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The 2nd International Conference on **Accounting, Business & Economics**
"Global Collaboration to Enhance Competitiveness: Opportunities and Challenges"

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FACULTY OF ECONOMICS

PROCEEDING

UII-ICABE

The 2nd International Conference on
Accounting, Business & Economics
"Global Collaboration to Enhance Competitiveness:
Opportunities and Challenges"

Yogyakarta, 26-27 October 2017

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Message from the Dean

Universitas Islam Indonesia (UII) is a pioneer of higher education in Indonesia, founded one month before the Independence Day in 1945. UII now has grown into one of the leading private universities in Indonesia with national dan international reputations. In 2013, UII achieved an ‘A’ grade for its institutional accreditation by the National Accreditation Board. In 2015, UII was ranked as the top ten of the best universities in Indonesia for the management and organizational quality by the Government of Indonesia. In addition, in 2016, UII was selected as the best private university in Indonesia for the research performance by the Ministry of Research, Technology, and Higher Education (Kemristekdikti). We also received an honor as a three star institution based on the assessment in the QS University Rating by Quacquarelli Symonds in 2016.

With 4 doctoral, 11 master, 4 professional, 24 undergraduate and 4 vocational programs, UII is committed to be a great place for learning for its students. Faculty of Economics (FE), as one of the Faculties at UII, has 3 study programs, and all of the study programs have been accredited by the National Accreditation Board with ‘A’ grades. FE UII has been actively supporting the university to become the world class university by initiating international partnerships with several universities in overseas. The international mobilities that have been implementing are such as credit transfer program (SolBridge International School of Business - South Korea and UniversitiSains Islam Malaysia - Malaysia), joint degree program (Saxion University of Applied Sciences - The Netherlands, Nanjing Xiozhuang University - China, University of Queensland – Australia and University of Gloucestershire, the UK), academic exchange, and joint conference/seminar. This 2nd UII International Conference on Accounting, Business and Economics (ICABE) conference is one of our efforts to be active not only in national level but also in international level, as an event to meet with partner universities as well as to see new collaborative opportunities among participants of the conference.

Located in the city of education and in the heart of Javanese culture – Yogyakarta, FE UII is the perfect place to study. Yogyakarta is well-known as the most livable city in Indonesia where students can easily find facilities for their study and daily life. Wherever you come from, you will find and feel Yogyakarta as your second home.

Welcome to UII ICABE 2017 and enjoy your time in Yogyakarta!

Dean of Faculty of Economics,

Dr. D. Agus Harjito, M.Si

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Acknowledgement

Assalamu'alaikumWr. Wb.

Thank to God the Almighty, the 2nd UII International Conference on Accounting, Business and Economics (ICABE) conference can be conducted. This conference is a regular program of Faculty of Economics, Islamic University of Indonesia as our commitment to continuous knowledge sharing and dissemination. This year the theme of the conference is Global Collaboration to Enhance Competitiveness: Opportunities and Challenges.

This book contains abstracts of papers that have passed the selection to be presented in the 2nd UII International Conference on Accounting, Business and Economics (ICABE) conference held on 26-27 October 2017. This event is supported by co-host institutions from Indonesia and overseas namely: Nanjing Xiaozhuang University, China, Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM), University of Merdeka Malang and Pancasila University, while the overall conference participants come from Indonesia and foreign countries such as China, Malaysia, Singapore, Vietnam, India, and South Korea.

The 2nd UII International Conference on Accounting, Business and Economics (ICABE) conference presented two keynote speakers namely Dr. Halim Alamsyah - currently the Chief of the Board of Commissioners of Indonesia Deposit Insurance Corporation (IDIC) and Prof. Dr. Bany Ariffin Amin Noordin - Deputy Dean at Faculty of Economics and Management Universiti Putra Malaysia (UPM).

Finally, we would like to extend our gratitude to all parties organizing this event from the preparation, execution and post event and we apologize if there is any inconvenience. Hopefully this book of abstract can be useful for knowledge development in Accounting, Business and Economics.

Wassalamu'alaikum, Wr, Wb.

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Keynote Speakers

Dr. Halim Alamsyah, S.E., S.H., M.A.

Chairman
Board of Commisioner, Indonesia Deposit Insurance Corporation

Dr. Halim Alamsyah is currently the Chief of Board of Commissioner of Indonesia Deposit Insurance Corporation (IDIC). IDIC is an independent institution that functions to insure depositor's funds and actively participates in maintaining stability in the banking system in accordance with its authorized mandate.

Born in Bangka, Indonesia, in 1957, Dr. Alamsyah graduated Bachelor degree in Economics at Universitas Islam Indonesia and Bachelor in Law at UniversitasGadjahMada, both in Yogyakarta, Indonesia. He pursued Master of Arts in Development Economics field from Boston University and PhD in Economics from Universitas Indonesia, Jakarta, Indonesia.

