

# Does Macro News Matter In The Exchange Rate Indonesia?

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**Abstract:** News related to macroeconomic conditions has an impact on exchange rate movements in the foreign exchange market. The Exchange rate relations with macroeconomic news on the foreign exchange market only in the short term. This study aims to mitigate exchange rate relationships with macroeconomic news in Indonesia. The variable used is the index of domestic macroeconomic news, index of US and Chinese macroeconomic news and nominal exchange rates. The analytical tool used in viewing the relationship of macroeconomic news with exchange rates is Vector Autoregression (VAR). The results of the study show that the news of domestic macroeconomic conditions and the United States has an influence on exchange rate movements. Expectations of players in the foreign exchange market are based on macroeconomic news conditions. The policy to mitigate the effects of macroeconomic news is the stability of Indonesia's macroeconomic fundamentals. Maintaining the stability of macroeconomic fundamentals can have an effect on good news.

**Keyword:** Exchange rate, macro news, VAR

## 1 INTRODUCTION

The determinant of exchange rates originating from macroeconomic news has been the topic of discussion in recent years. The impact of macroeconomic news on exchange rates occurs in the foreign exchange market and only in the short term<sup>1,2</sup>. Macroeconomic news is the basis for agents to make transactions on the foreign exchange market. The impact of macroeconomic news on influencing exchange rates through the formation of expectations<sup>3-5</sup>. The establishment of a relationship between macroeconomic news and exchange rates comes from the exchange rate puzzle phenomenon. The phenomenon of the exchange rate puzzle or the exchange rate disconnect puzzle explains that macroeconomic fundamentals influence exchange rates like a puzzle<sup>6,7</sup>. Thus, the microstructure approach of the foreign exchange market in explaining exchange rate movements based on the conditions of the foreign exchange market is needed. The effects of macroeconomic news on exchange rates occur in developing and developed countries. In BRICS countries (Brazil, Russia, India, China, and South Africa), macroeconomic news has an influence on exchange rates<sup>8</sup>. Macroeconomic news sourced from the United States and Japan has an influence on the Yen/USD exchange rate<sup>9</sup>. On the other hand, macroeconomic news has an influence on the condition of the foreign exchange market<sup>10,11</sup>. The news that macroeconomic conditions play a role in exchange rates. Indonesia, which is a developing country with an exchange rate regime, is floating, making movements in exchange rates based on demand and supply in the foreign exchange market. The condition of Indonesia with the floating regime system needs to be done to mitigate the relationship of macroeconomic news with exchange rates. This is because in developing countries there is a relationship between macroeconomic news and exchange rates<sup>12</sup>. Macroeconomic news that has an impact on exchange rates comes from domestic and foreign macroeconomic conditions (The United States and Chinese). Domestic macroeconomic news is used to see the stability of domestic macroeconomic fundamentals to strengthen exchange rates. On the other hand, US and Chinese macroeconomic news is used because the United States is a developed country that has an influence on the world economy and the movement of the dollar. Thus, this paper aims to look at the relationship of macroeconomic news from domestic and United States in influencing the movement of the Rupiah/USD exchange rate.

## 2 LITERATURE REVIEW

In the foreign exchange market, agents believe that information related to macroeconomic conditions will have an influence on exchange rates<sup>8,12,13</sup>. Information that develops on the foreign exchange market is divided into two, namely the information that the announcement is measurable and which is not measurable<sup>1,10</sup>. Unmeasured information called news will have an effect on the exchange rate through expectations. The expectations of agents in the foreign exchange market against exchange rate movements are based on macroeconomic news<sup>1,14</sup>. The exchange rate in the foreign exchange market has a high sensitivity related to the development of macroeconomic news<sup>8,12,15</sup>. News on the foreign exchange market is issue in influencing exchange rates<sup>3,10,13</sup>. Thus, macroeconomic news in influencing exchange rates depends on the agents responding to the news<sup>8,12</sup>.

## 3 DATA AND METHODOLOGY

### 3.1. Data

The data used in this research is daily data on exchange rates in Indonesia. The period used is 1/2/2013-12/31/2018 with 1533 observations. Meanwhile, macroeconomic news used in this study comes from the macroeconomic conditions of the United States, China, and Indonesia. The United States and China that are used as sources of macroeconomic news in influencing exchange rates caused by the Rupiah are very sensitive to the macroeconomic changes of the United States and Chinese. On the other hand, Indonesia's macroeconomic conditions also need to be considered to see agents' expectations for domestic conditions. Macroeconomic news in influencing exchange rates is divided into two, namely positive news and negative news<sup>5,10,16</sup>. The macroeconomic indicators used are GDP, retail sales, current account and Fed Fund Rate (FFR). This research use of GDP and retail sales<sup>5,8,12</sup>. Meanwhile, the FFR variable as one of the US macroeconomic indicators used due to uncertainty about FFR changes affects agent expectations. The current account variable which is one of the domestic macroeconomic indicators also has a role in building agent expectations in the foreign exchange market. The source of macroeconomic news from a collection of newspaper news on Bloomberg combined into a news index. This research use news indexes<sup>4,5,8,12</sup>. This study uses control variables, namely capital inflow. Capital inflow

greatly influences the movement of the Rupiah exchange rate. This is due to an increase in capital inflow causing the Rupiah to appreciate.

