to monetary tightening shocks faster than non-commercial goods. Mohanty and Deepak (2012) study on interest rate channel in India with SVAR model showed that the rising interest rate has a negative effect on output growth with a lag of about 2 quarters, having the effect to mitigate inflation. with a lag of 3 quarters and the time to reach equilibrium lasting about 8-10 quarters. Rokon B. (2012) studied the transmission of monetary policy in the Canadian open economy following the BSVAR model, the results showed that both output and inflation had a decreasing response to monetary tightening shock. through increasing the central bank's executive interest rate but the reduction response of inflation is slower than the response of output. Inflation fell after 6 periods and rose again after the 12th period.

Mala R. and Param S. (2007) uses the SVAR model to study the monetary policy frameworks in Malaysia before and after the 1997 economic crisis. Experimental results show notable differences: (1) In the period prior to the monetary policy shock crisis, exchange rates significantly affect output, prices, interest rates, and exchange rates; and (2) In the post-crisis period only monetary shocks have a stronger effect on output. In addition, the domestic monetary policy is more vulnerable to foreign shocks, especially world commodity price

shocks and post-crisis output shocks. The research results have shown that the crisis has changed the role of the impact transmission channels of monetary policy in Malaysia.

(ii) Research on factors affecting the effectiveness of interest rate channel in monetary policy management

As mentioned, the level and pass-through rate of interest rates contribute significantly to the effectiveness of monetary policy transmission mechanisms. Furthermore, in a liberalized financial environment, the response of lending and deposit rates serves as an important feature of monetary transmission (Kamin, Turner, & Van't Dack, 1998). Stronger and faster response of lending rates and deposit rates to changes in money market rates causes the transmission from central bank operating rates to real economy variables become more efficient. The scope of the study will focus mainly on the first steps of the monetary policy spillovers mechanism, that is, the effect of central banks' operating interest rates on the banking system's business interest ; The second step, including the effects of bank interest on aggregate demand, is outside the scope of this study. Therefore, the thesis focuses on synthesizing studies on factors affecting the impact effect of the first step in the interest rate transmission mechanism.

Cecchetti, S (1999), Cottarelli and Kourelis (1994), Ehrmann et al (2001) and Kamin, Turner, & Van't Dack (1998) can be considered as the first studies on factors affecting efficacy. force of interest rate channel in operating monetary policy. The first three studies show that the financial structure of the economy as well as the quality of governance and institutions are the fundamental keys to the effectiveness of the interest rate channel. Meanwhile, research by Kamin, Turner, & Van't Dack (1998) concludes that the most important factor is competitiveness, depth, and diversity of financial markets. The degree of competition plays an important role in determining the speed and extent to which lending and deposit rates respond to changes in operating rates. In an environment with many banking institutions and highly competitive market conditions, changes in the cost of capital will be immediately reflected in lending and deposit rates.

Research by Michiel et al. (2008) on some countries in the Eurozone shows that their strong competition in financial markets leads to faster interest rate pass-through. Furthermore, a highly competitive banking market combined with the availability of financial instruments in the stock market with products of financial intermediaries will speed up interest rate transmission channels. again. Conversely, a high concentration in the banking sector will make the responses of lending rates and deposit rates slower and asymmetric to changes in executive interest rates. The responses of lending rates and deposit rates also tend to weaken as state-owned banks are not under pressure to maximize profits.

Kamin, Turner, & Van't Dack (1998) argue that as financial market depth increases, the role of expectations will intensify and this will accelerate the rate of change in short-term interest rates. other interest rates. In addition, Kamin, Turner, & Van't Dack also argue that thin or uncompetitive financial markets can increase volatility in money market interest rates. If money market rates are very volatile and tend to be reversed quickly, banks will not want to adjust their lending and deposit rates because it requires high costs. As a result, it reduces the spread of interest rate channel.

Research by Axel, Rafael and Andreas (2009) suggests that innovations in the financial sector can make the relationship between short-term interest rates and lending rates become more coherent. Research by Gropp, Sorensen and Lichtenberger (2007) also concludes that advances in risk management technology is one of the factors that can speed up interest rate pass-through. In addition, Kamin, Turner, and Van't Dack (1998) refer to households and firms' access to alternative domestic sources of capital, such as the stock market, which also determines interest rates. lending rates and deposits are in accordance with the regulations of the domestic banking system. The more diversification of capital sources increases, the more the propagation rate of interest rate channel is enhanced. Moreover, if there is good integration between the banking sectors and the stock market, banks will have more pressure to raise interest rates. Research by Esman and Lydia (2013) on financial innovation and monetary policy in Kenya for the period 1998-2012 emphasizes that financial innovation has a positive impact and improves interest rate transmission channels of the monetary policy. Results from the study

of Roseline et al. (2011) contradict the above studies. Using two periods of least squares (2SLS) and monthly data from 1996-2007 Roseline concludes that financial innovation poses challenges and complicates the administration of monetary policy, thus Financial innovation reduces interest rate channel in the transmission mechanism of monetary policy.