Dr. Alamsyah began his career at Bank Indonesia in 1982 as credit analyst and continued working for the institution in various departments. Throughout his service at Bank Indonesia, he has been appointed for a number of important and strategic positions such as Head of Bureau of Bank Indonesia Governor (2000), Director of Education Center and Central Banking Study (2002), Director of Directorate of Economic Research and Monetary Policy (2003) and Director of Directorate of Strategic Planning and Public Relations (2005). In 2010, before he served for IDIC, he was appointed as Deputy Governor of Bank Indonesia.

Prof. Madya Dr. BanyAriffin Amin Noordin

Deputy Dean, Faculty Economics and Management
Universiti Putra Malaysia

Dr Bany Ariffin Amin Noordin is an Associate Professor and Deputy Dean at Faculty of Economics and Management Universiti Putra Malaysia (UPM). He graduated his Bachelor and Master's degree from University Of Oklahoma, USA. In 2006, he earned his Doctoral degree from National University of Malaysia.

Dr Noordin has been focusing his study and research in Finance field. His works include academic papers, books and a number of research projects funded by various institutions. One of his recent paper is titled *Unobservable Effects and Firm's Capital Structure Determinants* (2013). He received several awards such as Best Paper Award in Conference-World Business Institute (2012).

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ACCOUNTING

ECONOMICS

The behaviour of credit market: analysis on price, efficiency, size and ownership structure of conventional banking in Indonesia

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Abstract

Indonesia economy relies heavily on banking as more than 80 percent of financial industry assets was dominated by banking industry. Lending from banking sector is the major source of investment and capital of firms. Further, after the 1997/1998 financial crisis, Indonesia adopted prudential policy for the banking industry in order to lower the risk of non performing loans and lower the banks' insolvency risk. Meanwhile, the prudential regulation costs the economy as Indonesia experienced undisbursed lending. This study aims to understand the behaviour of supply and demand of credit of the conventional banks in Indonesia between 2005 and 2014, a period after recovery from financial crisis in 1997/1998. An equilibrium of credit market developed by Bernanke and Blinder (1988) is employed as basis model to understand the behaviour of supply and demand for credits. Bernanke and Blinder (1988) argued that demand and supply of credit are determined by rates of credit and bonds. Thus, creditors and debitors select between bonds and loans regarding to the interest rates applied for those two instruments. The Seemingly Unrelated Regression model is employed to managed simultaneity between demand and supply of credit. The empirical findings support Bernanke and Blinder (1998) where in the case of Indonesian banking, demand and supply of credit are determined by rates of lending and yields of bonds. In addition, supply of credit is also determined by the rates offered by public rates of certificate of central bank (SBI). A higher rates of lending induces banks to lend more while lower the demand for credit. Government bonds and SBI are the substitute of loans, thus as the bond yields and SBI rates increase, the supply of credit lowered. This study also reveals that prudential regulation for example by increasing the capital adequancy ratio (CAR) has dampen the banks capability to supply lending. The finding also shows that higher lending capacity improves banks supply of credit. In addition, larger banks are proved to able to supply more credit than smaller ones. Finally, the macroeconomic conditions had a substantial impact on the demand for credit. The gross domestic product (GDP) and inflation have positive impact on demand for credit. In addition, the existence of output gap enhanced the demand for loans. Finally, demand for loans was influenced by inflation rates.

Keywords: demand and supply of credit, banking, interest rates (price), bonds, macroeconomics

Introduction

Recent research of banking credit in many countries confirmed that the banking credit behavior correlated with monetary policy, macroeconomic indicator, and business sector (Everaert, et.al, 2015; Kashyap, Tsomocos and Vardoulakis, 2014; Yurdakul, 2014; Popov, 2013). Everaert, et.al (2015) examined credit market in Central, Eastern, and Southeastern Europe countries such as Latvia, Lithuania, Montenegro, Poland, and Romania. Their study indicated "*....that supply factors, on average and relative to demand factors, determines* *credit growth in the post-crisis period*". In case of Indonesia, a study by Rahayu, Santoso and Insukindro (2013) suggested that there was a gap between demand and supply of credit after the monetary crisis in 1997. An increase of demand for credit was not directly lead to an increase of lending supply. In addition, their study indicated that the speed of adjustment of into equilibrium between demand and supply of credit was lower particularly for local banks.

Understanding the credit behavior of banking sector is substantial in Indonesia since banks dominate the financial industry by 86 per cent in terms of assets. In addition, credit from banking sector is the major source of lending for business and households. Moreoever, the undisbursed loan in Indonesian banking is high signaling lack of intermediary role of banking to the economy. A study by Zulverdi, Muttaqin and Prastowo (2004) shows that loan supply was less sensitive to changes in interest rates compared to the demand for loans. Further, their study argued that the suboptimal intermediation role of banks increased the proportion of undisbursed loans in the Indonesian banking after crisis 1997.

