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It is Case Study from Indonesia in Asymmetric Relationship Banking Ratio-Indonesia Moneter Variable

[1]Gofur Ahmad and [2]Ahmad Subagyo

[1]Lecturer at FEB Universitas Muhammadiyah,

Jakarta,

Indonesia.

[2]Lecturer at STIE GICI Depok – Indonesia.

Abstract

In this study the authors review the information asymmetry that is likely to distort decisions to be made, by looking at statistical and economical test results from a study. This study uses Indonesian monetary economic variables and variable financial ratios of Indonesian banks. This research uses data analysis technique of causality and vector auto regression (VAR) to see asymmetric information that possibly happened. Seen the results in table 2 and that on the variable banking financial ratios there is no causal relationship and simultaneously significant reciprocity. Thus, the authors argue this asymmetric information arises when the information generated is still within the limits of a lack of confidence in the results of the analysis or the outcome of the event in which the information received is not complete and complete.

Key Words: Banking ratio, monetary variable, granger causality, VAR test.

JEL Classification: D43, D82, G21.

1. Preliminary

[1,2] Some reasons why people give their money to financial intermediaries such as banking rather than lend or invest money directly, either because of the risks involved in the information asymmetry between the fund provider and the beneficiary. The sellers have a lot of knowledge in comparison to the buyers. So that buyers will take risks by buying goods they know and something they do not know the specifications. Just as with a borrower, the borrower will know more about his or her financial condition and future prospects than the lender. How the lender can be sure that the borrower will not simply disappear with the funds they have lent, or they will risk greater than that. Companies that will sell their shares may not use the money for their best use. It could be that the proceeds from the sale of the shares were used to pay extraordinary compensation to the CEO or to pay big bonuses to the bankers who practically destroyed their company. This is some information that is a bit asymmetrical, which is likely to happen in the field.

[3, 2] 2 This can describe 2 types of risk that exist when there is information asymmetry: the first reverse selection process, which is the risk exposure that existed before money lent or invested and, second moral hazard, which is a risk after financial transactions . Information asymmetry is a material information distribution model, which can influence decision-making by both parties in various ways such as loan agreements. If an entrepreneur comes up with a business idea, and is looking to raise capital for the actualization of his dream. So he will try to find and approach the bank with his already existing business plan in hand, even though the bank will try to do the due diligence before withdrawing the loan. And usually investors will always have a better understanding of prospective returns and business risks than lenders. Here the asymmetric information creates an interesting problem in the banking sector, both before the transaction is closed / adverse selection and after the transaction is closed / moral hazard. [5,6,8,9] The possibility could happen at the stage of adverse selection, when bad credit risk in good value has bad investment channel and very high inherent risk, making it more possible to obtain loan rather than credit risk the good one. The emergence of information asymmetry in this case, many lenders tend to have a hard time distinguishing between good and bad credit risk, so the demand for premiums will be packaged at the existing level as compensation for possible future risks, the process of incompetence really happened. What makes matters worse is the moral dangers. The moral dangers that could happen in the form of credit have been channeled to the borrower and it arises from the fact that the borrower may have an incentive to violate the loan agreement by investing in an 'immoral project'. Generally the likelihood of failure is very high and has the most adverse effect on the lender. Thus information asymmetry can cause moral hazards in due to lack of knowledge of the lender about the borrower's activities. Or other moral dangers in the form of a result of the high implementation costs of the debt agreement.

2. Literature Review

[2,8] For some studies there is a focus on reviewing the potential and determinants of relationships associated with the banking industry, particularly those relating to the benefits of asymmetric information. In some literature it is related to asymmetric information that may be contained in the financial statements as well as some uniqueness for intangible assets that blessed with it. In the study they obtained 3 models of prediction proposals that should be tested again if needed. Firstly, the use of data from studies conducted and interconnected among banks in Germany, both the use and use of intangible assets as one proxy that can provide additional information, in ensuring the existence of asymmetric information, the last part of the intangible assets that showed statistically significant relationship has a relationship and potential to the company's financial condition.

[3.8] According to the world's leading business institute, the world bank, through doing business research, seeks to conduct research and assessment, in relation to indicators in asymmetric information. In their surveys and assessments using one of the spread variables for the banking industry. For their surveys and research they are specifically aimed at investigating the role of information asymmetry for the banking industry.

