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Monetary stance and favorableness of monetary policy in the media: The case of Viet Nam

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ADB Working Paper Series

**MONETARY STANCE AND FAVORABLENESS
OF MONETARY POLICY IN THE MEDIA:
THE CASE OF VIET NAM**

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Trinh Q. Long, Do Phu Dong, and
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Abstract

This paper analyzes the effects of monetary stance on the media's favorable (or otherwise) attitude to the State Bank of Viet Nam's (SBV) monetary policy using monthly data from 2011 to 2021. Monetary stance is a multivariate index based on the growth rates of money supply and domestic credit. A large set of articles published in five Viet Nam daily newspapers is utilized to construct a view of the media's favorableness to the monetary policy. Our main findings are that a change in monetary stance from easing to neutral/tightening, or from neutral to tightening is greatly appreciated by the media. This effect is negatively moderated by the volatility of the stock exchange index. Our findings are robust for alternative measures of media's favorableness, monetary policy variables, and when controlling the endogeneity problem. These findings have important policy implications for implementing SBV's monetary policy.

Keywords: monetary policy, monetary stance, media coverage, media favorableness, communication

JEL Classification: E52, E58

Contents

| | | |
|-----|--|----|
| 1. | INTRODUCTION..... | 1 |
| 2. | LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT | 2 |
| 2.1 | Media Favorableness of the Monetary Policy | 2 |
| 2.2 | Multivariate-based Monetary Policy Stance | 2 |
| 2.3 | Monetary Stance on Media Favorableness..... | 4 |
| 2.4 | The Moderating Role of the Volatility of the Exchange Rate and Stock Market | 5 |
| 3. | MEDIA FAVORABLENESS | 6 |
| 3.1 | Data of Media Coverage..... | 6 |
| 3.2 | Media Favorableness | 6 |
| 3.3 | Monetary Policy Stance | 8 |
| 3.4 | Model Specification..... | 9 |
| 4. | EMPIRICAL RESULTS | 10 |
| 4.1 | Baseline Results | 10 |
| 4.2 | Further Analysis | 11 |
| 4.3 | IV Regression..... | 12 |
| 5. | CONCLUSION | 13 |
| | REFERENCES | 15 |

1. INTRODUCTION

The media's favorableness to central bank operations is a key driver of monetary policy effectiveness (Berger, Ehrmann and Fratzscher 2011). As financial market players obtain central bank information from the news (and other) media (Hayo and Neuenkirch 2015), the media's favorableness can enhance the implementation of central bank policy while simultaneously boosting the interpretation of its operations. However, the concept of media favorableness is much broader than the central bank's information release. By analyzing the central bank's monetary stance, the media can also influence the understanding of the central bank policies and their economic basis with regard to the market and other players, and thus affect the economic performance. Therefore, it is important to examine the linkage between monetary stance and media favorableness.

Berger et al. (2011) are among the first to attempt to examine the driving force of media favorableness to the European Central Bank (ECB). With respect to the monetary stance, they recognized the role of an ECB monetary policy surprise, whereas the interest rate decisions themselves did not affect the favorableness. Similarly, Böhm et al. (2012) showed that any change in interest rate dampens the Czech National Bank's (CNB) media favorableness, and that when the level of interest rates is high, the media views monetary policy decisions more adversely. Both the ECB and CNB have an inflation-targeting objective that is achieved by controlling only a single interest rate. We depart from this literature by investigating the nexus of monetary stance and media's favorableness to the State Bank of Viet Nam (SBV), in which the SBV does not adopt inflation-targeting and has a multivariate stance. Additionally, examining such a nexus in a transitional economy with an underdeveloped financial market and a low degree of information transparency—namely, Viet Nam—may shed new light on the nature of the relationship between media favorableness and the monetary stance.

This paper uses hand-collected data from 211 articles published in five newspapers over the period from December 2011 to September 2021 to examine the relationship between the monetary stance and the media's favorableness to monetary policy. Following the studies of He and Pauwels (2008) and Xiong (2012), we construct a multivariate stance index to capture most of the important changes in the SBV's monetary policy stance. Our results show that a change in monetary stance from easing to neutral/tightening, or from neutral to tightening enhances the favorable attitude of the media to the SBV. Additionally, the stock market volatility negatively moderates the association between monetary stance and media favorableness. After extensive robustness checks, our main findings hold for various measures of media favorableness, monetary policy variables, and the controlled endogeneity problem.

The main contribution of this paper is that we are the first to study the nexus of multivariate monetary stance and the media's favorableness to a central bank's non-inflation targeting mandate. In particular, our findings confirms that the SBV's multivariate monetary stance affects the media's favorableness, whereas the effect of inflation is statistically insignificant.