The gap between demand and supply in credit market also dampen the capability of banking industry to conduct their role as financial intermediary. Rahayu, Santoso and Insukindro (2013) indicated that the slow recovery from 1997 financial crisis was due to the lengthy process of equilibrium adjustment between supply and demand of credit. Banks avoided risk by investing their assets into liquid investment such as Central Bank certificates (SBI) and government bonds.

Further, Rahayu, Santoso and Insukindro (2013) found that the gap was persistent in local banks, particularly state-owned banks (BUMN) and regional-government owned banks (BPD). They argue that this may occur as local banks were less efficient and there may an influence of ownership structure on banks' behaviour. Some studies in Indonesian banking industry confirm that banks are not working in their most efficient scale (Margono, Sharma, & Melvin Ii, 2010; Viverita & Ariff, 2011). Further, a study by Mulyaningsih, Daly, Miranti, and Lewis (2014) reveals that government banks behaved least competitive than their private counterparts due to the implicit government guarantee and facilities.

This research aims to examine the influence of lending rates, policy rates, bonds yield, the level of efficiency, the motives of credit disbursement, capital, and banks' ownership structure on the credit market the Indonesian banking industry. It is expected giving valuable information for banking industry and policy maker in Indonesia particularly on understanding credit market and how to reduce the gap between supply and demand of credit.

This research will provide new finding of banking credit market behavior in Indonesia in the form of financial approach. It is expected giving valuable information for banking industry and policy maker in Indonesia. The research results will be expected having significance impact for banking credit decision in Indonesia. Specifically, this study investigates the demand and supply of banking credit market in Indonesia based on Rahayu, Santoso and Insukindro (2013), Wignall and Gizycki (1992), Calani, García, and Oda (2010), Guo and Stepanyan (2011), Jacobs and Rayner (2012), and Tabak, Miranda and Fazio (2012). In the case of banking credit market model, this study will refer to Rahayu, Santoso and Insukindro (2013), Wignall and Gizycki (1992), Devarajan (2004), and Jacobs and Rayner (2012). The research questions are: a) what are factors determining of banking credit model in Indonesia, b) what are the influence of the price level, price of substitute products, efficiency, capital, and banks' ownership structure, and macroeconomic factors on the credit market the Indonesian.

The paper is organized as follows. Section B discusses the existing literature on the determinants and the equilibrium model of supply and demand of credit. Section C illustrates the empirical strategy, data and variables. Section D discusses the results of the main regression that followed by conclusions and policies implications.

Literature review and method are available upon request to the authors.

Results and Discussion

This section discusses the empirical findings on the determinants of demand and supply of credit of convetional banks in Indonesia between 2005 and 2014. The first part describes the descriptive statistics of all relevant variables. There are one hundred and one conventional banks in the Indonesian banking industry and this number was only a half of the total number of banks prior to the 1997/1998 financial crises. The population of banks was significantly lower due to banks' closure, mergers and acquisitions and banks collapsed. This study captures all convetional banks in the industry. Thus, of ten years of the study period, the total number of observation is 1,010 capturing 101 banks.

The volume of demand is equal to the volume of supply of credit. Using the base year of 2007, on average the volume of credit disbursed by convetional banks was 136 billion Rupiah. The largerst lending disbursement was 3 trillion Rupiah. In terms of lending rate, on average between 2005 and 2014 the price of funds was 13.4 percent or 7.88 percent in real value after subtracting with the rate of inflation. Meanwhile, the interest rates of central bank certificates of SBI was 7.98 percent or only 2.45 percent in real value. Further, the yield rate of government bonds was 7.26 percent on average or 1.74 percent in real value. The central bank certificates and government bonds are perceived as having lower risk and so the returns were lower than risky portfolio of lending.

In terms of macroeconomics conditions, Indonesia experienced double digits inflation in 2005 of 17 percent, and it lowered in the later period and the average inflation was 7.2 percent. As the inflation rates was relatively high, the real interest rates were corrected significantly. The currency of Indonesian Rupiah to US Dollar was 9,944 on average and it was depreciated to 12,440 in 2014. Regarding to national income, on average Indonesia's income was 2,150 trillion or 17.6 trillion in real values using the base year of 2007. The GDP gap shows the difference between actual GDP and its potential. On average, Indonesian output gap was positive 2,290 indicating that the economy was performed above its potential. Finally, the production index of the manufacturing sector was 4.676 on average.

The Indonesian banks had been able to comply with the minimum capital requirement. On average, banks recorded 25 percent of the Capital Adequancy Ratio. This indicates that banks were keen to keep the buffer sufficiently. Regarding to the capacity lending, Indonesian banking on average had 187 billion in real values available loans to be disbursed. Indonesian banking efficiency level were heterogenous. On average banks recorded efficiency score of 0.45 using 0 to 1 scale where higher score indicating better efficiency performance. Meanwhile, some banks recorded low efficiency score where the lowest reached 0.061. Finally, the means of market share of Indonesian bank was 0.99 percent where the biggest bank owned 18.62 percent and the smallest had almost negligible share in the industry.