Volatility in the money market is a determinant of the speed and strength of the interest rate channel. Stronger currency market volatility tends to weaken interest rate propagation according to studies by Gigineishvili (2011), Cottarelli and Kourelis (1994), Mojon (2000), and Sander and Kleimeier (2004)). Gigineishvili (2011) explains that money market interest carries reliable information about the need to change deposit and lending rates of banks. Strong volatility in the money market leads to uncertainty in the market signal, which makes banks more cautious about setting interest rates on their customers and often wait until these fluctuations. be reduced. Lopes (1998) also argues that in the case of high inflation, volatility in inflation should be taken into consideration when determining real interest rates, and Lopes also notes that when stabilizing policies can reduce the variable. effect of inflation, the transmission of interest rate channel will be stronger.

Statistical evidence shows that bank interest rates respond to changes in interest rate policy more slowly in emerging market economies than in developed industrial countries (Kamin, Turner, & Van't Dack, 1998). Low levels of competition, less flexibility, and limited depth of financial markets in emerging market economies may be the reasons for these results. Gigineishvili (2011) recommends that countries with undeveloped financial markets should choose a monetary policy framework that uses money supply or exchange rate as a nominal anchor rather than an inflation targeting framework because inflation targeting framework is based on strong pass-through of interest rate channel.

Klein (1971) and Monti (1972) study the interest rate-setting behavior of banks, the Monti-Klein model shows that interest rates on bank products with a smaller elastic demand cost less. more competitive. Therefore, interest rates and changes in interest rates over time are expected to depend on the level of competition. Research by Joaquin and Juan (2004) suggests that an increase in the market power of banks (ie a reduction in competitive pressure) leads to higher net interest rates. In addition, Courvoisier and Gropp (2002) explain the difference between lending rates and deposit rates with money market rates by an index of the concentration of the banking system. When the market is concentrated, the spread on the loan with the money market rate is significantly higher, while the margin on money with the money market rate is lower.

Regarding the effect of competition on how banks' lending and deposit rates are adjusted, research by Berger and Hannan (1991) shows that deposit rates are quite rigid in centralized markets, Especially during the period when the Central Bank adjusts interest rates sharply increases, banks in this market tend not to raise deposit rates, which may be a (implicit) sign of structural behavior among the Bank.

In transnational studies, both Cottarelli and Kourelis (1994), Borio and Fritz (1995) find an important effect of competition on monetary transmission mechanism and interest rates tend to be more rigid when Banks operate in a less competitive environment. This is confirmed in the study of Cottarelli et al. (1995). Experimenting on the effect of banking competition on pass-through related to euro zone bank lending rates, Mojon (2001) found that higher competition tends to put pressure on banks. Faster lending rate adjustments when money market interest rates fall. Furthermore, higher competition tends to reduce banks' ability to raise lending rates (albeit insignificantly), when money market interest rates are trending up, and vice versa deposit interest rates. Similar results of this asymmetry are confirmed in the studies of Scholnick (1996), Heinemann and Schuler (2002), Sander and Kleimeier (2002 and 2004) and Gropp et al. (2007).

The Bondt European Common Area (2002) study shows that stronger competition from other banks and from the capital market accelerates banks' interest rate adjustment with the change of money market interest rates. Some country-specific studies also provide evidence of the slow response of interest rates and deposit rates to the central bank's adjustment of the central bank's operating rate when competition is weak, as Heffernan's study (1997) on interest rate channel in UK, study by Weth (2002) on interest rate propagation in Germany, study by

De Graeve et al. (2004) estimate the determinants of interest rate spread in Belgium. Kok Sørensen and Werner (2006) explain that the differences in interest rate pass-through between European countries can be attributed to the differences in the competition of the banking system. Research by Gropp et al. (2007) provides evidence that the level of banking competition has a positive effect on the level of bank interest rates in this region.

