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Local Institutional Development and Cost of Financial Intermediation: Evidence from Indonesia

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ABSTRACT

We investigate whether the cost of financial intermediation in Indonesia is different across region, and more specifically we question whether local institutional development variables determine the cost of financial intermediation by studying 33 Indonesian provinces over the period of 2007-2013. We find that poor local governance significantly increases the cost of financial intermediation. Commercial and other kinds of banks may be reluctant to establish their business in the poor governance regions which consequently decrease competitiveness and increase market power of existing banks. However, we do not find any evidence that in the socioeconomically less developed regions, the cost of banking intermediation is lower than that of more developed regions.

JEL Classifications: *G21, G28*

Keywords: *interest margins; institutional development; local governance; socio-economic; Indonesia*

I. INTRODUCTION

For years, widening access to finance, particularly for the poor as well as micro, small and medium enterprises, has been a central issue in Indonesia. Even though this country is known as an example of the success of microfinance (Hamada, 2010), Indonesia is generally “underbanked” (Rosengard and Prasetyantoko, 2011; Trinugroho et al., 2015) especially with regard to access to finance for micro, small and medium firms (Karsidi et al., 2015). Although local decentralization has been implemented as a part of the institutional reforms following the severe 1997/1998 economic crisis, the level of financial deepening, measured by the ratio of commercial bank loans to region’s GDP and the ratio of commercial bank loans to region’s population, still varies across regional characteristics such as local governance and socioeconomic conditions. In the regions with poor local governance, the level of financial depth is lower than those of regions with strong local governance. Furthermore, there is also a significant financial deepening gap between less developed and more developed regions.

Along with the level of banking development, high bank interest margin is also a serious problem in Indonesia. In average, Indonesian banks have higher interest margins than those observed in other countries particularly in the East Asia region (Rosengard and Prasetyantoko, 2011; Trinugroho et al., 2014). Trinugroho et al. (2014) conclude that cost inefficiency, high degree of bank market power and low level of banking product diversification are major determinants of persistent high interest margins in Indonesia after the 1997/1998 financial crisis. Bank interest margin is an important issue in economy due to it reflects efficiency of bank as a financial intermediary agent in bridging deficit spending and surplus spending units.

Continuing our previous study (Trinugroho et al., 2015), we investigate whether the cost of financial intermediation in Indonesia is different across region, and more specifically we question whether local institutional development variables determine the cost of financial intermediation. Arguably, bank interest margin is higher in poor governance, less developed as well politically unstable regions because commercial and other kinds of banks may be reluctant to establish their business in these regions which consequently decrease competitiveness and increase market power of existing banks. Another possible explanation is that in such regions it is more expensive for banks to grant loans in terms of information and dealing costs. Lastly, banks may charge a higher risk premium to cover the high degree of riskiness in such regions which leads to spread the cost of intermediation.

II. LITERATURE REVIEW

Economics, finance and law scholars have introduced the law and finance theory (La Porta et al., 1997, 1998) and have empirically examined it (e.g., La Porta et al., 1997, 1998, Levine, 1998, Beck et al., 2003; Gallindo and Micco, 2004; Djankov et al., 2007). Basically, they contend that several institutional factors (country-level governance variables) related to law such as legal origin, credit rights, rule of law and quality of law enforcement matter to explain some aspects of finance, for instance capital market development, credit to private sector, investor protection and cost of financial intermediation. The intersection between institutional factors and finance is also summarized by Herger et al. (2008). They explain that financial development of a

country is determined by three factors: cultural heritage, property right, and the degree of openness and transparency. Hasan et al. (2009), using provincial level data of China, provide evidence that institutional development, represented by rule of law, property rights and political pluralism, together with financial deepening matter in explaining the provincial economic growth. Roe and Siegel (2011) stress the impact of political stability on financial development. Controlling for legal origin, they find that political instability significantly constrains a country's financial development. More recently, Berecca et al. (2012) build a conceptual framework on the impact of political factors on financial development. Empirically, they find evidence that the interaction between incumbents' credit dependence and government capabilities in policy making play a role in explaining the level of financial development across countries.