Table 2. The Descriptive Statistics of Credit Volume, Interest Rates, Macroeconomics Indicators and Banks' Characteristics

Variable	Unit	Observation	Mean	Std. Dev.	Minimum	Maximum
Credit Volume						
LD	Billion IDR	1,010	17,600	47,800	1.229	490,000
LD (real)	Billion IDR	1,010	136	345	0.01	3,082
LS	Billion IDR	1,010	17,600	47,800	1.229	490,000
LS (real)	Billion IDR	1,010	136	345	0.01	3,082
Interest Rates						
rSBI	Percent	1,010	7.975	2.027	5.75	12.750
rSBI (real)	Percent	1,010	2.455	4.166	-2.515	12.750
rL	Percent	1,009	13.400	2.088	7.900	16.950
rL (real)	Percent	1,009	7.877	4.047	1.463	16.950
rSUN	Percent	1,010	7.262	3.167	0	11.997
rSUN (real)	Percent	1,010	1.742	2.697	-0.661	6.998
Macroeconomics						
Consumers Price Index	Unit	1,010	122.331	20.024	94.436	159.11
Inflation	Percent	1,010	7.232	4.318	2.288	17.124
FX	IDR	1,010	9,944.6	1,214.465	8,991	1,2440
Y	Trillion IDR	1,010	2,150	379	1.6	2.8
Y (real)	Trillion IDR	1,010	17.6	0.424	16.998	18.317
YGAP	Billion IDR	1,010	-0.0002106	3,0439.52	-46,901.65	46,084.81
YGAP (real)	Billion IDR	1,010	2.29E-06	337.8587	-472.9713	568.3096
IP	Unit	1,010	4.676	3.145963	-2.21	8.15
Banks Characteristics						
CAR	Percent	997	25.78	23.87	0	489.58
CAP	Billion IDR	1,010	23,900	61,100	-4,236	609,000
CAP (real)	Billion IDR	1,010	187	450	-33	3,827
EFI	Unit	1,010	0.455	0.2514438	0.061	1.00
Dgov	Dummy	1,010	0.039604	0.1951235	0	1
Share	Percent	1,010	.9902475	2.419686	0	18.62

The next part of this section provides discussion on the determinants of demand and supply of credit from the conventional banks. The models perform quite well as most of explanatory variables are significant statistically in explaning the demand and supply of credits. As discussed in the methodological section, this paper employs the Seemingly Unrelated Regression approach to manage the simultaneity issue of the volume of demand and supply. Regarding to the demand for credit, it was influenced negatively by lending rate. This finding is consistent with the theory that as the interest rate was higher, the demand for credit was lower as the price was getting more expensive. Further, the demand for credit was also influenced by the yields from government bonds. The estimation reveals that a higher yields contributed to higher demand for credits.

Table 3 is available upon request to the authors.

The macroeconomic conditions had a substantial impact on the demand for credit as shown by the empirical results. The gross domestic product (GDP) has substantial impact on demand for lending where the coefficient was 40.77 and it was significant at 5 per cent significance level. Further, the gap of gross domestic product was influenced demand for credit negatively as predicted by theory. This indicates that as the actual GDP was lower that its potential, firms increased their capital using loans from banks. Finally, demand for loans was influenced by inflation rates. A higher rates indicating higher expectation of inflation and this induces firms to demand for loans.

The lending supply was determined by price level of its product and substitute products. A higher lending rates provided larger incentives for banks to disburse more loans. In addition, a higher rates of central bank certificates (SBI) and yield of government bonds lowered supply of lending. This finding underlines that Indonesia banking portfolio is consitited of loans, SBI and government bonds. An increase of price of substitute products lower the lending rate relatively and reduce the lending supply. The supply of lending was also influenced by the capital adequancy ratio (CAR) where higher CAR contributed to lower banks lending capacity. In accordance, higher lending capacity affected lending supply positively. Finally, larger banks were found to have higher supply of credit than smaller banks.

Conclusion

This study aims to understand the behaviour of supply and demand of credit of the conventional banks in Indonesia between 2005 and 2014, a period after recovery from financial crisis in 1997/1998. An equilibrium of credit market developed by Bernanke and Blinder (1988) is employed as basis model to understand the behaviour of supply and demand for credits. Bernanke and Blinder (1988) argued that demand and supply of credit are determined by rates of credit and bonds. Thus, creditors and debitors select between bonds and loans regarding to the interest rates applied for those two instruments. This study supports Bernanke and Blinder (1998) where in the case of Indonesian banking, demand and supply of credit are determined by rates of lending and yields of bonds. In addition, supply of credit is also determined by the rates offered by public rates of certificate of central bank (SBI). A higher rates of lending induces banks to lend more while lower the demand for credit. Government bonds and SBI are the substitute of loans, thus as the bond yields and SBI rates increase, the supply of credit lowered.

