Financial deregulation, banking development, and the likelihood of banking fragility: the case of Indonesia

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NOTE

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CHAPTER 1

INTRODUCTION

1.1. Background of the Study

It is argued that Indonesia was characterised by a repressed financial system before the 1983 financial deregulation. The central bank set deposit interest rates in state banks, set lending rates for priority economic sectors, and imposed a credit ceiling for the banking sector. In addition, banks did not compete for deposits because their lending was limited by the credit ceilings and state banks could obtain very cheap funds from the central bank to finance their credit for approved programs within their ceiling (p.98, Cole and Slade (1996)).

The imposition of credit ceiling policy was mainly to reduce monetary expansion, which was contributing to increasing the domestic inflation rate to double digits in 1974, following the increased oil price in 1973\(^1\). It indicates that the imposition of the credit ceiling policy was related to neutralising net foreign assets associated with increased oil revenue as a result of the 1973 energy shock. In addition, the central bank not only regulated banks through the credit ceiling but also determined their allocations to various economic sectors. Monetary policy was conducted through direct monetary management using selective and direct credit controls.

\(^1\) The government introduced the anti-inflationary measures on 9\(^{th}\) of April 1974. One of the measures in the monetary policy was the imposition of a credit ceiling for banking sector.
The administration of interest rates, selective credit, and the credit ceiling policy contributed to the financially repressed system prior to the 1983 financial deregulation. The financially repressed system was indicated by negative real interest rates, high minimum reserve requirements, and the use of non-market mechanisms in extending credit. Most of real deposit interest rates during the period 1974-1982 were negative. The negative or very low real deposit rates did not attract depositors to save their funds in the banking sector. The banking sector was also discouraged from mobilising funds because of the credit ceiling. The central bank provided most of funds extended to priority economic sectors, which were mainly channeled through state banks. The central bank set interest rates for credit to priority economic sectors, which were often below market interest rates, and the central bank provided funds (liquidity credits) for this type of lending. From 1977 to 1982, liquidity credits rose by an average of 40% a year and it was becoming the major source of funds for the banking sector, especially state banks (p.8, Sundararajan and Molho (1988)). As a result, state banks were dominant in extending credit before the 1983 financial deregulation.

Under these circumstances, the allocation of credit to economic sectors does not operate through the market mechanism and it can contribute to opening venues for abuse of power.

"Low, zero, and sometimes negative loan interest rates at state banks open an avenue for non-market allocations since in such condition demand for credit is much more higher than the supply; it is more profitable to borrow than to lend. As in any community, this situation has tempted bureaucracy and political incumbents to abuse power for private gains, both economically and politically. The degree of power abuse tends to be higher in a "soft state" like Indonesia" (p.101, Nasution (1983)).

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2 See Table 2.4 in Cole and Slade (p.18, 1996)
The selective credit ceiling policy was accompanied by the availability of funds from the central bank resulting from the conversion of foreign exchange assets. The decline in the oil price in the world market in 1982 made the government adjust to the macroeconomic conditions and take important reform measures in the fiscal and financial and monetary sectors in 1983.

A fundamental policy in the financial and monetary sectors was the financial deregulation on 1st of June 1983\(^3\). The 1983 financial deregulation policy abandoned the credit ceiling policy and removed most of the interest rate controls. State banks were freed to determine deposit interest rates, all commercial banks were freed to determine their credit allocations to the private sector, and the subsidised credits for the priority economic sectors were reduced substantially and then gradually lowered to the minimum level. This policy fundamentally changed the financial and monetary sectors in Indonesia. Consequently, the conduct of monetary policy changed fundamentally from direct controls through selective and credit ceiling policies into indirect monetary management.

Under those circumstances, the banking sector including state banks could mobilise funds to finance their credits to the private sector. State banks could not rely on to the central bank as their primary source of funds in extending credit. Consequently, interest rate became important to attract depositors to save their funds in the banking sector. Furthermore, saving through the banking sector is important for banks to finance credits to the private sector. At the same time, banks were freed to allocate and determine the amount of credit to economic sectors. Therefore, the role of

\(^3\) Before deregulating the financial sector, the government devalued the rupiah in March 1983.
interest rates became important. Interest rates and monetary policy could influence credit from the banking sector through the market mechanism.