Studying 31 developed economies as well as emerging economies during 1980-1993, Cottarelli and Kourelis (1994) found that environment of higher inflation, more capital flows move and money market Greater development (represented by volatility in money markets or the size of the market for short-term financial instruments) will lead to stronger spread of interest rates. Other studies such as Mojon (2000) and Sander and Kleimeir (2004) also showed similar results when studying European countries. In addition, Sander and Kleimeir (2004) on interest rate transmission in eight Central and Eastern European countries that joined the European Union in 2004, focusing on the period from 1993 to 2003 emphasize the Factors affecting the effectiveness of this transmission channel include: financial market concentration, health of the banking system, and participation of foreign banks.

Gigineishvili (2011) studies 70 countries with different levels of development in the 2006-2009 period, concludes that macroeconomic, institutional and legal characteristics as well as financial structure are the factors affecting effect of interest rate channel effect.

Research to assess the importance of financial market development influencing interest rate channel in 10 industrialized and developing Asian countries from 1987 to 2006, Singh et al. (2008) found that general financial market development leads to stronger interest rate pass-through in both medium and long term.

Medina Cas et al (2011) studied the important factors affecting the effectiveness of interest rate pass-through in Central American countries, using panel data regression, the results showed that interest rate pass-through is correlated. dollarization negative system, and positive relationship with exchange rate flexibility and financial system growth. Medina also concluded that the concentration ratio of the banking system has a negative effect on the effectiveness of this transmission channel.

Research by Mishra et al (2013) concludes that at the limited level of financial development, monetary policy transmission mechanism in low-income countries is mainly dominated by banking lending channels. Mishra also believes that the transmission from the monetary policy moves of the central bank to the lending interest rates of the banking system in low-income countries is very weak and unreliable.

Using Panel VAR model, research by Saborowski and Weber (2013) for the period 2000-2011 in 120 countries concludes that exchange rate flexibility, quality of regulatory governance, level of banking concentration, The level of development of the financial market, the dollarization of the economy, and variables related to the banking system's operations such as liquidity ratio and NPL ratio are important factors in determining effectiveness. interest rate transmission channel force. Research by Saborowski and Weber has shown that countries with developed markets, monetary policy shocks almost completely pass on to the lending rate of the banking system. In contrast, interest rate pass-through in developing countries is significantly lower at around 30-45 percent. This is mainly explained by the existence of flexible exchange rate regimes, lower liquidity and NPL ratios, and more developed financial systems in developed economies. The findings of Saborowski and Weber show that an increase in banking system liquidity by 20 to 80 percent is associated with a passing drop of about 20 percentage points in the rate transmission mechanism. The rate pass-through mechanism will increase from 25 to 50 percentage points when the exchange rate regime is changed from pegged to floating exchange rate regime. Research using GMM model by Stephanie MC, Alejandro CM & Florencia F. (2011) in Central American countries and research by Avci, SB and Yucel E. (2016) on Turkey also give similar conclusions. with the research of Saborowski and Weber (2013).

The studies of Wrobel & Pawlowska (2002), Chmielewski (2004) in Poland, the study of Bredin et al., 2001 in Ireland, period 1985-2001 all showed the positive effect of bank profit. , the negative effect of the risk on

interest rate pass-through in these countries. In addition, larger credit institutions adjust their lending rates faster than smaller ones. Small banks with lower liquidity ratios will adjust interest rates according to the monetary policy movements of the central bank faster than large banks with higher excess rates. This is confirmed in research by Gigineishvili (2011) when concluding the inverse relationship between interest rate channel transmission effectiveness with the volatility of the market and the percentage of banks' excess reserves.

The fiscal dominance, budget deficit and the independence of the central bank that affect the effectiveness of interest rate channel and the monetary policy operating effectiveness in general are found in the studies of Sargent and Wallace (1981). , Michele and Franco (1998), Bernard and Enrique (2005), Andrew et al. (2012). These studies all show negative effects of fiscal dominance, budget deficit and the lack of independence of the central bank on interest rate transmission effectiveness in operating monetary policy.

2.2. Research situation in Vietnam

Researches on monetary policy in general and interest rate management in Vietnam have attracted the attention of researchers, but up to now, there are not many in-depth studies on interest rate channels.

The recent quantitative studies on interest rate pass-through basically use the EMC model to quantify the extent and speed of the impact of the SBV's operating interest rate on the interest rates of the credit institution system. Typical studies that can be mentioned include the research of Dinh Thi Thu Hong and Phan Dinh Manh (2013), Tran Hung Thinh and Nguyen Cong Tuan (2012).