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The behaviour of credit market: analysis on price, efficiency, size and ownership structure of conventional banking in Indonesia

by Leon Akbar

The behaviour of credit market: analysis on price, efficiency, size and ownership structure of conventional banking in Indonesia

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Abstract

Indonesia economy relies heavily on banking as more than 80 percent of financial industry assets was dominated by banking industry. Lending from banking sector is the major source of investment and capital of firms. Further, after the 1997/1998 financial crisis, Indonesia adopted prudential policy for the banking industry in order to lower the risk of non performing loans and lower the banks' insolvency risk. Meanwhile, the prudential regulation costs the economy as Indonesia experienced undisbursed lending. This study aims to understand the behaviour of supply and demand of credit of the conventional banks in Indonesia between 2005 and 2014, a period after recovery from financial crisis in 1997/1998. An equilibrium of credit market developed by Bernanke and Blinder (1988) is employed as basis model to understand the behaviour of supply and demand for credits. Bernanke and Blinder (1988) argued that demand and supply of credit are determined by rates of credit and bonds. Thus, creditors and debitors select between bonds and loans regarding to the interest rates applied for those two instruments. The Seemingly Unrelated Regression model is employed to managed simultaneity between demand and supply of credit. The empirical findings support Bernanke and Blinder (1998) where in the case of Indonesian banking, demand and supply of credit are determined by rates of lending and yields of bonds. In addition, supply of credit is also determined by the rates offered by public rates of certificate of central bank (SBI). A higher rates of lending induces banks to lend more while lower the demand for credit. Government bonds and SBI are the substitute of loans, thus as the bond yields and SBI rates increase, the supply of credit lowered. This study also reveals that prudential regulation for example by increasing the capital adequancy ratio (CAR) has dampen the banks capability to supply lending. The finding also shows that higher lending capacity improves banks supply of credit. In addition, larger banks are proved to able to supply more credit than smaller ones. Finally, the macroeconomic conditions had a substantial impact on the demand for credit. The gross domestic product (GDP) and inflation have positive impact on demand for credit. In addition, the existence of output gap enhanced the demand for loans. Finally, demand for loans was influenced by inflation rates.

Keywords: demand and supply of credit, banking, interest rates (price), bonds, macroeconomics

Introduction

Recent research of banking credit in many countries confirmed that the banking credit behavior correlated with monetary policy, macroeconomic indicator, and business sector (Everaert, et.al, 2015; Kashyap, Tsomocos and Vardoulakis, 2014; Yurdakul, 2014; Popov, 2013). Everaert, et.al (2015) examined credit market in Central, Eastern, and Southeastern Europe countries such as Latvia, Lithuania, Montenegro, Poland, and Romania. Their study indicated "*....that supply factors, on average and relative to demand factors, determines* *credit growth in the post-crisis period*". In case of Indonesia, a study by Rahayu, Santoso and Insukindro (2013) suggested that there was a gap between demand and supply of credit after the monetary crisis in 1997. An increase of demand for credit was not directly lead to an increase of lending supply. In addition, their study indicated that the speed of adjustment of into equilibrium between demand and supply of credit was lower particularly for local banks.

Understanding the credit behavior of banking sector is substantial in Indonesia since banks dominate the financial industry by 86 per cent in terms of assets. In addition, credit from banking sector is the major source of lending for business and households. Moreoever, the undisbursed loan in Indonesian banking is high signaling lack of intermediary role of banking to the economy. A study by Zulverdi, Muttaqin and Prastowo (2004) shows that loan supply was less sensitive to changes in interest rates compared to the demand for loans. Further, their study argued that the suboptimal intermediation role of banks increased the proportion of undisbursed loans in the Indonesian banking after crisis 1997.

The gap between demand and supply in credit market also dampen the capability of banking industry to conduct their role as financial intermediary. Rahayu, Santoso and Insukindro (2013) indicated that the slow recovery from 1997 financial crisis was due to the lengthy process of equilibrium adjustment between supply and demand of credit. Banks avoided risk by investing their assets into liquid investment such as Central Bank certificates (SBI) and government bonds.

Further, Rahayu, Santoso and Insukindro (2013) found that the gap was persistent in local banks, particularly state-owned banks (BUMN) and regional-government owned banks (BPD). They argue that this may occur as local banks were less efficient and there may an influence of ownership structure on banks' behaviour. Some studies in Indonesian banking industry confirm that banks are not working in their most efficient scale (Margono, Sharma, & Melvin Ii, 2010; Viverita & Ariff, 2011). Further, a study by Mulyaningsih, Daly, Miranti, and Lewis (2014) reveals that government banks behaved least competitive than their private counterparts due to the implicit government guarantee and facilities.

This research aims to examine the influence of lending rates, policy rates, bonds yield, the level of efficiency, the motives of credit disbursement, capital, and banks' ownership structure on the credit market the Indonesian banking industry. It is expected giving valuable information for banking industry and policy maker in Indonesia particularly on understanding credit market and how to reduce the gap between supply and demand of credit.