The financial deregulation policies chosen by the Indonesian government were in the Shaw-McKinnon direction, which predicts real interest rates will move to positive levels and increase bank intermediation (p.101, Cole and Slade (1996)). However, the design of the financial deregulation was not concerned with the possibility of banking fragility. Increased bank intermediation, which is proxied by increasing credit from the banking sector, does not automatically flow to productive and profitable projects. Banking supervision and law enforcement should be considered in the design of the financial deregulation policy. There is evidence that financial deregulation in Indonesia was not completely successful, but it does not mean that financial deregulation was unnecessary. Hence, Indonesia provides an interesting test concerning the response of the banking sector to the abolition of interest rate controls and credit ceiling policies.

1.2. The Objectives and Contributions of the Study

The objective of this study is to investigate the relationship between interest rates, saving through the banking sector, credit from banks, and private investment using the financial deregulation hypothesis and the determinants of the probability of banking fragility for the Indonesian case. Therefore, this thesis explores the benefits and the costs of financial deregulation for the Indonesian case.

Some of the financial deregulation hypothesis in this study and factors determining the likelihood of the banking fragility have been tested using cross country data, however, few studies have been performed using specific country data and there is
no study for the particulars of the Indonesian case. Therefore, this study is intended to fill those gaps. The studies by Warman and Thirlwall (1994) and Athukorala (1996), however, differ from this study. This study has included the minimum reserve requirement implicitly in the credit function. The credit functions in this study consider the specifics of the Indonesian financial sector and the credit function is divided into total banks, state banks, and national private banks. In addition, the equation for private investment has included net capital flows of the private sector to represent foreign financing of the private investment. It is argued that most of the foreign borrowing to the private sector in Indonesia was not transmitted through the banking sector but directly to the private sector. Net capital flows of the private sector is used as a proxy for foreign financing as there is a limitation in the availability of data for foreign borrowings by the private sector.

On the other hand, the study of the determinants of banking system fragility which has been done by Gonzalez-Hermosillo et al (1997) for the Mexican case also differs from this study. The Gonzalez-Hermosillo et al (1997) study uses survival analysis and the dependent variable is bank failure which is proxied by intervention.

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4 A study using the specific country data for the relationship between interest rates, saving, and investment using the financial deregulation hypothesis has been done by Warman and Thirlwall (1994) for the Mexican case and Athukorala (1996) for India. Moreover, study of the determinants of banking system fragility has been done by Gonzalez-Hermosillo, Pazarbasioglu, and Billings (1997) for the Mexican case using survival analysis for individual banks. The study of Gonzalez-Hermosillo et al (1997) is not specifically related to the financial deregulation variables but is applied to the Mexican financial crisis that began in 1994. Therefore, one of the financial deregulation variables which is total banking sector loans to GDP is classified in the proxy for contagion effects. The explanatory variables in the study of Gonzalez-Hermosillo et al (1997) are divided into three groups of variables which are bank-specific variables, banking sector variables, and macroeconomic variables. Banking sector variables are used as a proxy for contagion effect. More empirical testing related to the financial deregulation hypothesis can be seen in Gonzales-Arrieta (1988) and Chapter 4 in this thesis, Table 4.2.
This study using a dummy variable of banking fragility is adapted from the study of Demirguc-Kunt and Detragiache (1998a, 1998b). To examine the determinants of the probability of banking fragility, this study examines state banks and national private banks as a group, as they held the major market share in the Indonesian banking system during the most period of study. Therefore, this study is expected to add the literature of the links between financial deregulation, banking intermediation, and banking fragility in the Indonesian economy.

1.3. Data and Methodology

This study mainly uses data collected from official reports published and unpublished by the Central Bank of Indonesia (Bank Indonesia). Other qualitative data and information such as on recent monetary and banking policies have been collected from the internet especially from the website of the Bank of Indonesia and website of the International Monetary Fund (IMF).

