Pacific-Basin Finance Journal 25 (2013) 40–61

Contents lists available at ScienceDirect

Pacific-Basin Finance Journal

journal homepage: www.elsevier.com/locate/pacfin

How does the stock market value bank diversification? Empirical evidence from Japanese banks ☆

Michiru Sawada *

Nihon University College of Economics, 1-3-2 Misaki-cho, Chiyoda-ku, Tokyo 101-8360, Japan

ARTICLE INFO

Article history:
Received 24 January 2013
Accepted 1 August 2013
Available online 13 August 2013

JEL classification:
G11
G21
G28

Keywords:
Revenue diversification
Bank stock return
Bank risk

ABSTRACT

This paper empirically examines the effect of banks' revenue diversification across different activities on the stock-based return and risk measures using data on the Japanese banking sector. In our analyses, we use non-interest income share as a measure for revenue diversification. These analyses indicate that revenue diversification positively affects bank market value but provide no evidence that it reduce bank risks. By contrast, when non-interest income is divided into its constituent parts—fee income, trading income, and other non-interest income—we find that a shift towards fee income-generating business decreases all types of risks (systematic risk, idiosyncratic risk, and total risk). Furthermore, we find that revenue diversification affects bank value and risk differently depending on particular bank characteristics, such as organizational form and traditional banking business performance.

1. Introduction

In the last two decades, many banks have implemented a policy of diversification across various activities (e.g., commercial banking, securities underwriting, insurance, brokerage, and fiduciary services) as a result of global deregulation, technological changes, and developments in product markets. Given this trend, the question of focus versus diversification in the banking industry has gained in importance for bank managers, shareholders, regulators, and financial economists. Although a number of studies have attempted to shed light on the effect of diversification on bank performance, they have provided mixed

☆ I would like to thank Professor Yoshihisa Asada, Hyeog Ug Kwon, Sumio Hirose, Masaru Inaba, Daisuke Miyakawa, Naomi Miyazato, Masaharu Hanazaki, Takashi Hatakeda, Masumi Kawade, Satoshi Kawanishi, Katsuya Kobayashi, Yosuke Takeda, Daisuke Tsuruta, Kenta Toyofuku, Yoshihiro Ohashi, Shuji Watanabe, Fukuju Yamazaki, Yang Zhang and other participants in the workshops and seminar of Sophia University, Nihon University, Development Bank of Japan, the Japanese Economic Association, and the 13th International Convention of the East Asian Economic Association for their helpful comments and suggestions. Comments and suggestions of an anonymous referee were very helpful. All errors are the author's own.
* Tel.: +81 3 3219 3399.
E-mail address: sawada.michiru@nihon-u.ac.jp.

0927-538X/$ – see front matter
http://dx.doi.org/10.1016/j.pacfin.2013.08.001

results. For example, Baele et al. (2007) demonstrate that diversification increases the franchise values and decreases idiosyncratic risks among European banks, but Laeven and Levine (2007) find a diversification discount in financial conglomerates based on cross-country data. Moreover, Stiroh and Rumble (2006) show that, although U.S. financial holding companies can benefit from diversification, these benefits are offset by an increase in exposure to highly volatile non-interest income business.

In addition to being characterized by mixed results, the literature also suffers from a marked shortage of studies that utilize stock market data to comprehensively assess the effect of functional diversification on both return and risk. To date, only studies by Stiroh (2006) and Baele et al. (2007), which respectively explore the American and European banking systems, utilize stock market data to this end. As stated by these authors, stock market measures for return and risk have some relative advantages over accounting measures. First, equity prices are forward-looking and therefore allow for the prediction of prospective performance and risks associated with different strategic choices. Second, the use of stock market data allows for the decomposition of total risk into its systematic and idiosyncratic components, thus providing useful information to bank stakeholders that are interested in different types of bank risks. Typically, investors with sufficiently diversified portfolios are primarily interested in systematic risks in bank equity returns. On the other hand, large shareholders, bank managers, and supervisors also pay attention to idiosyncratic and total risks.

This paper comprehensively examines the effect of revenue diversification among Japanese banks on stock-based performance and risk measures (i.e., systematic risk, idiosyncratic risk, and total risk). Similar to previous research in this area, this study employs measures based on non-interest income in bank revenue structure to gauge revenue diversification. Further, to explicitly investigate which activities the market evaluates as beneficial to bank performance and risk, we estimate the respective effects of fee income, trading income, and other non-interest income by decomposing non-interest income share. In addition, we account for the possibility that banks' revenue diversification affects bank value and risk differently depending on particular bank characteristics such as organizational form and traditional banking business performance. We propose that banks that perform well in traditional banking business can more effectively implement their revenue diversification than those banks that perform badly. Further, Yamori et al. (2003) show that Japanese banks affiliated with bank holding companies (BHCs) are more profit-efficient than independent banks. Therefore, it is plausible that BHC organizations can implement revenue diversification strategies more efficiently than independent banking organizations. To explore these possibilities, this paper explicitly examines whether the effects of revenue diversification on a bank's stock-based return and risk measures are more beneficial for BHC organizations (relative to independent banking organizations) or banks that perform well in traditional banking business (relative to banks that perform poorly).

Our analyses reveal that the non-interest income share increases the market values of banks, but there is no strong evidence that it reduces stock-based risk measures for bank risk (systematic risk, idiosyncratic risk, and total risk). When non-interest income is decomposed into its three component sources (fee income, trading income, and other non-interest income), we find that banks are capable of decreasing all types of risk by raising fee income share. Finally, we confirm that (a) the positive effect of revenue diversification on a bank's market value is more pronounced for BHC organizations than for independent banking organizations, and (b) the negative effect of revenue diversification on stock-based risk is more pronounced for banks that perform well with regard to traditional banking business than banks that perform poorly.

Given these analyses and findings, this paper contributes to the existing literature in the three principal ways. First, whereas previous research has exclusively focused on whether revenue diversification or functional diversification improves bank performance and risk, this paper includes additional analyses that explore the possibility that these relationships are dependent on specific bank characteristics (i.e., organizational form and traditional banking business performance). Second, this paper redresses deficiencies in the literature that have resulted from the exclusive use of data from American and European banks.[1] Specifically, studies that have used stock market data to assess the effect of revenue diversification on both return and risk are limited to Stiroh (2006) and Baele et al. (2007), which respectively used data from the American and European banking systems. In this paper, we utilize data from the Japanese banking system to explore these relationships in an alternative

[1] Berger et al. (2010) is an exception, but is based on accounting data rather than stock market data.