This research will provide new finding of banking credit market behavior in Indonesia in the form of financial approach. It is expected giving valuable information for banking industry and policy maker in Indonesia. The research results will be expected having significance impact for banking credit decision in Indonesia. Specifically, this study investigates the demand and supply of banking credit market in Indonesia based on Rahayu, Santoso and Insukindro (2013), Wignall and Gizycki (1992), Calani, García, and Oda (2010), Guo and Stepanyan (2011), Jacobs and Rayner (2012), and Tabak, Miranda and Fazio (2012). In the case of banking credit market model, this study will refer to Rahayu, Santoso and Insukindro (2013), Wignall and Gizycki (1992), Devarajan (2004), and Jacobs and Rayner (2012). The research questions are: a) what are factors determining of banking credit model in Indonesia, b) what are the influence of the price level, price of substitute products, efficiency, capital, and banks' ownership structure, and macroeconomic factors on the credit market the Indonesian.

The paper is organized as follows. Section B discusses the existing literature on the determinants and the equilibrium model of supply and demand of credit. Section C illustrates the empirical strategy, data and variables. Section D discusses the results of the main regression that followed by conclusions and policies implications.

Literature review and method are available upon request to the authors.

Results and Discussion

This section discusses the empirical findings on the determinants of demand and supply of credit of convetional banks in Indonesia between 2005 and 2014. The first part describes the descriptive statistics of all relevant variables. There are one hundred and one conventional banks in the Indonesian banking industry and this number was only a half of the total number of banks prior to the 1997/1998 financial crises. The population of banks was significantly lower due to banks' closure, mergers and acquisitions and banks collapsed. This study captures all convetional banks in the industry. Thus, of ten years of the study period, the total number of observation is 1,010 capturing 101 banks.

The volume of demand is equal to the volume of supply of credit. Using the base year of 2007, on average the volume of credit disbursed by convetional banks was 136 billion Rupiah. The largerst lending disbursement was 3 trillion Rupiah. In terms of lending rate, on average between 2005 and 2014 the price of funds was 13.4 percent or 7.88 percent in real value after subtracting with the rate of inflation. Meanwhile, the interest rates of central bank certificates of SBI was 7.98 percent or only 2.45 percent in real value. Further, the yield rate of government bonds was 7.26 percent on average or 1.74 percent in real value. The central bank certificates and government bonds are perceived as having lower risk and so the returns were lower than risky portfolio of lending.

In terms of macroeconomics conditions, Indonesia experienced double digits inflation in 2005 of 17 percent, and it lowered in the later period and the average inflation was 7.2 percent. As the inflation rates was relatively high, the real interest rates were corrected significantly. The currency of Indonesian Rupiah to US Dollar was 9,944 on average and it was depreciated to 12,440 in 2014. Regarding to national income, on average Indonesia's income was 2,150 trillion or 17.6 trillion in real values using the base year of 2007. The GDP gap shows the difference between actual GDP and its potential. On average, Indonesian output gap was positive 2,290 indicating that the economy was performed above its potential. Finally, the production index of the manufacturing sector was 4.676 on average.

The Indonesian banks had been able to comply with the minimum capital requirement. On average, banks recorded 25 percent of the Capital Adequancy Ratio. This indicates that banks were keen to keep the buffer sufficiently. Regarding to the capacity lending, Indonesian banking on average had 187 billion in real values available loans to be disbursed. Indonesian banking efficiency level were heterogenous. On average banks recorded efficiency score of 0.45 using 0 to 1 scale where higher score indicating better efficiency performance. Meanwhile, some banks recorded low efficiency score where the lowest reached 0.061. Finally, the means of market share of Indonesian bank was 0.99 percent where the biggest bank owned 18.62 percent and the smallest had almost negligible share in the industry.

Table 2. The Descriptive Statistics of Credit Volume, Interest Rates, Macroeconomics Indicators and Banks' Characteristics