Tran Hung Thinh and Nguyen Cong Tuan (2012) used ARDL and ECM models together with time series unit root test and cointegration, the study of incomplete pass-through for retail interest. How will it affect the deterministic equilibrium and stability in the macroeconomy in Vietnam in the period 2000-2012. The experimental results show that pass-through from the rediscount rate to the 1-year government bond rate is high in the short term and in the long run, this pass-through is lower. Transmission from the operating rate (rediscount rate) to the interbank interest rate in the short term is quite low and inconsistent. Conversely, in the long run, pass-through is higher but not complete. The transmission from bond interest rates and interbank rates to retail interest rates of the CI system in the short term is quite low, but long term pass-through is quite high and almost completely.

Use the ECM model to test the symmetry and asymmetry in interest rate transmission and the ECM-EGARCH-M model to examine the effect of interest rate volatility, rigidity in adjustment and Leverage effect on transmission, Dinh Thi Thu Hong and Phan Dinh Manh (2013) conducted research on interest rate transmission mechanism from the operating rate through the market rate to the retail interest rate in Vietnam and some Other emerging economies in Asia. Research results show that pass-through from market interest rates to retail interest rates is not complete. In some cases, the volatility of interest rates increases the pass-through, but in other cases the opposite results are found.

Most empirical studies have shown no significant effects of interest rates on inflation. Research by Le Viet Hung and Wade Pfau (2008) analyzes the mechanism of monetary policy transmission in Vietnam in the 1996-2005 period using the simplified VAR model and focuses on the relationships between money supply. Actual yields, prices, real interest rates, real rates and credit. The results show that monetary policy can affect output and prices. The level and impact of the monetary policy shock on output were strongest after four quarters, but the impact on prices lasted from the third quarter to the ninth quarter. However, the statistical significance of each channel very weak, only the credit channel and the exchange rate channel have more statistical significance. This is consistent with the empirical results in the report of Nguyen and Nguyen (2010), the change in interest rate has an almost immediate but very weak impact on inflation. Camen (2006) pointed out that the interest rate (lending rate) only accounts for less than 5% of the CPI inflation projections for the period 1997-2005. Nguyen Phi Lan (2011) used the SVAR model to analyzing the monetary policy transmission mechanism, the results show that the economy grows better when there is an impact from the M2 money

supply. However, the impact of the M2 money supply on the industrial sector is not great although the M2 money supply and credit have increased for a while since the 1997 financial crisis. interest rate propagation delay, the change of VND interest rates in the money market through the use of monetary instruments such as open market operations (OMO) or refinancing (microfinance) will take about 3 - 5 months to take effect.

Using the VAR model, Tran Thi Xuan Huong (2014) studies the impact of monetary policy through the interest rate channel of the period before and after the 2008 crisis. Model results show that before the financial crisis, the interest rate channel Existing in accordance with the macroeconomic theory, the increase in interbank interest rates has a strong impact on lending rates of commercial banks and thereby inflation. However, in the post-crisis period, when the interbank interest rates rise, there is an increase in lending rates with a 1-month delay and will lead to an increase in inflation with a delay of 2 months. This proves that there exists a cost channel in monetary transmission of monetary policy in Vietnam at this time.

Researches on factors affecting the effectiveness of interest rate channel are not many and mainly qualitative research. Recent typical studies may include the research of Dr. To Anh Duong (2014), PhD. Nguyen Thi Minh Hue (2011), PhD. Nguyen Thi Kim Thanh (2010), PhD. Nguyen Phi Lan (2010), Assoc. TS. To Kim Ngoc (2003). These studies have provided a fairly standard system of rationale and research methods on the interest rate management mechanism of the Central Bank and the State Bank of Vietnam.

Research by Associate Professor, Dr. To Kim Ngoc (2003), PhD. Nguyen Thi Kim Thanh (2010) all pointed out the factors affecting the effectiveness of the interest rate adjustment mechanism in monetary policy management, including the lack of the SBV's initiative in interbank transactions, the separation of the market. credit and financial instrument markets, government capital support policy and intervention, dollarization of the economy, and underdevelopment of financial markets. Research by TS. To Anh Duong (2014) highlights the influence of the independence of the State Bank of Vietnam on the effectiveness of operating monetary policy. Quantitative research using SVAR model by Nguyen Phi Lan (2011) on monetary policy transmission mechanism shows the influence of external factors on policy management effectiveness. The study concludes that the domestic monetary-banking sector is relatively sensitive and is greatly affected by shocks outside the economy, especially the volatility of world commodity prices and signs of decline. regression or recovery of the world economy in general and the US economy in particular as well as the monetary policy management actions of the US Federal Reserve (FED).