The remainder of the paper is organized as follows. Section 2 reviews the literature and develops our hypothesis. Section 3 describes our research methodology, followed by Section 4 which includes empirical results. Finally, Section 5 presents our conclusions.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Media Favorableness of the Monetary Policy

The monetary policy plays an essential role in the development of a particular economy. According to Friedman (2000), governments conduct monetary policy through central banks to control the daily economic activities of commercial banks, firms, and individuals. In other words, both general public and sophisticated audiences are affected by the monetary policy (Böhm et al. 2012). However, unlike market analysts and researchers, the general public tends to gain information on monetary policy from daily newspapers. Thus, media coverage and favorableness help orient public readers to understand and follow the monetary policy (Hayo and Neuenkirch 2015). Therefore, effective communication of the monetary policy becomes increasingly important. Indeed, the central bank's statements affect media reporting (Segawa 2021).

Blinder et al. (2008) highlighted two main strands of literature on monetary policy in the media. The first strand focuses on the influences of monetary policy communication on the financial markets, which have drawn the most attention of researchers (Lainé 2019). Analyzing 22 central banks throughout the world, Luangaram and Wongwachara (2017) noted that an informative tone of the central bank's statements is useful to predict the change in policy rate decisions. Meanwhile, by examining the Federal Open Market Committee (FOMC) guidance and comments on the current economic edition, Hansen and McMahon (2016) concluded that the shocks in guidance on the future direction have greater impacts on the financial market than the information of FOMC on the current economic situation. A similar result is observed in the UK, in which the Bank of England's reports on inflation significantly influences the financial market (Reeves and Sawicki 2007). The second strand of literature involves the impact of the central banks' communication on the general public's behavior. For example, Hayo and Neuenkirch (2015) documented the fact that financial agents in the UK, Japan, European countries, and America rely more on the news media than on the central bank's statements in dealing with changes in the macroeconomic environments. Picault, Pinter, and Renault (2022) proved the role of news media in controlling inflation expectations. Particularly, media favorableness or positive media sentiment toward central bank statements facilitate the long-term inflation expectation. In the Czech Republic, the decisions of the Czech national bank that surprised financial markets were not negatively perceived by the media (Böhm et al. 2012). Moreover, the favorableness and the media coverage became more positive when the Czech national bank changed the interest rate. Berger, Ehrmann, and Fratzscher (2011) found a similar relationship between surprising ECB decisions and media coverage in which favorableness was negatively affected when inflation outweighs the inflation target. Furthermore, in the case of ECB, the favorableness of media reports has positive impacts on explaining those surprising decisions.

2.2 Multivariate-based Monetary Policy Stance

According to Bernanke and Mihov (1998), measuring monetary policy is important for both scientists and policymakers. Initially, researchers focused on the rate of monetary growth, which is presented in the money supply (M1, M2) or the monetary base (Xiong 2012). For example, Sims (1972) measured the monetary policy stance through monetary supply M1. Nevertheless, a single measure indicator, such as money supply

or monetary aggregate, is not an adequate signal of the monetary policy stance (Mishkin 2007). Romer and Romer (1989) tested the approach proposed by Friedman and Schwartz (1965), which used a narrative approach to study monetary policy. However, the problems of this method are the subjectivity and the divergence between the intention and actual policy actions of the monetary authorities (Dotsey and Reid 1992). Developing this approach, Boschen and Mills (1995) built a scale measuring the FED policy each month. However, this scale is considered to lack monetary analysis (Bernanke and Mihov 1998).

Because the monetary policy used a complicated set of monetary tools in practice (Handa 2008), Bernanke and Mihov (1998) sorted the non-borrowed reserves, total reserves, and federal funds rate in a structural vector autoregression (SVAR) model, and defined the policy stance as a linear combination of the policy shock. SVAR has become the workhorse model for monetary policy analysis in the US and other developed countries. As the use of SVAR's disruption to capture monetary shocks causes discrepancies among different estimations, the application of this model in policy analysis is questioned. Additionally, in practice, the monetary policy is predicted, specifically by the Taylor rule, which is in contrast to the unpredicted focus of the SVAR. Therefore, the feedback rule derived from the SVAR-based measure could understate the role of monetary policy.

Moreover, the response of the monetary policy stance to macroeconomic variables is estimated to assess the appropriate index to characterize a central bank's behavior. This response is contingent on a monetary policy rule. Taylor (1993) proposes a quantitative study of this framework by regressing the federal funds rate on inflation and the output gap. Therefore, the Taylor rule has become the standard in the analysis of the monetary authorities' reaction in a variety of countries (Woodford 2001). For example, Eichengreen, Watson, and Grossman (1985) studied the Bank of England's discount rate policy under the interwar gold standard. The weekly decision as to whether to increase, cut, or leave the discount rate unchanged is formulated as a nonlinear function of reserve position, the difference between domestic and foreign interest rates, the level of economic activity, and the level of the discount rate. Gerlach (2018) used the European Central Bank's Monthly Bulletin to create the choice variable. The empirical results indicate that monetary policy responds to M3 growth, real economy status, and changes in the exchange rate, except for inflation. (Kim, Shi, and Hwang 2016) employed three types of constrained ordered choice models, and established the decisive role of output gap and exchange rate in studying the Bank of Korea's interest rate decision-making process. Mgadmi et al. (2021) examined the Taylor rule in the Tunisian context. The result was good, relative to the historical money market rate of the Tunisian central bank. Van Ommereen and Piccillo (2021) used the Taylor rule specification to explain the impact of governor changes in the interest rate setting of central banks of six OECD countries. Applying the Taylor rule, Carvalho, Nechio, and Tristao (2021) indicated that the OLS estimation could solve the inflation and output gap.

