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Market discipline, financial crisis and regulatory changes: Evidence from Indonesian banks

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ABSTRACT

Following the 1997/1998 financial crisis, Indonesian banks experienced major regulatory changes, including the adoption of the blanket guarantee scheme (BGS) in 1998, a limited guarantee (LG) in 2005, and changes in capital regulation in 1998 and 2001. We examine the impact of these regulatory changes on market discipline during the period 1995–2009. The price of deposits is used to measure market discipline in a dynamic panel data methodology on a sample of 104 commercial banks. We find a weakening of market discipline following the introduction of the BGS. The result is consistent with the deposit insurance scheme being credible in the lower capital requirement environment. The adoption of LG in a recovering economy also mitigates the role of market discipline. However, market discipline is more pronounced in listed banks than unlisted banks and in foreign banks than domestic banks. These results have important implications for banking regulation and supervision, particularly during a crisis period.

1. Introduction

The current global financial crisis suggests that banking authorities need to improve the effectiveness of all disciplining factors of bank risk taking. Gueyie and Lai (2003), for example, argue that the disciplining factors of bank risk taking include regulatory discipline, bank self discipline (charter value), and market discipline. Indeed, a number of studies have examined the role of market discipline in controlling bank risk and market discipline is one of the three pillars in the capital adequacy framework of the Basel Accord II.[1]

Studies of market discipline on banks have been conducted in both developed and developing countries over different time periods. We continue the research by examining how market discipline was affected by regulatory changes following the 1997/1998 Asian financial crisis. Hence, our results provide important insights for banking authorities in developing policy responses to financial or economic crises.

The purpose of the current study is to investigate the presence of market discipline on Indonesian banks, and to evaluate whether regulatory changes affect market discipline. Indonesia provides a unique setting because following the 1997/1998 crisis, banks in this country experienced several regulatory changes including the adoption of the blanket guarantee scheme (BGS) in 1998, a limited guarantee scheme (LG) in 2005, and changes in capital regulation in 1998 and 2001. This setting provides an opportunity to examine the impact of regulatory changes on market discipline. Specifically, the simultaneous introduction of the BGS and lowering of the capital adequacy requirement allows an assessment of the credibility of the government's policy changes.

The present study contributes to the literature in several ways. First, there is a significant concern in the existing literature on

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[1] The other two pillars are minimum capital standards, and supervisory review process. See Basel Committee on Banking Supervision (2001) for more information. The latest Basel Accord ("Basel III") also highlights the importance of market discipline through strengthening banks' transparency and disclosures (see http://www.bis.org/bcbs/basel3.htm).

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whether unsophisticated markets provide market discipline (e.g., Caprio and Honohan, 2004) and whether deposit insurance weakens market discipline (e.g., Demirgüç-Kunt and Huizinga, 2004; Martínez-Peria and Schmukler, 2001). By examining Indonesian banks, which are operating in an unsophisticated market environment and are protected by the blanket guarantee following the crisis, and then by a limited guarantee, this study increases our understanding of market discipline. Second, our study employs dynamic panel data methodology to determine the impact of regulatory changes on the market discipline. In particular, we use the Generalized Method of Moment (GMM) as suggested by Arellano and Bond (1991) and developed further by Arellano and Bover (1995) and Blundell and Bond (1998). Third, the present study also extends the existing literature by examining the extent of market discipline for different types of bank ownership (listed versus unlisted banks and foreign versus domestic banks).[2]

We find evidence of market discipline as higher deposit rates are associated with higher default risk and liquidity risk, and an inverse relation is found between depositor interest rates and government bank regulation. This is consistent with the insurance schemes being perceived as credible. We also find evidence that market discipline is more pronounced in listed and foreign banks.

2. Institutional background and regulatory environment

Following the 1997/1998 crisis, the Indonesian government, in January 1998, introduced a blanket guarantee scheme for domestic banks to restore confidence in the national banking system. The implementation of a BGS represents a major change in banking regulation because previously Indonesia did not have an explicit deposit insurance scheme. The guarantee applies to all commercial banks in Indonesia, except for the branch offices of foreign banks.[3] Under the BGS, the government guarantees all bank liabilities, including off-balance sheet items. However, the guarantee is not applicable to loan capital, subordinated capital, unproved/illegal liabilities, liabilities to the bank's related parties, and derivative transactions (except for currency swaps). Each bank that participates in the BGS must pay a fixed-rate premium of 0.25% of deposits per year. The Indonesian Bank Restructuring Agency (IBRA) is responsible for administering the BGS.