3. Research methods

In addition to the method of dialectical philosophy and historical materialism commonly used in general scientific research, the topic also uses statistical methods, comparisons, analysis, synthesis, interpretation, inductive.

In addition to diagrams, tables, graphs, the thesis uses: (i) OLS, ECM models to measure the effect of the SBV's operating interest rate on the interbank interest rate; (ii) VAR model to measure the effectiveness of interest rate channel in Vietnam (from lending interest rates of the banking system to macroeconomic variables including inflation and economic growth) period 2006-2015; (iii) GMM model to quantify the impact of factors affecting the effectiveness of interest rate channel in Vietnam in the period 2006-2015.

4. Result

The actions in operating the monetary policy of the Central Bank will have an impact on the system of operational goals, intermediate goals to achieve the ultimate goal. Changes in money supply or short-term interest rates due to the central bank's monetary policy will affect and achieve real economic variables such as output, price and unemployment through a system of transmission channels. guide. Thus, we can see that the most important thing in operating monetary policy is the ability or extent of the policy to affect the set

objectives. In fact, in certain periods, due to subjective or objective reasons, the impacts in adjusting monetary policy to macro targets are deflected, or there is a delay, or even make unwanted changes.

The impact effect of monetary policy is shown through the ability of policy instruments to affect real variables of the economy selected as policy targets in each period and determined through targets. measuring the response level, the reaction direction and the reaction speed of real variables in the economy to changes in the monetary policy management of the Central Bank (To Kim Ngoc, 2003).

The interest rate channel in the monetary policy transmission mechanism of the Central Bank is the transmission mechanism of the monetary policy to the economy through the chain reaction between interest rates and prices in the market. Monetary policy through direct or indirect effects of interest rates on investment and spending behavior of entities, thereby affecting aggregate demand and the balance of the economy achieved at the target level. Thus, we can see that the interest rate mechanism can be divided into two phases. The first stage is the direct influence from the use of monetary policy tools (compulsory reserve, refinancing interest rate, open market operations, ...) of the central bank to the short-term interest rate selected as the operating expenses and the spillover effect from this short-term interest rate to the market interest rate (LSHĐ, LSCV of the banking system). The second stage is the effect of the market interest rate on the investment and consumption behavior of the public, thereby affecting aggregate demand and inflation. This process of impact shows the effectiveness of the interest rate transmission channel, demonstrating the ability of the central bank to influence and intervene in the money market; the impact and propagation of the effects of short-term interest rates on long-term interest rates; and finally the sensitivity of investment and consumption demand to interest rates.

The effect of the impact from the central bank's executive interest rate on the interest rate of the central bank, the interest rate of the banking system is measured by two factors: the level and the adjustment speed of the interest rate of the central bank, the prime interest rate of the commercial banking system. adjustment in the central bank's operating rate.

To measure the adjustment of the banking system's interest rate before the central bank's adjustment of the central bank's interest rate, most traditional studies use a linear regression function of the form:

$Yt = \alpha + \beta.Xt$

In which Yt is the interbank interest rate corresponding to xt is the central bank's executive interest rate and Yt is the interest rate of the interest rate, the prime interest rate of the banking system corresponds to xt being the bank's interest rate. The coefficient β is used to measure pass-through or interest rate adjustment. The larger, the higher the pass-through between the two interest rate pairs. “Total transmission rate” ($\beta = 1$) implies that when the executive interest rate increases (or decreases) by the same percentage, the interest rate, prime interest rate of the banking system also increases (or decreases). percent and “incomplete transmission” imply that the interest rate and prime interest rate of the banking system change a little less than the change in the operating interest rate.

Average adjustment delay (MAL) is used to measure the speed of the adjustment of the banking system's interest rate before the central bank's adjustment of the interest rate. MAL is the weighted average of all latency and measures the response rate of interest rates of the payment agency and the interest rate, interest rate when the executive interest rate and the interbank interest rate change respectively. The average adjustment delay (MAL) is the time needed for the interest rates of the interbank, interest rates and interest rates to adjust to the long-term equilibrium. The large MAL implies a high rigidity or a slow adjustment in the reaction of the interbank market rate and the deposit and lending interest rates when the policy rate and the interbank rate change. In contrast, a small MAL implies a flexibility or a quick adjustment of the market interest rate LNH and the deposit rate, the lending rate according to the executive rate and the LNH market rate, and thus increases the effectiveness of the effect. interest rate channel.