Concerning countries' economic development, Bui and Gábor (2021) revealed that researchers have paid the most attention to the monetary shock of advanced countries, whereas just a few papers have been published on emerging ones. Because of the limitation of the controlling ability of monetary authority (Jawadi, Mallick, and Sousa 2014), the avoidance of large adjustments in monetary instruments (Friedman 2000), and the significant dependence of central banks on governments in developing countries (Jawadi, Mallick, and Sousa 2014), interest rate and monetary supply are utilized in measuring the monetary policy stance (Bui and Gábor 2021).

2.3 Monetary Stance on Media Favorableness

2.3.1 Monetary Policy and Media Favorableness

According to Hoggarth (1996), the main goal of monetary policy is to maintain a low and stable inflation rate. This agrees with King, Lu, and Pastén (2008) that the main objective of modern monetary policy is to manage inflation expectations. Nevertheless, central banks are unable to control the inflation rate directly. The instruments central banks utilize to maintain low and stable inflation rates include policy rates and reserve requirements.

Bernanke (2004) concluded that through media, with credibility, central banks can indirectly affect the whole economy by setting the policy rate, thus achieving the final goal of monetary policies. Moreover, in terms of readers which include both experts and non-experts, media communication helps them analyze and anticipate central banks' future actions (Ehrmann and Fratzscher 2005; Brand, Buncic, and Turunen 2006; Jansen and De Haan 2006). Interestingly, the inflation index is not a significant predictor from the media perspective despite its impacts on the interest rates of an economy (Fogarty 2005). In contrast, policy rates have attracted attention from the media (Berger, Ehrmann, and Fratzscher 2011). Depending on the changes in the policy rates and interest rates, media favorableness to these factors differs.

In terms of media favorableness, Fogarty (2005) revealed that the actions of central banks can be perceived differently by audiences as a result of different media reports. Indeed, the negative effects of central banks policies are emphasized more than the neutral or positive impacts on the economy. Citing the work of Mutz (1992), Fogarty (2005) explained the mechanism of the perception of public readers of economic events such that non-economic experts who read newspapers tend to favor the negative side of the actions of central banks.

2.3.2 Effects of Monetary Stance on Media Favorableness

Examining the impacts of media on monetary stance, Hayo and Neuenkirch (2015) proposed the "more realistic view" model to determine the role of media coverage and favorableness. Using this model, Picault, Pinter, and Renault (2022) concluded that the communications of presidents in ECB meetings on future stance significantly impact media favorableness. Using the hawk and dove communication strategies proposed by Tobback, Nardelli, and Martens (2017), Picault, Pinter, and Renault (2022) observed that media favorableness decreases with dovish communications. Similarly, hawkish communications contribute to the decline of positive media sentiment. However, this study did not firmly remove the media effect. Central bank communications have been proven to be useful in transmitting the actions of central banks in easing, tightening, or maintaining monetary stance (Bennani et al. 2020). However, Darvas (2018) pointed out that when central banks modify the monetary stance in the inflation-targeting economy, for example, by tightening the monetary policy, market participants tend to neglect the central banks' guidance after the systematic forecast. Therefore, applying the model proposed by Hayo and Neuenkirch (2015), the perception of market participants will be affected by media coverage and sentiment. In other words, media favorableness plays an important role in forecasting and guiding markets to follow the actions of central banks. This statement proved true when Claus and Nguyen (2020) examined the expectation of customers who asymmetrically responded to changes in monetary stance through the orientation of news. This is consistent with Lee, Kim and Park (2019) who indicated that the positive and negative tone of news media reflecting the changes of monetary stance link with the market participants' expectations.

Based on the above discussion, we propose the following hypothesis:

H1: There is an association between monetary policy stance and media favorableness.

2.4 The Moderating Role of the Volatility of the Exchange Rate and Stock Market

In this part, we argue that economic volatility moderates the effect of monetary stance on the media's favorableness. When the exchange rate is more volatile, the central banks under the fixed exchange rate regime tend to actively intervene in the foreign exchange market. Additionally, the central banks make transactions in the Open Market Operations (OMO) to sterilize their monetary effects, leading to a change in monetary stance. Thus, the high volatility of the exchange rate is associated with frequent changes in monetary stance. Therefore, fluctuations of the exchange rate are a good reason to describe monetary policy (Böhm et al. 2012). Moreover, Vitale (2003) pointed out that the actual foreign exchange interventions by the central bank raise the monetary policy's transparency and credibility. Fratzscher (2008) demonstrated that communication is an effective tool for nudging the exchange rate in the desired direction, while at the same time, they may even reduce volatility.

Based on the above argument, we pose the following hypothesis:

H2: The exchange rate volatility negatively moderates the effect of monetary policy stance on media favorableness.

