Financial Decisions

Scientific Literature Review Sample

Effective interest rate risk management is one of the key factors in the success of banking operations. The decision on the optimal risk and yield relationship depends on many factors, of which the size is one of the most important ones. The results of previous studies show that the size of banks is a factor that significantly influences their exposure to interest rate risk (Au Yong, Faff, & Chalmers, 2009; Hag, & Heaney, 2008; Ballester, Ferrer, Gonzales, & Soto, 2009). In developed financial markets, there are significant differences in the nature of small businesses in relation to the operations of large banks. Large banks have a better access to the capital market and a wider array of financial products, which provides them with greater credit potential and better diversification of placements. These advantages allow them to perform activities such as granting high-risk loans or taking speculative positions in derivatives.

Business in modern banking is increasingly gaining a speculative character because of strong competition and more rigorous regulation limit potential earnings based on traditional credit and deposit activity. Because of their financial superiority, large banks have a wider maneuvering space when it comes to risk-taking, while their smaller opponents are more likely to implement passive strategies favoring protection against exposure to interest rate risk. Another important factor, which can influence the exposure of banks, is the attitude towards interest rate risk based on the awareness of the importance of the bank in terms of preserving the stability of the financial system. In large banks, there is often a pronounced moral hazard that is the result of awareness of one's own power and the fact that their potential bankruptcy could impair the stability of the financial markets in which they operate. Conscious of this, many financially developed countries have accepted the practice of too big to fail, which guarantees security to big banks in case of bankruptcy risk. On the other hand, when it comes to domestic banks, the situation is slightly different. Unlike US banks, domestic banks operate in conditions of poor financial market development and expensive sources of credit potential, which can to some extent have an impact on the ratio of interest rates - interest rate risk. The aim of this paper is to carry out a comparative analysis of the impact of variations in their balance sheets on Holding Period Return (HPR) on the basis of samples from developed financial markets (US) and developing markets. The most accurate analytical model used to analyze banks' exposure to interest rate risk is a durable model (Macaulay concept). Durant is a measure of the percentage change in the economic value of a particular balance sheet arising from a small change in the interest rate (Beck, Goldreyeer, & D'Antonio, 2000; Grove, 1974). It reflects the timing and volume of cash flows that arise before the agreed maturity of the instrument. The longer the maturity (or the date of the next change in the price of a financial instrument), and the lower the coupon payments that arise before maturity, the greater the duration. This means that the change in the interest rates has a greater impact on the economic value of the given balance sheet position (Nivine, Richie, Mautz, & Sackley, 2010). In the event of a small change in the interest rate, banks can use the durable model to measure the exposure of the economic value of a financial instrument, a portfolio of financial instruments or equity. In 1938, Frederic Macaulay set the concept of effective maturity of bonds, suggesting that the duration is calculated as the weighted average of the deadlines until each coupon payment and the principal payment received by the bondholder. The weight for the period until each individual payment is determined as the share that this payment has in the total value of the bond. The mentioned share is calculated as the present value of future payments divided by the bond price. The study of the impact of bank size variations on the exposure of their HPR to interest rate risk is based on the application of the econometric panel model. The econometric panel models combine comparative data and time series data, which means that

each panel observation has a spatial and temporal dimension. Panel data can be graphically described as data of a certain number of the same units observed in different time periods. The following regression models are commonly used based on the constraints related to regression coefficients: a pooled OLS model, a fixed-effects model, a random-effects model. Each of these three models gives different results in terms of the value of the regression coefficients and the statistical significance of the results themselves. To determine which of the models best describes the β2j reactions to variations in the pockets of maturity, it is necessary to do additional tests that have been referred to. If regression coefficients are not statistically significant, correction of standard errors should be made by removing autocorrelation and heteroscedasticity. Correction of standard errors does not affect the value of the coefficients themselves, but rather affects the correction of their statistical significance.

The dependent variable of the model consists of the values of the regression coefficients of Stone's two-index linear regression model βit, which describes the HPR exposure of American and Serbian changes in the level of the market interest rate on an annual basis (Stone, 1974, p. 710). The independent model variables represent the values of the natural logarithm of the balance sums of banks from the sample. The analyzed sample of US banks includes 65 banking holding companies for a period of ten years (n = 65, T = 10, n> T), while the sample of domestic banks consists of ten domestic banks whose shares are in the period from 2007 to 2011 traded within the stock exchange. Based on the value of the estimate of the regression coefficient 1 = - 0.2943, it can be noted that the growth of the balance sheet amounts of US banks increases the HPR exposure of their shares to changes in the amount of the market interest rate. Overall, 1.18% of variation of the dependent variable is explained by the variations of the independent variable (R - sq: overall = 0.0118), which means that the exposure of banks' HPRs to changes in the level of the market interest rate depends on the variation in the book values of the balance sheet sums of banks in a low percentage . It is also important to point out that the differences in the variations in the balance sheet instructions within the banks themselves have a greater impact on the observed exposure than the variation of balance sheet sums between banks. There are numerous empirical evidence supporting the claim that large banks have a more aggressive approach when it comes to taking over the risk of doing business. On the basis of this fact, the question arises whether the HPR of large banks responds more strongly to changes in the level of the market interest rate, than in the case of HPRs of their smaller opponents. In order to confirm the above assumption, a panel study was conducted in which the reactions of the HPR on the stratum of large, as well as the stratum of small US banks were examined. In the first step, banks from the sample are sorted in the order, from the highest to the least, according to the criterion of the book value of total assets. Then the sample is divided into two equal parts. The first stratum represents larger banks, while the second stratum represents smaller banks (compared to the first stratum). In the first step, a panel of research was conducted on the stratum of larger banks.

REFERENCES

- Au Yong, H. H., Faff, R., & Chalmers, K. (2009). Derivative activities and Asia-Pacific banks' interest rate exposures. Journal of International Financial Markets, Institutions and Money, 19 (1), 16 - 32.
- Hag, M., & Heaney, R. A. (2008). Factor Determining Bank Risks: A European Perspective. 21 Australian Finance and Banking Conference. Sydney, 16 - 18 December.
- Ballester, L., Ferrer, R., Gonzales, C., & Soto, M. G. (2009). Determinants of interest rate exposure of Spanish Banking Industry. Department of Economics and Finance UCLM Working Papers.
- Beck, K. L., Goldreyeer, E. F., & D'Antonio, L. J. (2000). Duration Gap in the Context of a Bank's Strategic Planning Process. Journal of Financial and Strategic Decisions, 13 (2), 57 - 65.
- Nivine, F., Richie, R., Mautz, D. R., & Sackley, W. H. (2010). Duration and Convexity for Assessing Interest Rate Risk. Bank Accounting and Finance, 23 (2), 25 - 30.
- Stone, B. (1974). Systematic Interest Rate Risk in a Two-Index Model of Returns. Journal of Financial and Quantitative Analysis, 9, 709 - 721.