The results of their survey and research find and show that there is a lower information asymmetry for the share of credit in reducing the spread of the banking industry. Gaining effect rates ranging from two to four percent over prime lending rates can reduce the permanent spread of the banking industry. A larger reduction rate will be possible if credit is at greater risk. In their surveys and studies it also shows a static and solid relationship, using the point of view of statistical and econometric panel data model approaches. For the continuation of the studies they did suggest for the use of a larger sample study to confirm the variables in detail. [4,5,8] In this literature I add matters relating to moral hazard. In a study conducted by them [4,5,8] some used data analysis techniques with DSGE modeling to assess the possibility of moral hazard between financial institutions in this case banks with depositors who kept their money in financial institutions, as explain in Gertler and Karadi (2009), Bernanke et al. (1999) concerning the verification of the problem for the expensive state, which occurs among the entrepreneurs in that State with the financial institution in this case the bank. With their econometric and statistical modification models, it can be explained that the proposed model can strengthen the response of external and economic parties in the country to monetary policy and possible economic shocks such as productivity problems. They expect that the calibration combination model of the shocks generated, makes the trade balance decrease larger.

3. Material and Discussion Research

In this study the authors use the data variable banking financial ratios are net interest margin and current adequacy ratio, and use 2 monetary variables to see the effect on the performance of the banking industry that is the exchange rate of rupiah currency and the interest rate of SBI. For data analysis the author uses the technique from [9,10].

Before the data in the first analysis in doing statistical descriptive test. After the test data is done in continue by doing the test, granger causality and vector auto regression.

For the first test using a descriptive statistic the authors do so to present a quantitative description of the data in order to be a manageable form. Using the descriptive Statistics test can help in simplifying large amounts of data in a more generalized way.

With each test descriptive statistics can reduce and summarize the data becomes simpler. Here are the results of the display for descriptive stochistic test on the data banking financial ratios and economic monetary variables of Indonesia are in carefully:

Table 1: Result for statistic descriptive

	CAR	BI_RATE	NIM	US_$_RP
Mean	17.99764	5.851563	5.296182	11414.16
Median	16.44000	5.835938	5.100000	11830.50
Maximum	68.60000	6.000000	16.64000	13098.00
Minimum	8.020000	5.750000	1.640000	9154.740
Std. Dev.	6.017093	0.076562	2.043576	1411.516
Skewness	3.374172	0.807943	1.731803	-0.463154
Kurtosis	24.23783	2.907708	8.751859	1.717688
Jarque-Bera	5338.296	28.16077	484.6147	26.90050
Probability	0.000000	0.000001	0.000000	0.000001
Sum	4643.390	1509.703	1366.415	2944852.
Sum Sq. Dev.	9304.790	1.506470	1073.284	5.12E008
Observations	258	258	258	258

Sourced: Author proceed by statistic software

From the result of table 1 above, the mean value is 17.99764 for the CAR variable and the standard deviation is 6.017093, then the statements obtained above estimate that about 95% of the score will fall in the range of 17.99764 - (2 * 6., 01793) up to 20.875+ (2 * 6., 01793) or between 5.96178 and 30.0335. Information gained from these additions and reductions can be made a more important stepping stone to enable in comparing the performance between the variables in detail.

If in relation to the title in this study, the information from this descriptive statistic test can see the lowest minimum and maximum maximum values to assess the likelihood of adverse selection and moral hazard on the influence of economic variables and the influence of the variable banking industry itself. The risk of adverse selection and moral hazard may make banking variables a difficult entity in the estimate. One way to treat information asymmetry is more information about the CAR and NIM variables themselves.

Here the authors continue the next statistical test with the method of causality granger using lags 2. The results presented as table 2 below.

Table 2: Result for causality test

Pairwise Granger Causality Tests			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
BI_RATE does not Granger Cause CAR	256	0.56194	0.5708
CAR does not Granger Cause BI_RATE		0.14440	0.8656
NIM does not Granger Cause CAR	256	0.12754	0.8803
CAR does not Granger Cause NIM		0.10513	0.9002
US_$_RP does not Granger Cause CAR	256	0.55147	0.5768
CAR does not Granger Cause US_$_RP		0.01214	0.9879
NIM does not Granger Cause BI_RATE	256	1.02418	0.3606
BI_RATE does not Granger Cause NIM		1.11904	0.3282
US_$_RP does not Granger Cause BI_RATE	256	1709.38	60147
BI_RATE does not Granger Cause US_$_RP		245.269	9.0060
US_$_RP does not Granger Cause NIM	256	4.25028	0.0153
NIM does not Granger Cause US_$_RP		0.63625	0.5301

Sourced: Author proceed by statistic software

As explained in the data analysis technique, this study uses causality test. Causality tests do not necessarily mean causal relationships in the sense of the word.

In addition to causality there is also a correlation, which in econometrics is full of extraordinary correlations, which can be false or meaningless. As the variable of study in this research, causality between banking financial ratio variable with Indonesian monetary economic variable.