The interactions between the volatility of stock markets and monetary policy have received great attention from scholars in economic and financial literature. On one hand, stock prices are influenced by monetary policy such that a rise in interest rate negatively affects the stock prices. Furthermore, the distribution of information significantly impacts the stock market (Da, Engelberg, and Gao 2011; Tetlock 2007). According to the stakeholder theory, media coverage and favorableness crucially affect investors' decision-making, thus affecting the whole stock market (Donaldson and Preston 1995). While a positive economic outlook boosts the stock market, tightening monetary policy dampens it (Hayo, Kutan, and Neuenkirch 2012; Su 2018). According to the critics of the efficient market hypothesis, not all investors can gain enough information and analyze this information optimally (Strycharz, Strauss, and Trilling 2018). Thus, investing decisions are normally affected by emotions, herd, and irrational behavior (Nofsinger 2005; Shiller 2015; Strycharz, Strauss, and Trilling 2018). In that context, media acts as an intermediary in distributing information and shaping investors' decisions in the stock market (Oberlechner and Hocking 2004), which is significantly important in distributing firms' less accessible information to investors (Strycharz, Strauss, and Trilling 2018).

On the other hand, stock prices have a certain impact on monetary policy: Central banks need to consider monetary policy when there are stock market fluctuations (Ivrendi and Guloglu 2012). Indeed, if the media pays more attention to, and comments on, a particular stock, its traded volume and price could increase (Dougal et al. 2012; Pinnuck 2014). As asset prices, such as stock prices, are highly dependent on market expectations and the credibility of the authority, effective communication from central banks can stabilize the stock market.

Based on the above discussion, we raise the following hypothesis:

H3: The volatility of the stock market negatively moderates the effect of monetary policy stance on media favorableness.

3. MEDIA FAVORABLENESS

3.1 Data of Media Coverage

This part outlines the method used to construct the media favorableness index. The SBV issued Circular No. 35/2011/TT-NHNN regulating the disclosure and provision of information. The SBV has started a weekly report—Developments in Money Market and Inter-bank Market—which has been published since December 2011. We collected the media articles based on the issuing date of such reports. We follow Berger et al. (2011) and Böhm et al. (2012) to gather articles published within the following two days of the issuing dates. As there exists a gap between the issuing date and the base week, we also use the last date of the base week. The period spans from December 2011 to September 2021. Concentrating on the response of the public to SBV monetary policy decisions during a relatively long span requires some simplifications to minimize the high costs. Hence, we use the method pioneered by McCombs and Shaw (1972) for the agenda-setting function of mass media to support the gathering of the press articles using pre-defined keywords. We employ branch coding of articles written on monetary policies and published in the columns, such as economic, finance, and securities ones, of five newspapers – CaféF, Zingnews, Vnexpress, the SaigonTimes, and Thoibaonghang.¹ The choice of newspapers for the analytical coding is random, and obtained from a large set of newspapers with economic/financial columns in Viet Nam, without inferring that the chosen one has a higher reputation than the remainder.

The information obtained for coding is based on two basic rules: (1) the name of the SBV appears immediately in the title of the article; or (2) the information about the monetary policy mentioned appears at least in five lines in the article—this refers to the cognitive threshold, implying that the information is analytically useful. The evaluation consists of three levels: –1 Negative; 0 – Neutral; 1 – Positive. A recording unit is labeled *positive* when the SBV is appreciated for its monetary policies, *negative* when the SBV is criticized for the same, or *neutral* if the report has no assessment or a balanced one.

3.2 Media Favorableness

Our database includes 211 articles published in five newspapers over the period from December 2011 to September 2021. We first distinguish how positively or negatively each report was covered by the five different newspapers. The favorableness indicator for each report and each newspaper is computed as the simple average of the favorableness for all articles published in that newspaper after that report. Given the fact that several time series used by this research are unable to be collected at weekly frequency, we construct monthly favorableness from weekly favorableness as follows:

$$Favor_t = \sum_{i=1}^w (\sum_{m=1}^5 Favor_{t,i,m}), \quad (1)$$

where $Favor_t$ captures the monthly favorableness in month t , while $Favor_{t,i,m}$ represents the favorableness of newspaper m in week i of month t . w is the number of weeks observed in month t . As the SBV did not report in some weeks, the value of w is not constant. As in Deephouse (2000), we compute the media favorableness as follows:

¹ The title of the newspapers in Vietnamese are, respectively, Café F, Zingnews, Vnexpress, Kinh tế Sài Gòn, and và Thời báo Ngân hàng.

$$Favor_{t,i,m} = \begin{cases} (p_{t,i,m}^2 - p_{t,i,m}n_{t,i,m})/(p_{t,i,m} + n_{t,i,m})^2 & \text{if } p_{t,i,m} > n_{t,i,m} \\ 0 & \text{if } p_{t,i,m} = n_{t,i,m} \\ (p_{t,i,m}n_{t,i,m} - n_{t,i,m}^2)/(p_{t,i,m} + n_{t,i,m})^2 & \text{if } p_{t,i,m} < n_{t,i,m} \end{cases} \quad (2)$$

where $p_{m,i,t}$ and $n_{t,i,m}$ are the number of positive and negative recording units for monetary policies published in newspaper m , following the report of week i in month t , respectively. We report the average value of $Favor$ in each newspaper in Figure 1. Two points are worth highlighting. First, the favorableness indices based on the issuing date are likely to be higher than those of the last date. Second, the favor index based on the CaféF newspaper is much higher than that of the others. Figure 2 displays the distribution of favorableness over time. It can be seen that the favorableness index varies over time, and it tends to receive a positive value post-2018.