Variable	Unit	Observation	Mean	Std. Dev.	Minimum	Maximum
Credit Volume						
LD	Billion IDR	1,010	17,600	47,800	1.229	490,000
LD (real)	Billion IDR	1,010	136	345	0.01	3,082
LS	Billion IDR	1,010	17,600	47,800	1.229	490,000
LS (real)	Billion IDR	1,010	136	345	0.01	3,082
Interest Rates						
rSBI	Percent	1,010	7.975	2.027	5.75	12.750
rSBI (real)	Percent	1,010	2.455	4.166	-2.515	12.750
rL	Percent	1,009	13.400	2.088	7.900	16.950
rL (real)	Percent	1,009	7.877	4.047	1.463	16.950
rSUN	Percent	1,010	7.262	3.167	0	11.997
rSUN (real)	Percent	1,010	1.742	2.697	-0.661	6.998
Macroeconomics						
Consumers Price Index	Unit	1,010	122.331	20.024	94.436	159.11
Inflation	Percent	1,010	7.232	4.318	2.288	17.124
FX	IDR	1,010	9,944.6	1,214.465	8,991	1,2440
Y	Trillion IDR	1,010	2,150	379	1.6	2.8
Y (real)	Trillion IDR	1,010	17.6	0.424	16.998	18.317
YGAP	Billion IDR	1,010	-0.0002106	3,0439.52	-46,901.65	46,084.81
YGAP (real)	Billion IDR	1,010	2.29E-06	337.8587	-472.9713	568.3096
IP	Unit	1,010	4.676	3.145963	-2.21	8.15
Banks Characteristics						
CAR	Percent	997	25.78	23.87	0	489.58
CAP	Billion IDR	1,010	23,900	61,100	-4,236	609,000
CAP (real)	Billion IDR	1,010	187	450	-33	3,827
EFI	Unit	1,010	0.455	0.2514438	0.061	1.00
Dgov	Dummy	1,010	0.039604	0.1951235	0	1
Share	Percent	1,010	.9902475	2.419686	0	18.62

The next part of this section provides discussion on the determinants of demand and supply of credit from the conventional banks. The models perform quite well as most of explanatory variables are significant statistically in explaning the demand and supply of credits. As discussed in the methodological section, this paper employs the Seemingly Unrelated Regression approach to manage the simultaneity issue of the volume of demand and supply. Regarding to the demand for credit, it was influenced negatively by lending rate. This finding is consistent with the theory that as the interest rate was higher, the demand for credit was lower as the price was getting more expensive. Further, the demand for credit was also influenced by the yields from government bonds. The estimation reveals that a higher yields contributed to higher demand for credits.

Table 3 is available upon request to the authors.

The macroeconomic conditions had a substantial impact on the demand for credit as shown by the empirical results. The gross domestic product (GDP) has substantial impact on demand for lending where the coefficient was 40.77 and it was significant at 5 per cent significance level. Further, the gap of gross domestic product was influenced demand for credit negatively as predicted by theory. This indicates that as the actual GDP was lower that its potential, firms increased their capital using loans from banks. Finally, demand for loans was influenced by inflation rates. A higher rates indicating higher expectation of inflation and this induces firms to demand for loans.

The lending supply was determined by price level of its product and substitute products. A higher lending rates provided larger incentives for banks to disburse more loans. In addition, a higher rates of central bank certificates (SBI) and yield of government bonds lowered supply of lending. This finding underlines that Indonesia banking portfolio is consitited of loans, SBI and government bonds. An increase of price of substitute products lower the lending rate relatively and reduce the lending supply. The supply of lending was also influenced by the capital adequancy ratio (CAR) where higher CAR contributed to lower banks lending capacity. In accordance, higher lending capacity affected lending supply positively. Finally, larger banks were found to have higher supply of credit than smaller banks.

Conclusion

This study aims to understand the behaviour of supply and demand of credit of the conventional banks in Indonesia between 2005 and 2014, a period after recovery from financial crisis in 1997/1998. An equilibrium of credit market developed by Bernanke and Blinder (1988) is employed as basis model to understand the behaviour of supply and demand for credits. Bernanke and Blinder (1988) argued that demand and supply of credit are determined by rates of credit and bonds. Thus, creditors and debitors select between bonds and loans regarding to the interest rates applied for those two instruments. This study supports Bernanke and Blinder (1998) where in the case of Indonesian banking, demand and supply of credit are determined by rates of lending and yields of bonds. In addition, supply of credit is also determined by the rates offered by public rates of certificate of central bank (SBI). A higher rates of lending induces banks to lend more while lower the demand for credit. Government bonds and SBI are the substitute of loans, thus as the bond yields and SBI rates increase, the supply of credit lowered.

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The behaviour of credit market: analysis on price, efficiency, size and ownership structure of conventional banking in Indonesia

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LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : ***PROSIDING* ***

Judul Karya Ilmiah (paper)	:	The Behavior of Credit Market: Analysis on Price, Efficiency, Size and Ownership Structure of Conventional Banking in Indonesia
Jumlah Penulis	:	3 Orang (**Siti Aisyah TR**, Tri Mulyaningsih, Malik Cahyadin)
Status Pengusul	:	Penulis pertama / ~~penulis ke~~ / ~~penulis korespondasi**~~
Identitas Prosiding	:	a. Nama Prosiding : **2nd International Conference on Accounting, Business and Economics**
		b. ISBN/ISSN : -
		c. Tahun Terbit,Tempat Pelaksanaan : **26 – 27 Oktober 2017, Yogyakarta**
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b.	Ruang lingkup dan kedalaman pembahasan (30%)	4,5		3,70
c.	Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	4,5		3,60
d.	Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	4,5		3,50
	Total = (100%)	**15**		**12,00**
	Nilai Pengusul = 40% x 12,00 = 4,80 (Penulis Kedua)			