Focusing on the cost of financial intermediation, some empirical studies have also studied factors determining cross-country differences in bank interest margins by including institutional factors (e.g., Dietrich et al., 2009; Laeven and Majnoni, 2005). Dietrich et al. (2009) find that, controlling for bank specific factors, country-level governance is an important factor in explaining interest margins across country. They use several proxies of country-level governance as developed by those work on law and finance literature which are legal origin, creditor rights, contract enforcement, rule of law and publicity of credit information. Laeven and Majnoni (2005), using data of 106 countries, reveal that judicial efficiency and judicial enforcement of debt contracts should be improved to lower the bank intermediation cost.

III. RESEARCH METHOD

A. Empirical Model

We study 33 Indonesian provinces over the 2007-2013 period. Taking advantage of the financial information of regional development banks provided by Bank Indonesia (Indonesian Central Bank), it enables us to investigate the intermediation cost differences across region because this kind of banks mostly operate focus in a region. According to the Law No. 13/1962 regarding the Regional Development Banks (Indonesian: *Bank Pembangunan Daerah*), it is mentioned that the main objective of this kind of bank is to provide financing for regional development.

Interest margins (MARGIN) are defined as the difference between interest income and expenses divided by interest-earning assets (Trinugroho et al., 2014). In this study, we use the interest margins of regional development banks to reflect the cost of intermediation in a region (province). We use some proxies following the work of Trinugroho et al. (2015) to measure the local institutional development which are bureaucracy index (BUREAU) and government index (GOVERN). Human development index (HDI) and unemployment rate (UNEMPLOY) to measure the socioeconomic condition. Control variables in this empirical study are:

- A dummy variable for new provinces (NEW_PROV).
- Size of the region which is proxied by the natural logarithm of region's population (LN_POP) following the study of Pamungkas et al. (2015).
- A vector of dummy variables to represent the Islands (JAVA, SUMATRA, KALIMANTAN, SULAWESI, EAST_INDO)

Then, we empirical model to be estimated as follows: Interest margin = f (local institutional development, control variables). As some variables are highly correlated, especially our two proxies of local governance which are bureaucracy index and government index, we have to breakdown our empirical model into two equations as follows:

$$\begin{aligned} MARGIN_{i,t} = \alpha_0 + \alpha_1 BUREAU_{i.t} + \alpha_2 HDI_{i.t} + \alpha_3 UNEMPLOY_t \\ + \alpha_4 NEW_PROV_{i,t} + \alpha_4 LN_POP_{i.t} + ISLANDS + \varepsilon_{i,t} \end{aligned} \quad (1)$$

$$\begin{aligned} MARGIN_{i,t} = \alpha_0 + \alpha_1 GOVERN_{i.t} + \alpha_2 HDI_{i.t} + \alpha_3 UNEMPLOY_t \\ + \alpha_4 NEW_PROV_{i,t} + \alpha_4 LN_POP_{i.t} + ISLANDS + \varepsilon_{i,t} \end{aligned} \quad (2)$$

B. Data

The data of this study include (1) financial statements of regional development banks gathered from the Bank Indonesia and Ekofin Konsultindo and (2) data on local institutional development and socioeconomic condition are retrieved from Partnership Governance Index (*Kemitraan*) and the Indonesia Statistics Bureau (BPS), respectively.

IV. EMPIRICAL RESULTS

This paper investigates the determinants of cross regions disparity in cost of banking intermediation which is commonly measured by bank interest margins. We study 33 Indonesian provinces over the 2007-2013 period. We focus our study on the role of local institutional development to explain the variety on cost of financial intermediation across regions. We therefore include a number of proxies to measure local institutional development which are bureaucracy index (BUREAU), government index (GOVERN), human development index (HDI) and unemployment rate (UNEMPLOY). We also control for some variables which are natural logarithm of population (LN_POP) and new provinces (NEW_PROV). Descriptive statistics and correlation matrix of variables are provided in Tables 1 and 2, respectively. As expected the proxies of local governance which are bureaucracy index and government index are negatively correlated with interest margin. Human Development Index is also found to have a negative correlation with the proxy of cost of financial intermediation.

