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Disciplinary tools and bank risk exposure

Mamiza Haq [a,*], Robert Faff [a,1], Rama Seth [b,2], Sunil Mohanty [c,3]

[a] UQ Business School, The University of Queensland, Queensland 4072, Australia
[b] Department of Finance and Control, Indian Institute of Management, Kolkata 700104, India
[c] Opus College of Business, Department of Finance, University of St. Thomas, 1000 LaSalle Avenue, Minneapolis, MN 55403, USA

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ABSTRACT

We investigate the impact of bank capital, market discipline and charter value as bank disciplinary tools on both bank equity risk (systematic risk, total risk, and idiosyncratic risk) and default risk/credit risk. We analyse 218 listed banks across 15 Asia-Pacific countries, and find that bank risk is positively related to bank capital and negatively related to charter value. Consistent with Pillar 3, Basel II and Basel III, we also find that bank risk is negatively associated with market discipline. Further, our results provide evidence that market discipline complements bank capital while market discipline substitutes bank self-disciplinary tools such as charter value. Finally, the magnitude of the charter value coefficient fall dramatically with the global financial crisis across all risk measures. The results are robust to different estimation specifications.

1. Introduction

In this paper, we develop and test a model of bank risk taking with the primary focus being on the role of bank disciplinary tools: capital adequacy, charter value and market discipline. We explicitly investigate whether these disciplinary tools complement (or substitute) each other in reducing bank risk exposure. Further, we explore whether this role changes after the global financial crisis (GFC) in 2007.

* Corresponding author. Tel.: +61 7 3346 3090.
E-mail addresses: m.haq@business.uq.edu.au (M. Haq), r.faff@business.uq.edu.au (R. Faff), rama_seth@yahoo.com (R. Seth), skmohanty@stthomas.edu (S. Mohanty).
[1] Tel.: +61 7 3346 8055.
[2] Tel.: +91 33 2647 8300.
[3] Tel.: +1 651 962 4416.

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Since the onset of the crisis in 2007, policy makers and regulators have been critical of financial institutions for not holding adequate capital reserves. As a result, on the 12th of September 2010, the Group of Governors and Heads of Supervision, the oversight body of the Basel Committee on Banking Supervision, announced a substantial strengthening of existing capital requirements. For example, tier 1 capital requirements, which include common equity and other qualifying financial instruments based on stricter criteria, will increase from 4% to 6%. It is important to improve our understanding of the relevance of this reform to the Asia-Pacific region.

Banks tend to maintain their charter value — indeed, they have an incentive to target lower risk to lower the risk of impairing their charter value.[4] Marcus (1984) first pointed out that deregulation of the banking industry by easing entry and lowering economic rents to bank charters has the potential to elicit bank financial policies that will increase the incidence of bank failures. Further, Allen and Gale (2000) and Matutes and Vives (2000) argue that a more competitive banking system should be also one in which banks take on more risk: the reason is that monopoly rents, by pushing up charter values, would deter bank's higher risk taking, since banks would have a higher charter value to lose in case of failure. Keeley (1990) and Demsetz et al. (1996) provide empirical evidence for US banks and Gropp and Vesala (2004) for a sample of European banks. This body of literature is largely confined to the developed markets of the US and Europe, and practically non-existent for the Asia-Pacific region.

At all times and particularly, to avoid banking crises, regulators devise mechanisms to monitor banks' risk taking behavior. It is commonly argued that disruption in the financial system can lead to a reduction in investment and other economic activity (Demirgüç-Kunt and Huizinga, 2004). Further, bank depositors face profound loss because of bank failures and governments tend to incur large costs in remedying a banking crisis. To avoid this type of systemic form of bank insolvency, all jurisdictions have emphasized greater reliance on market discipline in the regulatory framework along with implicit government support and explicit deposit insurance for banks' creditors, central bank's lending of last resort, and bank insolvency resolution procedures.[5] From a bank's viewpoint, issuing subordinated debt might be a convenient substitute for direct recapitalization through the issue of stock which can entail substantial agency cost under information asymmetry (Myers and Majluf, 1984). However, it might be quite difficult for small banks to issue subordinated debt. This "size" concern makes it even more crucial to ascertain the relation between bank risk and market discipline to better understand whether it can be treated as a substitute (complement) to the role of bank capital and charter value.

The Asia-Pacific region and in particular the developing economies in this region provide a fertile laboratory to examine issues of bank risk, regulation and supervision because they are engaged in the process of deregulation, bank privatization and financial liberalization while the industry is witnessing more consolidation (Turk-Ariss, 2010). Asian banks are now considered to be less vulnerable to financial crisis than they were in the past because of their diversified lending functions, greater profitability, lower domestic liquidity risk and larger foreign exchange reserves to cushion against volatile capital flows (Mohanty and Turner, 2010; World Economic Forum, 2010). Asian regulators already have some macro-prudential policies including administrative guidance to limit bank-credit growth, and real estate loan caps (Park, 2013). Asian banks have learned from their experiences in the late 1990s and shifted from policy and relationship banking to lending on the basis of credit worthiness.[6] In addition,

[4] Guttentag and Herring (1983) define charter value as "the present value of the net income that the bank would be expected to earn on new business if it were to retain only its office, employees, and customers. (…) [It] depends on the bank's authorized powers, including power to do business within specified areas, the market structure in the area, the expertise of the bank's employees, and the customer relationships it has developed".

[5] For example, Japanese banks in the early 1990s issued subordinated debt to support their declining capital base. This helped them to recapitalize in the face of increasing non-performing loans (Horiuchi and Shimizu, 1998). Japanese bank tier II capital included 47% subordinated debt.

[6] Also, the Asia-Pacific region has limited direct exposure to US mortgage-related assets, thereby shielding Asian banking systems from massive losses. Of the total $1.5 trillion in write-downs and credit losses reported worldwide since July 2007, only $39 billion, or about 2.7%, comes from Asian financial institutions—the bulk of which is concentrated in Japan and, to a lesser extent, in China.