Figure 1: Average of Favorableness Index by Newspapers

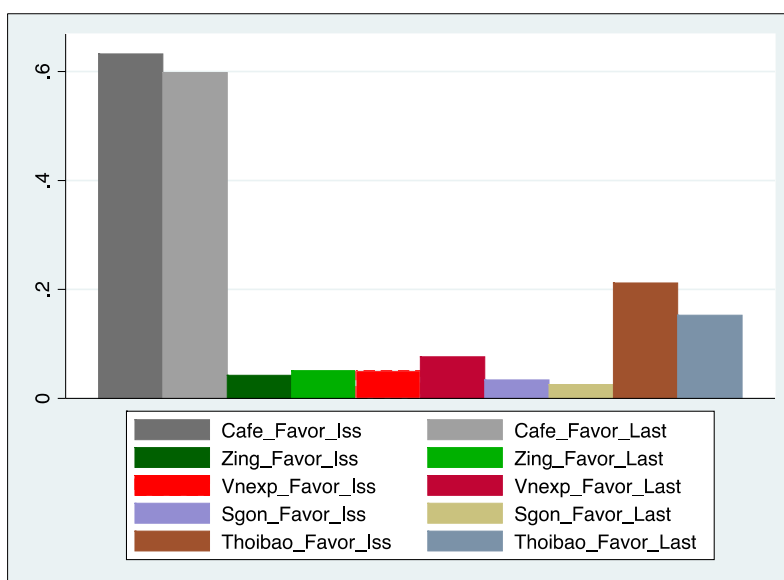
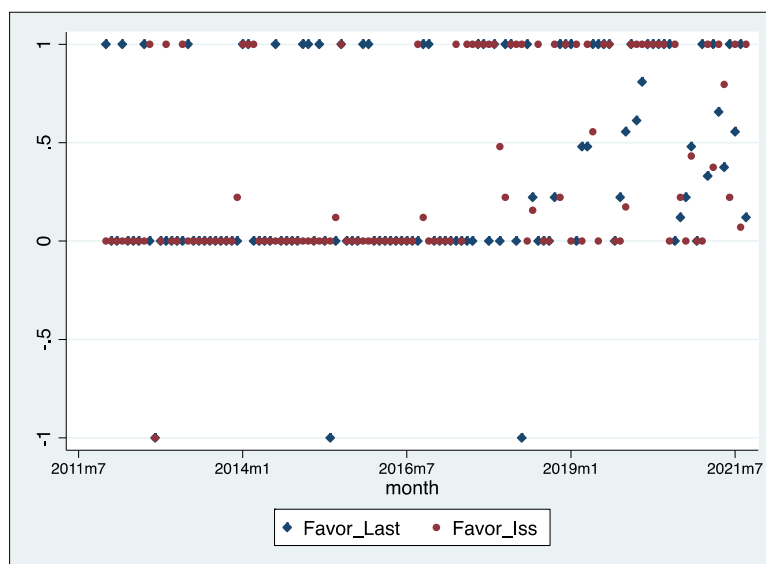


Figure 2: Distribution of Favorableness Over Time



3.3 Monetary Policy Stance

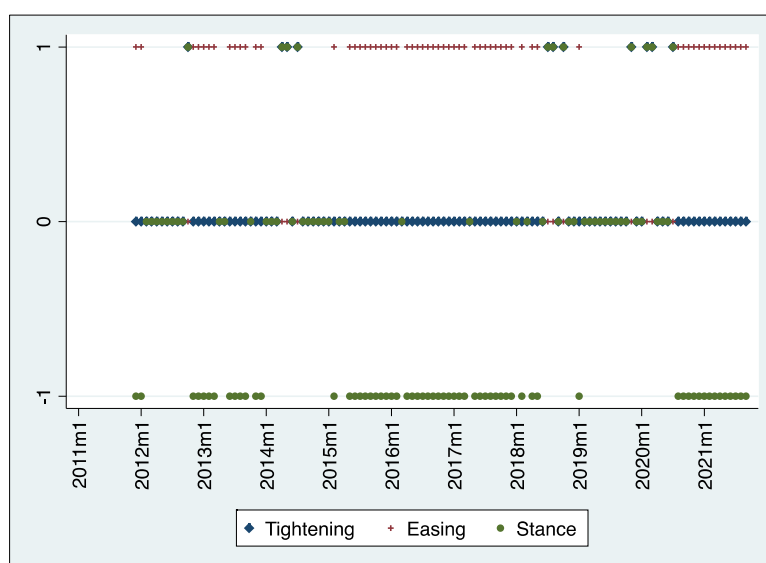
The construction of the policy index requires us to categorize the change in each monetary series. We follow most of the literature on the monetary policy stance index to assign value in a set of three choices (1; 0; -1) to represent a tightening change, no change, and an easing change in the policy reactions, respectively (Bernanke 1990; He and Pauwels 2008; Xiong 2012). We filter the M2 and domestic credit growths by employing the Hodrick–Prescott method, and by keeping the cyclical components. All the growth rate is calculated as the percentage change during the past twelve months unless otherwise stated. The one standard deviation of each series is used as a threshold to classify the fluctuations. We mark tightening (easing) change for any cyclical component that decreases (increases) more than one standard deviation. The rest is treated as an unchanged one.