Table 1
Descriptive statistics

	MARGIN	BUREAU	G OVERN	HDI	UNEMPLOY	NEW PROV
Mean	9.174	5.609	4.945	71.887	6.570	0.212
Median	8.750	5.740	4.920	71.940	6.000	0.000
Maximum	18.040	7.340	6.800	78.590	15.750	1.000
Minimum	5.050	3.880	3.530	63.410	1.790	0.000
Std. Dev.	2.332	0.838	0.851	3.087	2.766	0.410
Skewness	0.839	-0.304	0.275	-0.325	0.799	1.408
Observations	231	231	231	231	231	231

	LN POP	JAVA	SUMATRA	KALMANTAN	SULAWESI	EAST INDO
Mean	15.205	0.182	0.303	0.121	0.182	0.121
Median	15.104	0.000	0.000	0.000	0.000	0.000
Maximum	17.578	1.000	1.000	1.000	1.000	1.000
Minimum	13.542	0.000	0.000	0.000	0.000	0.000
Std. Dev.	0.998	0.387	0.461	0.327	0.387	0.327
Skewness	0.665	1.650	0.857	2.321	1.650	2.321
Observations	231	231	231	231	231	231

Table 2

Correlation matrix

	MARGIN	BUREAU	GOVERN	HDI	UNEMPLOY	NEW PROV
MARGIN	1.000					
BUREAU	-0.124	1.000				
GOVERN	-0.303	0.683	1.000			
HDI	-0.168	0.350	0.287	1.000		
UNEMPLOY	-0.324	0.044	0.007	0.193	1.000	
NEW PROV	-0.041	0.011	-0.278	-0.139	0.038	1.000
LN POP	-0.225	0.197	0.394	0.144	0.303	-0.498
JAVA	-0.270	0.261	0.312	0.228	0.344	-0.052
SUMATRA	0.061	0.186	0.026	0.323	0.013	-0.020
KALMANTAN	-0.166	-0.171	0.106	0.055	-0.061	-0.193
SULAWESI	0.265	0.022	-0.210	-0.052	-0.097	0.140
EAST INDO	-0.045	-0.543	-0.351	-0.394	0.014	0.262

	LN POP	JAVA	SUMATRA	KALMANTAN	SULAWESI	EAST INDO
MARGIN						
BUREAU						
GOVERN						
HDI						
UNEMPLOY						
NEW PROV						
LN POP	1.000					
JAVA	0.662	1.000				
SUMATRA	-0.007	-0.311	1.000			
KALMANTAN	-0.068	-0.175	-0.245	1.000		
SULAWESI	-0.274	-0.222	-0.311	-0.175	1.000	
EAST INDO	-0.403	-0.175	-0.245	-0.138	-0.175	1.000

A. Results and Discussion

Our empirical results as shown in Table 3 find strong evidence and confirm our hypothesis that the quality of local governance matter to explain disparity in cost of banking intermediation. Bureaucracy index and government index are negatively correlated with interest margins. In the regions having better governance, interest margins are lower than that of in the poor governance regions. Supposedly, banks are reluctant to establish their business in the poor governance regions. It therefore creates high monopoly power of existing banks in those regions. Eventually, the cost of banking intermediation as measured by interest margins is higher in such regions.

Table 3

Regressions Results

	Interest Margin	
	1	2
Governance Index	-0.808***	
	(-4.501)	
Bureaucracy Index		-0.659***
		(-3.176)
HDI	-0.065	-0.107
	(-0.938)	(-1.526)
Unemployment	-0.219***	-0.169***
	(-3.447)	(-2.643)
New Province	-1.308***	-1.171**
	(-2.927)	(-2.553)
Log Population	-0.520*	-0.818***
	(0.064)	(-2.881)
Java	0.061	0.246
	(0.078)	(0.309)
Sumatra	0.064	0.200
	(0.914)	(0.329)
Kalimantan	-1.557**	-2.040***
	(-2.578)	(-3.134)
Sulawesi	0.445	0.552
	(0.771)	(0.930)
East Indonesia	-1.575**	-2.287***
	(-2.429)	(-3.012)
Constant	27.789***	34.708***
	(3.674)	(4.493)
Method	OLS	OLS
Period	2007-2013	2007-2013
Number of Banks	33	33
Number of observations	231	231
Adj. R-Squared	0.326	0.311

This table presents the results of least squares. The dependent variable is the interest margins. *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

However, we do not find evidence that socioeconomic condition is negatively correlated with interest margins. Arguably, in the regions with better condition, the interest margins should be lower. Nevertheless, our empirical results show that HDI does not significantly affect interest margins. Surprisingly, in the regions with higher level of unemployment rate, the interest margin is lower than that of regions with lower unemployment rate.