In further response to the crisis, in November 1998, Bank Indonesia introduced a new capital regulation (No. 31/146/KEP/DIR dated 12 November 1998) that modified the minimum capital adequacy ratio (CAR) by temporarily reducing it from 8% of the risk weighted assets to 4%. However, in December 2001, Bank Indonesia amended this regulation by requiring all commercial banks to return to a minimum CAR of 8% by the end of 2001 (Regulation No. 3/21/PBI/2001 dated 13 December 2001).

Later, in September 2005, Indonesia replaced the BGS with a limited guarantee. Since then, a new deposit insurance agency, Lembaga Penjamin Simpanan (LPS) was established. The current official annual premium is 0.20% of deposits per year. Under the limited guarantee, all banks are insured, including joint venture banks and the branch offices of foreign banks. Initially, LPS only guaranteed deposits up to Rp100 million. However, to maintain public confidence in the domestic banking system and to prevent capital flight during the recent global financial crisis, the maximum guarantee was increased in October 2008 to Rp2 billion.[4]

3. Literature review and hypotheses development

The existing literature suggests that market discipline is enforced by holders of uninsured deposits, such as large certificates of deposit (CDs), subordinated notes and debentures (SNDs), and large retail customer deposits. In the present study, since the data on CDs and SNDs in Indonesian banks are very limited, we focus more on market discipline from the customers' deposits point of view.

Research on the role of large deposits in disciplining banks can be divided into two groups. The first group examines the relation between bank risk and the amount of uninsured deposits (Goldberg and Hudgins, 1996; Khorassani, 2000; Jordan, 2000). The second group examines not only the relation between bank risk and the amount of uninsured deposits, but also the relation between bank risk and the interest rate paid to depositors (Park, 1995; Park and Peristiani, 1998; Demirgüç-Kunt and Huizinga, 2004; Martínez-Peria and Schmukler, 2001; Hosono, 2005; Hosono et al., 2005). In general, these studies demonstrate that, in the presence of market discipline, uninsured depositors punish riskier banks by withdrawing their money and/or by demanding higher interest rates.

When market conditions are not well developed or in the presence of deposit insurance, it is often argued that market discipline does not exist. For example, Caprio and Honohan (2004) state that market discipline is unlikely to emerge in the absence of relevant market and information infrastructures. In addition, they argue that explicit or implicit government guarantees stifle the incentive for depositors, debt- and outside equity-holders, or information specialists to exercise such discipline. Several empirical studies also indicate that market discipline does not exist or is less evident under deposit insurance. For example, based on a cross-country study during the period 1990–1997, Demirgüç-Kunt and Huizinga (2004) find that explicit deposit insurance weakens market discipline. In addition, Önder and Özyildirim (2003) document that blanket guarantee schemes reduce market discipline in Turkish banks during the period 1988–2000. However, there is also the possibility that market discipline exists under deposit insurance. Based on an empirical study of Argentina, Chile and Mexico, Martínez-Peria and Schmukler (2001) argue that when a deposit insurance scheme is not credible, market discipline may exist.[5]

Several studies indicate that depositors in Indonesian banks exhibited a "flight to quality" behavior during and shortly after the 1997/1998 crisis. For example, Yudistira (2002) documents the flight to quality behavior as deposits being shifted from small banks to large banks. In this regard, depositors may implicitly assume that large banks will not be closed by the government due to the too-big-to-fail (TBTF) consideration. Other authors describe the flight to quality as deposits flowing from private banks to state-owned or foreign banks (e.g., Enoch et al., 2001).

[2] Studies on market discipline on Indonesian banks are very limited. Hosono (2005) and Hosono et al. (2005) focus on cross country evidence of bank market discipline in four crisis countries in Asia (Indonesia, Malaysia, South Korea and Thailand). In particular, Hosono et al. (2005) only examine the introduction of the BGS.

[3] Although joint venture banks are eligible to join the BGS, in fact, none of these banks participate in this program (see Kusumaningtuti, 1998). Hence, both joint venture banks and the branch offices of foreign banks are uninsured banks under the BGS.

[4] Many neighboring countries such as Australia, Singapore, and Hong Kong decided to adopt blanket guarantees during the global crisis. Hence, to avoid capital flight to these countries, Indonesia raised the limit of the guarantee. As the data points after October 2008 are limited, in this study, we do not explore the impact of this new policy on market discipline. Although the adoption of a blanket guarantee scheme or full-cover deposit insurance may somewhat protect the banking system from the global crisis, as noted by Hwang et al. (2009), it potentially leads to moral hazard problems.

[5] Martínez-Peria and Schmukler (2001) indicate several reasons for the lack of credibility of deposit insurance programs. First, many governments have reneged on their promise in the past. Second, the deposit insurance schemes tend to be undercapitalized. Finally, depositors are concerned about the cost of repayment (typically in the form of delays) through the deposit insurance funds.