Catatan Penilaian artikel oleh Reviewer :

a. Kelengkapan dan kesesuaian unsur isi artikel : Paper ini memenuhi semua unsur yang seharusnya ada dalam sebuah paper, mencakup latar belakang, perumusan masalah, review literatur, metodologi, hasil analisis, kesimpulan dan referensi.

b. Ruang lingkup dan kedalaman pembahasan : Paper ini membahas **perilaku pasar kredit bank di Indonesia** dan faktor-faktor yan mempengaruhinya. Tujuan penelitian ini untuk menganalisis perilaku permintaan dan penawaran kredit bank di Indonesia dengan mempertimbangkan faktor kepemilikan bank dan efisiensi bank.

c. Kecukupan dan pemutakhiran data/informasi dan metodologi : Paper ini sudah memiliki kecukupan dan juga menggunakan data dan metodologi yang mutakhir. Hasil studinya **sangat penting dan bermanfaat bagi pengambil kebijakan dan pelaku pasar kredit bank.** Lebih jauh, studi ini menemukan **pentingnya menjaga regulasi bank dan kondisi makroekonomi** yang mendorong fungsi intermediasi bank di pasar kredit bank.

d. Kelengkapan unsur dan kualitas terbitan : Prosiding ini diterbitkan oleh International Conference on Accounting, Business and Economics (ICABE) Universitas Islam Indonesia Yogyakarta. Konferensi ini merupakan Konferensi para ilmuwan yang memiliki keahlian dan minat pada bidang ilmu Ekonomi dan Bisnis. Konferensi ICABE dikelola oleh Fakultas Ekonomi dan Bisnis UII . Konferensi ICABE diselenggarakan secara rutin setiap tahun oleh UII. Kualitas terbitan sudah sesuai dengan ketentuan sebuah konferensi.

e. Indikasi Plagiat : Tidak ada indikasi plagiasi, ditunjukkan dengan rendahnya hasil uji similarity (terlampir)

f. Kesesuaian bidang ilmu : sangat sesuai dengan bidang ilmu penulis, dimana paper ini membahas kajian bidang Ekonomi Moneter dan Ekonomi Keuangan dan Bank.

Surakarta, 07 APR 2020

Reviewer 2

Prof. Dr. Yunastiti Purwaningsih, MP
NIP. 195906131984032001

Jabatan	: Guru Besar
Pangkat,Gol Ruang	: Pembina Utama Muda/IV D
Unit Kerja	: FEB UNS
Bidang Ilmu	: Ekonomi Pembangunan

*Dinilai oleh dua Reviewer secara terpisah
**Coret yang tidak perlu

LEMBAR

HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*

KARYA ILMIAH : ***PROSIDING*** *

Judul Karya Ilmiah (paper)	:	The Behavior of Credit Market: Analysis on Price, Efficiency, Size and Ownership Structure of Conventional Banking in Indonesia
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Status Pengusul	:	Penulis pertama / ~~penulis ke~~ / ~~penulis korespondasi**~~
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	Komponen Yang Dinilai	Nilai Maksimal **Prosiding 15** Internasional ☐	Nasional ☐	Nilai Akhir Yang Diperoleh
a.	Kelengkapan unsur isi paper (10%)	1.5		1,30
b.	Ruang lingkup dan kedalaman pembahasan (30%)	4.5		3,50
c.	Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	4.5		3,70
d.	Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	4.5		3,45
	Total = (100%)	**15**		**11,95**
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a. Kelengkapan dan kesesuaian unsur isi artikel : Paper ini telah mencukupi kelengkapan unsur yang terdiri latar belakang, perumusan masalah, kajian pustaka, metodologi, hasil dan analisis

b. Ruang lingkup dan kedalaman pembahasan : Studi ini mengeksplorasi harga, efisiensi, ukuran dan struktur kepemilikan kredit perbankan pada bank konvensional di Indonesia. Temuan dari studi ini bahwa factor-faktor di atas berpengaruh terhadap keseimbangan kredit bank konvensional

c. Kecukupan dan pemutakhiran data/informasi dan metodologi : Secara umum paper ini telah mencukupi baik dari sudut data dan metodologi. Metode yang dipergunakan dalam studi ini adalah panel data yang mampu menjelaskan fenomena yang diteliti dalam riset ini.

d. Kelengkapan unsur dan kualitas terbitan : Konferens Internasional yang diikuti merupakan forum yang relative berkualtias, sementara itu kualitas terbitkan sudah sesuai dengan ketentuan konferensi.

e. Indikasi plagiat: Tidak ada indikasi plagiarism

f. Kesesuaian bidang ilmu: Sangat sesuai bidang ekonomi terutama dalam bidang ekonomi moneter.

Surakarta, ... 09 APR 2020

Reviewer ½

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Pangkat,Gol Ruang	: Pembina/IVA
Unit Kerja	: FEB UNS
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