Research methodology in this thesis is based on current econometric methods. The multivariate Johansen cointegration test is applied to measure the long run relationship of the equations of saving through the banking sector, credit from total banks, credit from state banks, credit from national private banks, and private

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5 Demirguc-Kunt and Detragiache (1998a, 1998b), however, use cross-country data. The study of the Demirguc-Kunt and Detragiache (1998b) examine 53 countries and explicitly use a dummy variable for financial deregulation to examine the impact of financial deregulation on the likelihood of banking fragility. The proxy for financial deregulation variables, however, can also be related to other variables such as spread between lending and deposit interest rates, ratio of credit to GDP, credit growth, growth in credit/GDP (Kaminsky, Lizondo, and Reinhart (1998)) or other variables in the previous studies. The proxy for financial deregulation variables in this study is adapted from classification of Kaminsky, Lizondo, and Reinhart (1998). The study of Kaminsky, Lizondo and Reinhart (1998) is not related to the likelihood of banking fragility but the study is related to leading indicators of currency crises. They use a large variety of indicators which are grouped into six broad categories and some subcategories. One of the group indicators is classified as the financial sector and the indicators of financial sector were split into those that could be associated with financial deregulation and other indicators. Other studies of banking failures using cross-country data include Hardy and Pazarbasioglu (1998) and Honohan (1997) among others.
investment with their specified variables respectively. The argument for using the Johansen cointegration test is associated with the multi (more than two) variables in those equations and is concerned with the long run relationship among the specified variables. If the long run relationship among the specified variables exists, the error correction mechanism of the equation is valid. Moreover, to examine the determinants of the probability of banking fragility in Indonesia, the logit and probit methods are proposed.

1.4. The Organisation of this Thesis

This thesis consists of eight chapters as follows.

Chapter 2 presents the impact of financial deregulation on the development of the monetary and banking sectors up to the second quarter of 1997 (1997:2). This chapter not only analyses the achievements of the monetary and banking sectors associated with financial deregulation but also analyses the problems that arise from financial deregulation.

Chapter 3 examines the 1997 financial and banking crises. This chapter analyses the origins of the 1997 financial and banking crises, the responses of the government to overcoming the crisis under the IMF program, and the development of the monetary and banking sectors after 1997. The examination of the government response to the financial and banking crises has covered the promotion of central bank independence in 1999.

Chapter 4 presents an overview of the literature of financial deregulation in developing countries. This chapter discusses the literature of financial repression, financial deregulation and over-borrowing and investment collapse, financial
deregulation and the likelihood of banking crisis, and the literature on the sequencing of financial deregulation. In addition, the theoretical bases for the Indonesian case focusing on the financial deregulation hypothesis about the relationship between interest rates, saving through the banking sector, credit from the banking sector, and private investment are developed. Moreover, the theory for the determinants of the probability of banking fragility in Indonesia is also developed.

Chapter 5 presents the econometric methodology that will be used in this thesis. This chapter analyses the unit root test, the cointegration test, the error correction mechanism, and the logit and probit methods. The unit root test in this thesis not only uses the conventional test associated with the Dickey-Fuller (DF) and Augmented Dickey-Fuller (ADF) tests but also has employed the procedure of the unit root test considered with the presence of the structural break, which is proposed by Perron (1989). Meanwhile, to test the determinants of the probability of banking fragility, the logit and probit models are proposed. The selection of the logit and probit approach is associated with the binary responses of the dependent variable. The dependent variable is the dummy variable for banking fragility that has a value of one if there is banking fragility and zero otherwise.

Chapter 6 investigates the long run relationship among the variables in the equations of saving through the banking sector, credit from total banks, credit from state banks, credit from national private banks, and private investment with their specified variables respectively. However, before conducting the Johansen cointegration test, many econometric tests are performed such as the stationary test for each related variable to examine the stationary of the variables and the Lagrange Multiplier (LM) test to investigate the residual whiteness.
The Johansen cointegration test is used to investigate the long run relationship among the specified variables in those equations. As a long run relationship among the specified variables exists for all those equations, the error correction mechanism for those equations is valid. In addition, the long run equations for saving through the banking sector, credit from total banks, credit from state banks, credit from national private banks, and private investment are obtained respectively based on the Johansen cointegration test of those equations.

Chapter 7 investigates the determinants of the probability of banking fragility in Indonesia. The explanatory variables are divided into three categories, namely macroeconomic variables, financial deregulation variables, and group bank specific variables. The logit and probit methods are used to examine the determinants of banking fragility in Indonesia.

Chapter 8 presents the summary, major findings, policy recommendations and the suggestions for further research studies. This chapter presents the major findings of this thesis and the policy recommendations related to those major findings. Based on the major findings of this thesis, further research studies are suggested especially related to the monetary transmission of monetary policy by considering the condition of the banking sector in order to improve the effectiveness of the monetary policy and an early warning system for the banking sector which is needed to improve the effectiveness of the banking policy. The soundness of the banking system is important to obtain effective monetary policy.