Abstract

This dissertation consists of three essays and focuses on intra-group reinsurance arrangements as the main internal capital markets activities in the U.S. non-life insurance industry from the period of 1999 to 2016. In essay 1, by employing the regression model of Cragg (1971) to analyze the determinants of internal reinsurance provision and receipt, we document the following results. First, internal reinsurance provision is positively related to external reinsurance, investment risk, and profitability, suggesting that they are the capacity sources to support the provision internal reinsurance. In contrast, these variables negatively affect internal reinsurance receipt. Second, we discover the inverse-U patterns regarding the effects of external reinsurance and investment risk on internal reinsurance provision, which may indicate that these internal reinsurance providers tend to curtail internal reinsurance provision to avoid posing excessive counterparty risk on the recipients of internal reinsurance. Moreover, we also find such non-linear effects of underwriting risk variables on internal reinsurance receipt, which indicate that the recipients tend to avoid transferring excessive underwriting risk to the providers.

In essay 2, we analyze the relations among intra-group reinsurance, capital, and risk, and document the following results. First, the insurers whose intra-group reinsurance participation status are converted to providers are associated with the decrease in capital

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ratio. Such result s may be driven by the substitution effect of an increase in the income streams from internal reinsurance transactions on capital financing. Second, we find a positive effect of capital ratio on internal reinsurance provision, which suggests that the provision of internal reinsurance is supported by capital. On the contrary, internal reinsurance receipt and capital are negatively interrelated, suggesting that they are substitutes. Moreover, we find a positive relation between internal reinsurance receipt and investment risk, which may imply that internal reinsurance could be utilized for allocating risk among investment and underwriting activities.

In essay 3, we analyze how insurers adjust their capital structure and document the following results. First, the deviation from target leverage positively affects the funds received via internal capital transfer for both internal reinsurance providers and recipients. Such relation does not exist for the insurers without intra-group reinsurance participation. Our results may indicate that the insurers with the economic connections created by intra-group reinsurance are more likely to receive supports when they are undercapitalized. In addition, some results indicate that the negative effect of target leverage deviation on premiums growth is weaker for recipients, which may be caused by the offsetting effect of the capacity supplement via internal reinsurance.

Key words: internal capital markets, intra-group reinsurance, risk-bearing capacity, capital, risk-taking, capital structure, capital adjustment channels

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