### 3.2. Methodology

The specification of the research model modifies the research conducted by Galati and Ho (2001), Birz and Lott (2011), Lott and Hassett (2014), Maria et al. (2017), Cheung et al. (2017) dan Maria et al. (2018).

$$s_t = a_1 + a_2 \text{news\_index}_t^{\text{domestic}} + a_3 \text{news\_index}_t^{\text{foreign}} + a_4 \text{var}_{\text{control}_t} + \varepsilon_t \quad (1)$$

Equations (1) are the implications of negative and positive news in influencing exchange rate volatility in Indonesia. The research method used in explaining the relationship of macro news with exchange rates uses vector autoregression (VAR). The concept built by VAR in explaining the relationships between variables is minimizing the theoretical approach<sup>13,17</sup>.

## 4 RESULTS AND DISCUSSION

The results of the analysis using VAR on the relationship of macroeconomic news with exchange rates in Indonesia

have a direct and indirect impact. This study uses two models in mitigating the relationship of macroeconomic news with exchange rates in Indonesia. The first model explains the impact of macro news negative on influencing exchange rates in Indonesia. Meanwhile, the second model provides estimates of positive macro news on exchange rates in Indonesia. In the first, explained that the exchange rate in Indonesia was influenced by the exchange rate in the past period, negative domestic news, negative foreign news and capital inflow with different lags. Relationship of the exchange rate and negative news macro domestic is significant on the third lag with a probability level of 0.043 smaller than the alpha value ( $\alpha = 5\%$ ). In addition, the positive coefficient of negative news macro domestic shows that the higher the presence of negative news regarding the domestic economy will cause the Rupiah to depreciate. In other words, the increasing number of announcements that explain the adverse domestic conditions that will change the expectations of agents in the foreign exchange market. Based on research conducted by Galati and Ho (2001), Maria et al. (2018) and Maria et al. (2017) explains that macroeconomic news has a direct impact on the exchange rate in the foreign exchange market.

**Table 1. VAR Analysis Results**

	Log nt	News_i Domestic negative	News_i Foreign negative	Log cif
	0,89*	0,57	0,08	0,12
	(3,14)	(0,72)	(0,75)	(0,69)
	[0,00]	[0,42]	[0,45]	[0,49]
	-0,02	0,28*	0,08*	-0,4**
Log Nt(-2)	(-0,74)	(3,50)	(3,77)	(-2,27)
	[0,46]	[0,00]	[0,00]	[0,02]
	0,04	0,06*	0,62	-0,4**
Log Nt(-3)	(1,60)	(3,58)	(1,63)	(-2,20)
	[0,10]	[0,00]	[0,10]	[0,02]
	-0,01	0,05*	0,16*	-0,23
Log Nt(-4)	(-0,41)	(2,79)	(2,68)	(-1,28)
	[0,68]	[0,00]	[0,00]	[0,20]
	-0,00	0,93*	0,04***	0,00
News_i Domestic negative (-1)	(-1,38)	(27,82)	(2,72)	(1,61)
	[0,167]	[0,00]	[0,085]	[0,10]
	-0,00	0,75*	-0,039	0,00
News_i Domestic negative (-2)	(-0,65)	(17,73)	(-1,14)	(1,32)
	[0,51]	[0,00]	[0,25]	[0,18]
	0,05**	0,50*	-0,031	0,00
News_i Domestic negative (-3)	(2,61)	(12,06)	(-0,91)	(1,51)
	[0,043]	[0,00]	[0,36]	[0,13]
	-2,96	0,24*	0,00	0,00
News_i Domestic negative (-4)	(-0,23)	(7,49)	(0,22)	(1,41)
	[0,81]	[0,00]	[0,82]	[0,15]
	0,00	-0,06	0,86*	-0,00
News_i Foreign negative (-1)	(1,28)	(-1,60)	(25,36)	(-0,89)
	[0,20]	[0,10]	[0,00]	[0,37]
	8,70	-0,04	0,68*	-0,00
News_i Foreign negative (-2)	(0,43)	(-0,81)	(16,09)	(-0,56)
	[0,66]	[0,41]	[0,00]	[0,57]
	0,03**	-0,02	0,45*	-0,00
News_i Foreign negative (-3)	(4,80)	(-0,57)	(10,90)	(-0,67)
	[0,026]	[0,56]	[0,00]	[0,50]
	4,46	-0,02	0,22*	-0,00
News_i Foreign negative (-4)	(0,28)	(-0,53)	(6,69)	(-0,30)
	[0,78]	[0,59]	[0,00]	[0,76]
	-0,01*	-1,81	9,63	0,61*
Log Cif (-1)	(-3,03)	(-0,18)	(1,20)	(24,65)
	[0,00]	[0,85]	[0,23]	[0,00]
	-0,00	4,35	-4,87	-0,24*
Log Cif (-2)	(-1,22)	(0,39)	(-0,53)	(-8,52)
	[0,22]	[0,69]	[0,59]	[0,00]