Our empirical results also reveal evidence that in the new provinces, cost of financial intermediation is lower. We also find evidence on the link between size of province and cost of banking intermediation in which interest margin is lower in the larger provinces. It could be argued that in those provinces, there have been many banks exist which subsequently increase the banking competitiveness in the regions. More competitive regions could be associated with lower interest margins (Trinugroho et al., 2014).

Overall, our results provide evidence that the quality of local governance matters in explaining the difference in cost of financial intermediation. The higher cost of financial intermediation could create high cost economy and can be a financing constraint for private sectors to grow and to innovate, particularly for micro, small and medium enterprises (MSMEs). Like in other emerging countries, MSMEs are the dominant business feature. Moreover, they account for more than 60% of employment. Therefore, they should be supported and encouraged by facilitating some affirmative policies including the easier access to financing from formal financial institutions with relatively cheaper costs.

On the other side, improving the quality of local governance particularly with respect to bureaucracy process in doing business including banking industry should be strongly improved. The relatively new government has paid more attention on this issue by untangling and resolving some overlapping regulations to ease the process of doing business in particular in regions. Moreover, improving the physical infrastructures needed for banking and financial development in regions (transportation, communication, etc.) should also be accelerated. Indonesia is geographically spread out which create difficulties. The Indonesian banking regulators are also working to amend the national banking law which put more attention on the important of financial literacy and financial inclusion. To be much more inclusive, banks should be encouraged to more penetrate their business to reach the unbanked and underbanked people. However, prudent risk management should not be neglected more specifically in the channeling loans.

B. Robustness Checks

We do some robustness checks to ensure that our results are consistent and robust. First, we use different proxy of regional interest margins. Taking advantage of the existing of rural banks in the regions, we could also measure the average interest margins in the regions. Our results on the impact of local governance on interest margins remain unchanged. Second, we exclude dummy variables for regions and dummy variable for new provinces to enable us estimate the empirical model using individual fixed-effect. With regard to our main variables (local governance), the results are consistent.

V. CONCLUSION

The study is aimed at investigating whether the cost of financial intermediation in Indonesia is different across region, and more specifically we question whether local institutional development variables determine the cost of financial intermediation. Our empirical study has several noteworthy findings. We find that poor local governance significantly increases the cost of financial intermediation. Commercial and other kinds of banks may be reluctant to establish their business in the poor governance regions which consequently decrease competitiveness and increase market power of existing banks. It then leads that the interest rate on loans is quite high and so expensive. Eventually, it creates a financing constraint for private sectors.

ENDNOTES

1. Hamada (2010) exemplifies BRI (Indonesian: Bank Rakyat Indonesia), the third largest Indonesian state-owned banks, as the one of the world's most successful commercialization of microfinance as it is supported by nationwide network of microfinance local units enabling this bank to release large quantity of loans.
2. Rosengard and Prasetyantoko (2011) argue that even though commercial banks in Indonesia perform well in terms of profitability and soundness, they fail to broaden access to finance. Moreover, they point out that the introduction of Indonesian banking architecture (API) has strengthened the banking oligopoly which then exacerbated the ineffective and inefficient banking intermediation function.
3. The decentralization was formally implemented in 1999 according to the Law No. 22/1999 regarding Regional Government and Law No. 25/1999 regarding Financial Balancing between Central and Local Government. The two Law have been amended in 2004. Further, the Law on Regional Government has been amended for the second time in 2008.
4. The other interesting finding of the study is that state-owned (government) banks set higher margins than other banks. The study also finds that the more banks engaged in small scale loans, the higher the margins banks set.
5. Market power, usually measured by Lerner index or Rosse-Panzar model reflects the degree of competition as it measures the ability of a bank to determine the price of products. Therefore, it can be associated with the level of competition (Weill, 2011). The higher the market power, the lower the degree of competition.

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