After obtaining the policy change of all variables, we sum them up before constructing the overall monetary policy stance change index, denoted by $Stance_{yt}$. Similar to the single index of each policy tool, we assign a value to $Stance_{yt}$ in a set of three choices (1; 0; -1) to represent a tightening change, no change, and an easing change, respectively, as follows:

$$Stance_{yt} = \begin{cases} 1 & \text{if total sum is greater than 0} \\ 0 & \text{if total sum is equal to 0} \\ -1 & \text{if total sum is less than 0} \end{cases}, \tag{3}$$

For further analysis, we create dummy variables, *Tightening* and *Easing*, that take value of one if *Stance* is equal to 1 and -1, respectively, and 0 otherwise. Figure 3 displays the distribution of *Stance*, *Tightening*, and *Easing* over time. As the SBV keeps its stance in long-enough periods, the monetary stance of SBV’s policy persists.

Figure 3: Monetary Policy Stance Index Over Time



3.4 Model Specification

We follow the literature on the determinants of media favorableness (Berger, Ehrmann, and Fratzscher 2011; Böhm, Král, and Saxa 2012; Lyócsa, Molnár, and Plíhal 2019) to specify the model as follows:

$$Favor_{yt} = \alpha_0 + \lambda_t + \beta_1 Stance_{yt} + \beta_1 CONTROL_{yt} + \varepsilon_{yt}, \quad (3)$$

where subscripts y and t denote year and month, respectively. λ_t captures the time-fixed effect. $CONTROL_{it}$ is a set of control variables. To control the effects of economic status, we use inflation (*Inflation*) and growth rates of the manufacturing product (*MPG*) and retail sale (*RSG*). The external sector consists of the trade balance (*TradeBalance*) and the index of the exchange rate (*ERIndex*). Table 1 reports the correlation matrix, whereas Table 2 portrays the statistical summary. As the correlation coefficients are less than 0.8, the multicollinearity problem may not appear in our estimations (Hair et al. 2010). Additionally, the last column of Table 2 indicates that all variables are stationary.

Table 1: Correlation Matrix

| | Stance | Inflation | MPG | RSG | TradeBalance | ERIndex |
|--------------|----------|-----------|----------|---------|--------------|---------|
| Stance | 1 | | | | | |
| Inflation | 0.13 | 1 | | | | |
| MPG | 0.0393 | -0.114 | 1 | | | |
| RSG | -0.00658 | 0.355*** | 0.135 | 1 | | |
| TradeBalance | 0.187* | -0.0957 | -0.00704 | -0.0178 | 1 | |
| ERIndex | -0.00758 | -0.526*** | 0.0723 | -0.212* | 0.286** | 1 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 2: Statistical Description

| Variable | Obs | Mean | Std. Dev. | Min | Max | Dickey–Fuller Test (p-value) |
|--------------|-----|--------|-----------|--------|----------|------------------------------|
| Favor_Iss | 118 | 0.95 | 1.56 | -1.00 | 9.22 | 0.000 |
| Favor_Last | 118 | 0.90 | 1.36 | -3.00 | 5.66 | 0.000 |
| Inflation | 117 | 4.01 | 3.15 | -0.98 | 18.13 | 0.000 |
| MPG | 117 | 7.88 | 5.69 | -10.10 | 24.10 | 0.000 |
| RSG | 116 | 10.95 | 8.31 | -22.13 | 38.07 | 0.000 |
| M2G | 112 | 16.78 | 4.57 | 9.68 | 29.82 | 0.000 |
| DCredit | 112 | 14.06 | 3.91 | 6.93 | 20.47 | 0.000 |
| StockIndex | 116 | 732.83 | 243.15 | 360.26 | 1,365.94 | 0.000 |
| PolicyRate | 117 | 6.78 | 2.16 | 4.00 | 15.00 | 0.000 |
| ERIndex | 117 | 139.64 | 5.77 | 130.94 | 147.44 | 0.000 |
| ReservesG | 114 | 24.10 | 21.97 | -22.71 | 99.82 | 0.000 |
| ExportG | 117 | 14.04 | 13.47 | -17.05 | 67.11 | 0.000 |
| ImportG | 117 | 12.76 | 14.30 | -22.40 | 57.85 | 0.000 |
| TradeBalance | 117 | 0.32 | 1.16 | -2.08 | 5.00 | 0.000 |

4. EMPIRICAL RESULTS

4.1 Baseline Results

Table 3 reports the baseline results of the regression on equation (3). While the first column has no fixed effects, we add the month-fixed effects in columns (2)–(4). Concerning the monetary stance index, the coefficient of *Stance* is positive and statistically significant in all model specifications. More precisely, when the stance index increases by 1%, it reduces the favorableness index by 0.4 and 0.43 units in columns (1) and (2), respectively. This finding aligns with that of Böhm et al. (2012) in the sense that when the central bank implements a contractionary policy, the public media is more likely to perceive monetary policy decisions more positively. This result supports our hypothesis H1.