Log Cif (-3)	-0,00 (-1,46) [0,14]	-10,37 (-0,93) [0,35]	-0,65 (-0,07) [0,942]	0,33* (11,85) [0,00]
Log Cif (-4)	-0,01* (-2,97) [0,00]	1,98 (0,20) [0,84]	-1,47 (-0,18) [0,855]	-0,20* (-8,04) [0,00]
R <sup>2</sup>	0,73	0,50	0,46	0,34
N	1528	1528	1528	1528

\* significant  $\alpha=1\%$ , \*\* significant  $\alpha=5\%$ , \*\*\* significant  $\alpha=10\%$

(...) = t-statistic value

[...] = probability value

Negative macroeconomic news formation originated from the expectations of agents on the conditions of macroeconomic fundamentals and exchange rate movements in the past period. The condition of macroeconomics fundamental that influences negative macroeconomic news can be realized from the probability value of 0.00 smaller than the alpha value ( $\alpha = 1\%$ ). Meanwhile, the exchange rate movement in the past period has an effect on negative macroeconomic news with a level of probability of 0.00 less than the alpha value ( $\alpha = 1\%$ ). Economic phenomena depend on the expectations of agents. The impact of negative news macro foreign on Indonesia's exchange rate was significantly positive in the third lag. These results are realized from the negative news macro foreign probability value of 0.026 smaller than the alpha value ( $\alpha = 5\%$ ). On the other hand, the negative macro foreign news coefficient is positive in that it means that the increase in the amount of negative news about foreign macroeconomics sourced from the United States and China has an effect on the depreciation of the exchange rate. Research conducted by Cheung et al., (2017) explains that news from the United States has an impact on the exchange rate movement in Japan. Meanwhile, in several years China's economic conditions have an impact on the Rupiah exchange rate (Bank Indonesia, 2016). The same condition is shown by the formation of negative news macro foreign originating from the perspective of the conditions of the macroeconomic fundamentals of the United States and China and the impact of exchange rates in the past period. The relationship between capital inflow and the exchange rate in the first and second models shows a significant effect on the first and fourth lags. The probability value of capital inflow in the first and second models in the first and fourth lag is 0.00 less than the alpha value ( $\alpha = 1\%$ ). This result shows that the high capital inflow to Indonesia will have an effect on the appreciation of Indonesia's exchange rate. Capital flow has an influence on exchange rate volatility<sup>16,18</sup>. The exchange rate in Indonesia is influenced by the exchange rate in the past period (t-1) in the first lag with a probability level of 0.00 less than the alpha value ( $\alpha = 1\%$ ). Based on the estimation results in this study indicate that macroeconomic news affects the exchange rate movements. The relationship of macroeconomic news with exchange rates<sup>8,12,13,19,20</sup>. The policy that needs to be carried out by Indonesia in overcoming agent expectations in the foreign exchange market based on domestic and

foreign macroeconomic news is to maintain the stability of macroeconomic fundamentals. Macroeconomic news is responded directly to exchange rate movements<sup>14</sup>. Hence, Indonesia essentials to maintain the stability of domestic macroeconomic fundamentals to strengthen the domestic economy from the global economic shock, so that the exchange rate will remain stable. Another benefit in maintaining the stability of domestic macroeconomic fundamentals is building positive expectations of agents in the foreign exchange market as well as long-term exchange rate movements that will be matched with domestic macroeconomic fundamentals. The macroeconomic conditions of a country will have an influence on exchange rate fluctuations<sup>14,21,22</sup>. Alternatively, Indonesia's policy that must be done is to increase the efficiency and credibility of the financial market. On the efficiency side, it is necessary to strengthen regulations and institutions. Strengthening regulations is needed as a means of money market transactions and foreign exchange markets (market operators) to create financial markets that are fair, orderly and transparent. Meanwhile, on the institutional side, it is necessary to establish a central clearing counterparty for derivative financial transactions carried out over-the-counter. In addition, on the side of financial market credibility by encouraging market players to fulfill the obligations of treasury certification to increase professionalism and competitiveness at the global level.

## 5 CONCLUSION REMARKS

Estimated results using VAR show that positive and negative news affect exchange rates in Indonesia. Exchange rate movements in Indonesia are influenced by the exchange rate in the past period with the first lag. Meanwhile, negative domestic macroeconomic news have an influence on the exchange rate in the third lag. The impact of negative foreign macroeconomic news in influencing the exchange rate in the third lag. Thus the policy that needs to be done by Indonesia in seeing the influence of macroeconomic news on exchange rates is to maintain the stability of macroeconomic fundamentals. On the other hand, Indonesia also needs to increase the efficiency and credibility of the financial market through strengthening regulations and institutions in the financial market.

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