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J. Japanese Int. Economies 19 (2005) 24–36
Journal of THE JAPANESE AND INTERNATIONAL ECONOMIES
www.elsevier.com/locate/jjie

The effect of the Basel Accord on bank portfolios in Japan

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Received 7 March 2002; revised 4 February 2004

Available online 9 April 2004

Montgomery, Heather—The effect of the Basel Accord on bank portfolios in Japan

This study investigates the hypothesis that stricter capital adequacy requirements introduced under the Basel Accord caused Japanese banks to alter their portfolios away from heavily weighted risk assets such as loans and corporate bonds and into unweighted assets such as government bonds.

Using a panel of Japanese bank balance sheets for fiscal years 1982–1999, this study finds that neither international nor domestic bank asset portfolios are strongly affected by the total regulatory capital ratio.

However, there is clear evidence that international bank asset portfolios are highly sensitive to the core tier I capital requirement. International banks with relatively low core capital ratios tend to reduce heavily risk weighted assets such as loans and substitute into unweighted low-risk assets such as government bonds. International banks with relatively low core capital ratios also tend to issue more subordinated debt, which counts toward tier II capital.

This sensitivity of international bank portfolios to capitalization is only observed in the post-Basel period since 1988, indicating that the regulatory changes implemented under the Accord significantly affected the behavior of international banks. There is no evidence that the portfolios of domestic banks were affected by the Accord. *J. Japanese Int. Economies* **19** (1) (2005) 24–36. The Asian Development Bank Institute, 3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo 100-6008, Japan.

JEL classification: G21; G28; C23; E51

Keywords: Japanese banks; Capital adequacy; Basel Accord; Credit crunch; Capital crunch

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0889-1583/$ – see front matter
doi:10.1016/j.jjie.2004.02.002

1. The Basel Accord of 1988

The Basel Accord, which was signed in 1988, requires internationally active banks to maintain a capital to risk-weighted asset ratio of at least 8%. Japanese regulators allowed banks with purely domestic business the option of maintaining a ratio of capital to assets of at least 4%,[1] and all banks in Japan were given 5 years to adjust to the new standards before the Accord became binding in fiscal year 1992. Despite these allowances, many Japanese banks struggled to meet the new requirements during the transition period and fears of a "capital crunch"—a reduction in bank lending in response to stricter regulations on bank capital—brought on by the Basel Accord capital adequacy standards began to surface in Japan in the early 1990s. Sluggish growth in bank credit and other macroeconomic aggregates throughout Japan's "lost decade" has revived interest in the relationship between regulatory capital and lending in Japan.

Under the Basel Accord, capital is defined as tier I, or core, capital and tier II capital, which is limited to the value of core capital. Core capital consists primarily of shareholders' equity. Tier II capital includes general loan loss reserves, subordinated debt and preferred stock. In Japan, tier II capital also includes up to 45% of unrealized capital gains or land revaluation.[2] On the asset side, there are currently four categories of risk for classifying assets. Risky assets such as loans receive a 100% weighting while safe assets such as government bonds receive a 0% weighting.[3] Secured loans fall in-between with a 50% weighting.

A bank needing to raise its capital ratio faces the following options. The capital adequacy ratio can be boosted through capital, the numerator, by issuing new equities, subordinated debt, preferred stock or by increasing loan loss reserves.[4] Alternatively, the denominator, risk-weighted assets, can be reduced by reducing heavily-weighted assets such as loans or equity holdings and substituting with unweighted, riskless assets such as government bonds. This study investigates the effect of these incentives on bank portfolios.

2. Effect of the Basel Accord on bank behavior

The question of how risk-based capital ratios effect bank portfolio decisions, especially lending, attracted the interest of researchers of the US banking industry in the early 1990s

[1] Capital for domestic banks is calculated slightly differently than for international banks and does not include neither short-term subordinated debt nor latent capital gains. Assets for domestic banks are not risk-weighted as for international banks.

[2] Until the introduction of mark-to-market accounting for investment account securities in fiscal year 2001, banks in Japan have been able to choose between the book value or fair value (the lower of book or market) method for recording the value of investment account equity holdings on their balance sheets. Banks that chose the fair value method were able to count 45% of the unrealized gains on these equities toward tier II capital. Land revaluations have only been included in tier II capital since fiscal year 1998.

[3] The current Accord classifies all loans equally at 100%. Government bonds from OECD countries are considered riskless, with a 0% weighting, while government bonds in non-OECD countries are fully weighted at 100%. Both regulations are likely to be revised under Basel II.

[4] The effect of increasing loan loss reserves is limited since loan loss reserves count toward tier II capital only up to a limit of 1.25% of risk-weighted assets.