The effect of impact from retail interest on growth and inflation is determined by the response of these macro variables to monetary policy shocks. If the response of macroeconomic variables to monetary policy shocks is correct (although there is a lag) with theoretical expectations, it can be confirmed that such monetary policy is valid. On the contrary, if the reaction is contrary to theoretical expectation, even without reaction, the conclusion of the effectiveness of monetary policy is weak. However, the research of Michael W. (2001) showed that when the conditions for creating shocks are unfavorable (due to the asymmetric information in the market is decreasing), the effectiveness of monetary policy management over Interest rate channel increased again. This implies that the central bank should be proactive and use the mechanism to generate signals reflecting the trend of monetary policy regulation to guide market expectations. From there, it will create cohesion and impact in accordance with the trend in the monetary policy target system to achieve the ultimate goal set by the Central Bank. This fact has been verified when studying interest rate channels in the US. To adjust the interbank interest rate, the Federal Reserve (FED) can alter the supply of reserves in the market by using the open market operation or changing the amount of reserves for loans through discount window. The supply of less reserves than the needs of commercial banks will put pressure on the price of reserves - which is the interbank interest rate - to rise, while providing more reserves than the needs of groups. Credit institutions will bring down interbank interest rates. In recent years, the Fed has implemented monetary policy by using open market operations to maintain desired interbank interest rates, thereby affecting other short and long term interest rates. In the traditional view of the interest rate channel, long-term interest rates are influenced by current short-term interest rates and projected future short-term rates. An increase in the interbank interest rate will lead to an increase in current and planned short-term rates, which in turn pushes interest rates on all terms to rise. On the contrary, when the interbank interest rates drop, current and projected short-term interest rates drop, leading to other short- and long-term rates falling. These changes in interest rates will lead to changes in the amount of consumption and investment, which in turn affects the total output of the economy. However, empirical evidence on monetary policy shows that the adjustment of interbank interest rates has a large impact on short-term interest rates, and this effect decreases as the maturity of interest rates increases. . In other words, the relationship between the executive rate and the long-term interest rate becomes weaker and less reliable than the short-run rate. This can be explained by the fact that short-term interest rate estimates, or market expectations themselves, also play an important role in determining long-term interest rates. Therefore, the monetary policy is considered to be the most effective in long-term interest rate changes when it is implemented consistently and stably, the market's expectation will move in the correct direction of the Policy makers. Conversely, when an investor's view of monetary policy stability changes over the economic cycle, monetary policy's ability to affect the long-term interest rate changes over time (Roley). and Gordon, 1995).

5. Conclusion

From the overview of domestic and foreign studies it can be seen that although the topic of interest rate channel in monetary policy management is not a new issue, there are still research gaps for researchers. continue to deepen research and development. Specifically:

Firstly, in Vietnam, there are no independent studies to evaluate the factors affecting the effectiveness of the interest rate channel in operating monetary policy, but only in evaluating the effect of transmission from interest. SBV's operating rates to the banking system's business interest rates.

Second, the quantitative studies assessing the pass-through effect of the interest rate channel only stopped from 2012 and earlier.

Thirdly, there is no quantitative study assessing factors affecting the effectiveness of the interest rate channel in operating monetary policy, but only in qualitative aspects. In addition, the qualitative studies are not really comprehensive, there are no studies that analyze in-depth factors such as the flexibility of the exchange rate, the domination of fiscal policy, and the budget deficit. effect of interest rate channel in operating monetary policy in Vietnam.