Turning to other variables, depreciation of domestic currency boosts the public preference for monetary policy. Our finding is consistent with Böhm et al. (2012). However, the coefficient of *TradeBalance* is statistically insignificant. Meanwhile, the change in the headline inflation rate does not affect the favorable perception of monetary policy. Similarly, the effects of manufacturing production growth rate (*MPG*) and retail sale growth rate (*RSG*) are mute.

To see the role of each stance dimension, we use *Tightening* and *Easing* instead of *Stance*, and re-regress equation (3). Results reported in columns (3) and (4) indicate that only *Easing* matters. This suggests that the public media appreciates the expansionary policy.

Table 3: Empirical Results

| Variables | (1) Favor_Last | (2) Favor_Last | (3) Favor_Last | (4) Favor_Last |
|--------------|----------------------|----------------------|----------------------|----------------------|
| D.Inflation | 0.17 (0.137) | 0.16 (0.140) | 0.11 (0.146) | 0.18 (0.142) |
| MPG | 0.01 (0.023) | 0.01 (0.023) | 0.01 (0.023) | 0.01 (0.024) |
| RSG | -0.00 (0.014) | 0.00 (0.014) | 0.00 (0.014) | 0.00 (0.014) |
| TradeBalance | -0.15 (0.112) | -0.11 (0.138) | -0.08 (0.143) | -0.09 (0.137) |
| ERIndex | 0.11*** (0.019) | 0.11*** (0.019) | 0.11*** (0.020) | 0.11*** (0.019) |
| Stance | 0.43** (0.186) | 0.40** (0.193) | | |
| Tightening | | | 0.48 (0.465) | |
| Easing | | | | -0.53** (0.230) |
| Constant | -14.34*** (2.658) | -14.51*** (2.755) | -14.32*** (2.832) | -14.41*** (2.641) |
| Observations | 115 | 115 | 115 | 115 |
| R-squared | 0.289 | 0.401 | 0.375 | 0.402 |
| Month FE | No | Yes | Yes | Yes |

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

4.2 Further Analysis

In this part, we use the favorableness index based on the issuing date (*Favor_Iss*). The result in column (1) of Table 4 is consistent with our baseline one. However, it can be seen that the effects of *Stance* on *Favor_Iss* are much lower than those on *Favor_Last*. One possible reason for this is that when the issuing date is far behind the last date of the base week, the link between monetary stance and media favorableness weakens. Next, we replace *Stance* by policy rate (*PolicyRate*), growth rates of money supply (*M2G*), and foreign reserves (*ReservesG*). The result reported in column (2) of Table 4 shows that the coefficients of *M2G* and *PolicyRate* are negative and statistically significant, which reinforces our main finding.

Table 4: Alternative Measures

| Variables | (1) Favor_Iss | (2) Favor_Last |
|--------------|----------------------|--------------------|
| D.Inflation | -0.09 (0.180) | 0.12 (0.129) |
| MPG | 0.01 (0.031) | -0.00 (0.021) |
| RSG | -0.02 (0.016) | 0.01 (0.013) |
| M2G | | -0.10** (0.039) |
| ReservesG | | 0.01 (0.004) |
| PolicyRate | | -0.14** (0.067) |
| TradeBalance | -0.07 (0.162) | 0.00 (0.149) |
| ERIndex | 0.12*** (0.022) | 0.01 (0.038) |
| Stance | 0.17** (0.189) | |
| Constant | -15.61*** (3.063) | 0.94 (6.095) |
| Observations | 115 | 111 |
| R-squared | 0.331 | 0.407 |
| Month FE | Yes | Yes |

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Next, we consider the moderating role of the exchange rate and stock exchange index. Volatility is the ratio of cyclical components obtained from the Hodrick-Prescott filter to its level. In each measure, we first add the volatility into equation (1), and then add its interaction term with monetary policy stance. The estimation results are displayed in Table 5. It can be seen that the volatility of exchange negatively affects media favorableness, whereas that of the stock exchange rate index is insignificant. However, column (4) indicates that the interaction term of *Stance* and *Volatility_StockIndex* is negative and statistically significant. It means that when the stock exchange rate is more volatile, the effect of monetary policy stance on media favorableness is negatively moderated.