From table 2 presented results of causality relationship between the variables in intent. Overall, the ratio of financial and monetary economic variables has no two-way causal relationship, only one variable has a one-way relationship between the rupiah exchange rate and net interest margin. Furthermore, in this study the author went on to apply the VAR test.

Table 3: Result for vector auto Regression test

Vector Autoregression Estimates				
	CAR	BI_RATE	NIM	US_$_RP
CAR(-1)	0.307603	-7.780005	-0.005324	3.012090
	(0.06101)	(0.00018)	(0.01657)	(7.03189)
	[5.04177]	[-0.42835]	[-0.32132]	[0.42835]
CAR(-2)	0.293750	0.000105	0.005547	-4.053486
	(0.06091)	(0.00018)	(0.01654)	(7.02052)
	[4.82252]	[0.57738]	[0.33529]	[-0.57738]
BI_RATE(-1)	42.36461	-4.216994	-8.562793	69504.76
	(27.2674)	(0.08114)	(7.40538)	(3142.73)
	[1.55368]	[-51.9728]	[-1.15629]	[22.1160]
BI_RATE(-2)	24.81771	-2.447263	-3.760999	48281.37
	(20.2031)	(0.06012)	(5.48685)	(2328.54)
	[1.22841]	[-40.7079]	[-0.68546]	[20.7346]
NIM(-1)	-0.043147	0.001530	0.742830	-59.26144
	(0.23305)	(0.00069)	(0.06329)	(26.8603)
	[-0.18514]	[2.20629]	[11.7365]	[-2.20629]
NIM(-2)	-0.063603	-0.001666	-0.029173	64.51901
	(0.23259)	(0.00069)	(0.06317)	(26.8075)
	[-0.27346]	[-2.40676]	[-0.46183]	[2.40676]
US_$_RP(-1)	0.001537	-0.000146	-0.000395	3.443103
	(0.00120)	(3.60006)	(0.00033)	(0.13801)
	[1.28354]	[-40.9119]	[-1.21447]	[24.9485]
US_$_RP(-2)	-0.001269	0.000115	0.000445	-2.368639
	(0.00072)	(2.10006)	(0.00020)	(0.08317)
	[-1.75799]	[53.7264]	[2.27181]	[-28.4800]
C	-388.4234	45.19517	73.04765	-690090.5
	(281.619)	(0.83800)	(76.4832)	(32458.3)
	[-1.37925]	[53.9320]	[0.95508]	[-21.2608]
R-squared	0.268033	0.959146	0.532134	0.821022
Adj. R-squared	0.244325	0.957823	0.516980	0.815225
Sum sq. resids	6801.359	0.060223	501.6540	90349241
S.E. equation	5.247463	0.015615	1.425127	604.8028
F-statistic	11.30585	724.8691	35.11611	141.6321
Log likelihood	-783.0499	706.1760	-449.3581	-1998.322
Akaike AIC	6.187890	-5.446688	3.580923	15.68221
Schwarz SC	6.312525	-5.322053	3.705558	15.80684
Mean dependent	18.01641	5.851379	5.296387	11428.61
S.D. dependent	6.036455	0.076032	2.050554	1406.994
Determinant resid covariance (dof adj.) 0.000000				
Determinant resid covariance 0.000000				

Sourced: Author proceed by statistic software

As with the tests presented in Table 3, many applied Macroeconomists use this econometric model to illustrate suggesting an economic policy or to analyze macroeconomic data in causal inference. In the results of this post, I estimate a VAR with four variables using two monetary economic variables and 2 banking financial ratio variables. This VAR test is similarly suitable for use in macroeconomics for monetary policy analysis, especially with regard to issues in posttestimation and estimation. From table 3 presented, the results can be seen simultaneously or together with the variable financial ratios of CAR, NIM, exchange rate and interest rate of many of the SBI are significantly related. This indicates that the ratio of financial and monetary economic variables are interrelated simultaneously, thus the authors have asymmetric information on the analysis of causality and the VAR test.

4. Conclusion

From the research that has been done can be concluded that the proposed model for econometric in this study, produces asymmetric information for the proposed model. From the results of causality test that has been done to explain that the banking financial ratios in Indonesia which is contained on CAR and NIM variables do not have a two-way relationship with Indonesia's monetary economic variables of the exchange rate of rupiah and SBI rates. By using the simultaneous test VAR explains if there is a significant relationship between the variables of banking financial ratios in carefully and the economic monetary variables of Indonesia, thus the existence of asymmetric information gap between the results of causality test and VAR. The author assumes that there will be a causal relationship between the financial ratios of the banking and the monetary economic variables of Indonesia, and leads to simultaneous relationships among these variables, causing mutual causality and simultaneity to occur between the financial ratios of banks with monetary economic variables.

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Additional Website

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