References

i. *Alberto H. (2003), "interest rate pass-through and financial crises: do switching regimes matter? The case of Argentina", Studies in Economics and Finance, Emerald Group Publishing, vol. 30(2).*
ii. *Andrew F., Madhusudan M. and Ramon M. (2012), "Central bank and government debt management: issues for monetary policy". BIS Papers No 67.*
iii. *Archer, D., and P. Turner (2006), "The banking system in emerging economies: how much progress has been made," BIS Papers No 28*
iv. *Avci, S. B. and Yucel E. (2016), "Effectiveness of Monetary Policy: Evidence from Turkey", MPRA Paper 70848*
v. *Axel A. W., Rafael G. and Andreas W. (2009), "Has the monetary transmission process in the euro area changed? Evidence based on VAR estimates", BIS Working Papers No.276*
vi. *Barro, Robert J., and David B. Gordon (1983), "Rules, Discretion and Repetation in a Model of Monetary Policy", Journal of Monetary Economics 12: 1. Pp.101-212.*
vii. *Berger, A. and Hannan T. (1991), "The Price-Concentration Relationship in Banking", The Review of Economics and Statistics, Volume 71, Issue 2.*
viii. *Bernanke, B. and Gertler, M. (1995), "Inside the black box: The credit channel of monetary policy transmission", Journal of Economic Perspective, Vol 9.*
ix. *Bernanke, Ben S. and Reinhart, Vincent R. Và Sack, Brian P. (2004), Monetary policy alternatives at the zero bound: an empirical assessment, Brookings Papers on Economic Activity, Economic Studies Program, The Brookings Institution, vol. 35(2)*
x. *Bernard L. and Enrique G. D. P. (2005), "Coordination of Monetary and Fiscal Policies", IMF Working Paper 05/25*
xi. *Blundell, R., and S. Bond (2000), "GMM estimation with persistent panel data: An application to production functions", Econometric Reviews, Vol. 19 pp 321–340*
xii. *Bondt, G. D. (2002), "Retail Bank Interest Rate Pass-Through: New Evidence At The Euro Area Level". European Central Bank Working Paper Series, Issue 136.*
xiii. *Boone, J. (2000), "Intensity of competition and the incentive to innovate",CEPR Discussion Paper Series No. 2636.*
xiv. *Borio, C., Fritz, W. (1995), "The Response of Short-Term Bank Lending Rates to Policy Rates: A Cross-Country Perspective". BIS Working Paper 27*
xv. *Borys, Morgese, Franta M. and Horváth R. (2009), "The Effects of Monetary Policy in the Czech Republic: An Empirical Study", CNB Working Paper Series No.04/2008*
xvi. *Bredin, D., T. Fitzpatrick, and O Reilly, G. (2001), "Retail Interest Rate Pass- Trough: the Irish Experience", Central bank of Ireland, Technical paper 06/RT/01.*
xvii. *Bucru A. and Engin V. (2011) "Incorporating Financial Stability in Inflation Targeting Frameworks", IMF Working paper.*
xviii. *Burcu Avci S. and Yucel. E (2016), "Effectiveness of Monetary Policy: Evidence from Turkey", Ozyegin University, University of Michigan, Ann Arbor, Kadir Has*
xix. *Calvo, Guillermo A. and Carmen M. Reinhart. (2002), "Fear Of Floating", Quarterly Journal of Economics, Vol.107.*
xx. *Cecchetti, S. (1999), "Legal Structure, Financial Structure, and the Monetary Policy Transmission Mechanism", Federal Reserve Bank of New York ,Economic Policy Review, 5, 2*
xxi. *Chmielewski T. (2003), "Interest rate pass-through in the Polish banking sector and bank-specific financial disturbances", MPRA Paper 5133, University Library of Munich, Germany, revised 31 Jan 2004.*
xxii. *Chong, B. S., Liu, M. H. & Shrestha, K. (2006), "Monetary Transmission Via The Administered Interest Rate Channel". Journal of Banking and Finance, Issue 5.*

xxiii. *Christoffer K. S. and Thomas W. (2006), "Bank Interest Rate Pass-Through in the Euro Area: a Cross Country Comparison". European Central Bank, Working paper series No.58*

xxiv. *Clarida, Richard; Galí, Jordi and Gertler, Mark (1999), "The Science of Monetary Policy: A New Keynesian Perspective", Journal of Economic Literature*

xxv. *Cook, T. and Hahn T. (1989), "The Effect of Changes in the Federal Funds Rate Target on Market Interest Rates in the 1970s," Journal of Monetary Economics, 24(3), 331-51.*

xxvi. *Coricelli, F., B. Egert, and R. McDonald (2006), "Monetary Transmission in Central and Eastern Europe: Gliding on a Wind of Change," Focus on European Economic Integration, 1/06, pp. 44–87 (Vienna, Austria: Oesterreichische Nationalbank).*

xxvii. *Cottarelli, C. & Kourelis, A. (1994), "Financial Structure, Banking Lending Rate, and The Transmission Mechanism of Monetary Policy". IMF Working Paper, Issue 41.*

xxviii. *Courvioisier, S and Gropp, R. (2002), "Bank concentration and retail interest rates", Journal of Banking and Finance, Vol.26.*

xxix. *Crowe, C., and E. Meade (2008), "Central Bank Independence and Transparency: Evolution and Effectiveness," IMF Working Paper 08/119*

xxx. *Cukierman, A., S. Webb, and B. Neyapti (1992), "Measuring the Independence of Central Banks and Its Effect on Policy Outcomes," World Bank Economic Review, vol. 6(3), pages 353–98*