Table 5: Moderating Role of Volatility

| Variables | (1) | (2) | (3) | (4) |
|-------------------|----------------------|----------------------|-----------------------|----------------------|
| | Volatility_ERIndex | | Volatility_StockIndex | |
| | Favor_Last | Favor_Last | Favor_Last | Favor_Last |
| D.Inflation | 0.08 (0.134) | 0.09 (0.136) | 0.15 (0.138) | 0.13 (0.131) |
| MPG | 0.01 (0.021) | 0.01 (0.021) | 0.01 (0.025) | 0.01 (0.023) |
| RSG | 0.01 (0.013) | 0.01 (0.013) | -0.00 (0.014) | 0.00 (0.013) |
| TradeBalance | -0.13 (0.131) | -0.13 (0.129) | -0.09 (0.143) | -0.10 (0.131) |
| ERIndex | 0.13*** (0.020) | 0.13*** (0.019) | 0.11*** (0.019) | 0.10*** (0.019) |
| Stance | 0.41** (0.183) | 0.41** (0.187) | 0.39* (0.200) | 0.30 (0.203) |
| Volatility | -0.31*** (0.116) | -0.26** (0.130) | 0.01 (0.012) | -0.01 (0.011) |
| Stance*Volatility | | 0.12 (0.176) | | -0.04*** (0.015) |
| Constant | -18.11*** (2.808) | -17.34*** (2.645) | -14.98*** (2.626) | -13.87*** (2.605) |
| Observations | 115 | 115 | 115 | 115 |
| R-squared | 0.441 | 0.444 | 0.406 | 0.464 |
| Month FE | Yes | Yes | Yes | Yes |

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

4.3 IV Regression

The monetary stance variable may be endogenous due to the reverse causality in which a high preference for tightening monetary policy by social media may inspire the central bank to continue inducing such a policy to maintain a high media favorableness. The endogeneity problem leads to biased estimation. To correct this bias, we use change in the central bank's governor (*Govchange*) as an instrument variable. The SBV changed its governor in April 2016 and in November 2020. As the length of recent turnover is short, we drop the post in November 2020. We define *Govchange* as follows. *Govchange* takes a value of 1 for the period April 2016 onward, and 0 otherwise. On the one hand, a change in central bank governors alters monetary policy stance (Cukierman 2008; Moser and Dreher 2010; Van Ommereen and Piccillo 2021). One possible reason is that the new governor may have a different aversion to inflation compared to their predecessor, causing a change in monetary stance. Furthermore, Sebők, Makszin, and Simons (2021) documented that central bank governors gradually change the monetary policy. In this domain, *Govchange* satisfies the first assumption of the IV instrument, which is that there is a strong association between the IV instrument and the endogenous variable. On the other hand, when a central bank changes its governor, the governors tend to be more active on public media in order to make the public aware of their regimes. However, little evidence is observed on the direct effect of change in central bank governor on media favorableness of monetary policy. Marcussen and Verdun (2002) and Sørensen (2015) are a few exceptions who indicate that the governor of the Danish central bank actively joins the public debate to use

the media as a way to alter the consensual knowledge among the Danish political elites rather than public opinion. Thus, the change in governor influences media favorableness only through a monetary stance. This satisfies the second assumption of the IV instrument—that there is no direct nexus between the IV instrument and the dependent variable.

We report the estimation results in Table 6 with different IV estimators. When we control for the endogeneity concern, the coefficient of *Stance* becomes more pronounced and remains statistically significant. This result is robust even when we run the IV regression with an alternative measure of media favorableness (*Favor_Iss*). We conduct the endogeneity test and weakness of the instrument test. Based on the tests, we can reject the null hypothesis, and hence monetary stance (*Stance*) is endogenous, and *Govchange* can be used as an IV.

Table 6: IV Regression

| Variables | (1) 2sls | (2) gmm |
|--------------|----------------------|----------------------|
| Stance | 1.49*** (0.459) | 1.51*** (0.385) |
| D.Inflation | 0.07 (0.166) | 0.08 (0.127) |
| MPG | -0.02 (0.024) | -0.02 (0.015) |
| RSG | 0.01 (0.016) | 0.01 (0.013) |
| TradeBalance | -0.17 (0.147) | -0.18 (0.154) |
| ERIndex | 0.10*** (0.022) | 0.10*** (0.023) |
| Constant | -11.87*** (3.120) | -11.91*** (3.134) |
| Observations | 107 | 107 |
| R-squared | 0.210 | 0.198 |
| Month FE | Yes | Yes |

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

5. CONCLUSION

In this paper, we have examined the effect of the monetary stance on the variability of the favorableness of the SBV's monetary policy decisions in the media in the period 2011–2021. We use a rich set of articles published in the five most relevant Vietnamese daily newspapers. We construct a multivariate stance index based on the growth rates of M2 and domestic credit, by using the Hodrick-Prescott filter. We find that monetary stance affects the SBV's media favorableness in the sense that a change from easing to neutral/tightening or from neutral to tightening is highly appreciated by the general public. However, this effect weakens when the degree of stock market volatility is high. Meanwhile, the depreciation of the Vietnamese dong receives positive reporting, while the effects of inflation and the growth rate of manufacturing production and retail sale are statistically insignificant.

Our findings suggest several policy implications. First, change in monetary stance and domestic currency's depreciation are key drivers of media favorableness, whereas inflation plays no role. The SBV should not be too smooth in managing the growth rate of money supply and domestic credit. Additionally, the SBV can depreciate the Viet Nam dong to appeal to the general public. Second, as the stock market's volatility lessens the linkage to media favorableness, policies enhancing the stability of Viet Nam's stock market can facilitate the effect of monetary stance on media favorableness.

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