xxxi. *Dabla-Norris, E., D. Kim, M. Zermeño, A. Billmeier, and V. Kramarenko (2007), "Modalities of Moving to Inflation Targeting in Armenia and Georgia," IMF Working Paper 07/133*

xxxii. *De Graeve F, De Jonghe O. and Vennet R.V (2007), "Competition, transmission and bank pricing policies: Evidence from Belgian loan and deposit markets", Journal of Banking & Finance, Vol. 31, Issue 1.*

xxxiii. *Delis M. D, Agoraki K. M, Pasiouras F. (2010), "Regulations, competition and bank risk-taking in transition countries", Journal of Financial Stability, Vol 7.*

xxxiv. *Dell"Ariccia, G, and Garibaldi, P. (1998), "Bank Lending and Interest Rate Changes in a Dynamic Matching Model", International Monetary Fund Working Paper*

xxxv. *Demary, M. (2010), "The Interplay between Output, Inflation, Interest Rates and House Prices: International Evidence", Journal of Property Research, 27(1)*

xxxvi. *Ehrmann, M., L. Gambacorta, J. Martinez-Pages, P. Sevestre and A. Worms (2001), "Financial Systems and the Role of Banks in Monetary Policy Transmission in the Euro Area", ECB Working Paper.*

xxxvii. *Engle, R. F. and Granger, C.W.J. (1987), "Cointergration and Error Correction: Representation, Estimation, and Testing. Econometrics", 55*

xxxviii. *Esman N. and Lydia N. N. (2013), "Financial Innovations and Monetary Policy in Kenya". MPRA Paper No.52387*

xxxix. *Evans C. L., & Marshall D. (1998), "Monetary Policy and the Term Structure of Nominal Interest Rates: Evidence and Theory". Carnegie-Rochester Conference Volume on Public Policy, 49*

xl. *Foot M. (2003), What is "Financial Stability" and How Do We Get It, The Roy Bridge Memorial Lecture (United Kingdom: Financial Services Authority)*

xli. *Freedman C. and Ötker-Robe I. (2010), "Important Elements for Inflation Targeting for Emerging Economies", IMF Working Paper, WP/10/113*

xlii. *Gert P. and Frank S., 2001. "Monetary Policy Transmission in the Euro Area: More Evidence From VAR Analysis", The Eurosystem Monetary Transmission Network, Working Paper No.91*

xliii. *Gertler, M. and Gilchrist, S. (1993), "The role of credit market imperfections in the monetary transmission mechanism: Arguments and Evidence", Scandinavian Journal of Economics, Vol. 2.*

xliv. *Gigineishvili N. (2011), "Determinants of Interest Rate Pass-Through : Do Macroeconomic Conditions and Financial Market Structure Matter?", IMF Working Paper No. 11/176*

xlv. *Gordon, B (2002), "Financial Markets and Policies in East Asia", Routledge Studies in the Growth Economies of Asia, London.*

xlvi. *Gropp J., Sorensen R. and Lichtenberger C.K. (2007), "The Dynamics of Bank Spread and Financial Structure". ECB Working Paper Series No. 714*

xlvii. *Habermeier, K., A. Kokenyne, R. Veyrune, and H. Anderson (2009), "Revised System for Classification of Exchange Rate Arrangements," IMF Working Paper, WP/09/211*

xlviii. *Haldane, A. and Read, V. (2000), "Monetary policy surprises and the yield curve", Bank of England Working Paper no. 106.*

xlix. *Hannan T. and Liang J. N. (1993), "Bank commercial lending and the influence of thrift competition" Finance and Economics Discussion Series 93-39,*

l. *Heffernan, S. A. (1997), "Modelling British Interest Rate Adjustment: An Error Correction Approach". Economica, Issue 64*

li. *Heinemann, F. and Schuler M. (2002), "Integration Benefits on EU Retail Credit Markets - Evidence from ¨ Interest Rate Pass-through". Discussion Paper No. 02-26, Centre for European Economic Research (ZEW), Mannheim.*

lii. *Hofmann, B. & Mizen, P. (2004), "Interest Rate Pass-Through and Monetary Transmission: Evidence From Individual Financial Institutions Retail Rate". Economica, Issue 79*

liii. *Hung and Pfau (2008), "VAR Analysis of the Monetary Transmission Mechanism in Vietnam", Applied Econometrics and International Development, Vol. 9, No. 1, pp. 165-179, January – June 2009*