Keywords: Financial holding company, Dynamic weighted comprehensive model, Economies of scope.

Abstract. At the post-crisis era, financial holding company is still an inevitable trend of the development of both domestic and foreign financial industry. Researches on the six advantages of Financial Holding Companies have become a hot academic and industry issue. In this paper, we create the dynamic weighting comprehensive evaluation model by centralizing the first five advantages together into the last one, economies of scope; compare the advantages of financial holding companies on business performance and risk-control over traditional banks. Model results show that financial holding company outstrips traditional banks in terms of business performance, risk control ability.

Introduction

At the post-crisis era, financial holding company is still an inevitable trend of the development of both domestic and foreign financial industry. Just as Xia Bin, the director of the Institute of Finance of the State Council Development Research Center, said, “the practice of exploring and establishing financial holding companies with Chinese characteristics is already in progress. We must steadily promote financial liberalization and mixed operation for whichever aspects like economic growth, international competition, construction of the financial systems and maintenance of financial security”.

There are two main forms of financial mixed operation, universal banking (single legal entity), or financial holding company (multiple corporate subsidiaries). Financial holding company as one of the important forms of mixed operation, has six advantages since it has diversified business. The six advantages are synergy effects, reasonable tax avoidance, reputation outflow, risk diversification, economies of scale, economies of scope, where economies of scope means a proportionate saving gained by producing two or more distinct goods, when the cost of doing so is less than that of producing each separately. The first five advantages can decrease total costs and increase overall profits so can produce a certain degree of economies of scope; So the last advantage, economies of scope, is a concentrated expression of the superiority of financial holding companies.

Significance of the Topic and the Limitations of Existing Research

Domestic and foreign research on Financial Holding Company is undoubtedly an important contribution to the construction of China's financial system. There are much research on the
development trend and the six advantages of financial holding companies, however, most of them are qualitative rather than quantitative. Basically there are two limitations:

The limitations on the research of economies of scope: Although there are a lot of research on the economies of scope of financial holding company or universal banks, but most of them are using similar models such as revenue growth and cost function. Also the domestic research on economics of scope is primarily on single financial institution such as banks and insurance companies rather than the economies of scope of the financial holding company as a whole. The researches basically try to verify the existence of economies of scope using regression analysis and other econometric methods; Regardless of whether economies of scope exist or not, there isn't a analysis of the causes.

The limitations on the research of advantages: First, researches for reasonable tax avoidance, reputation outflow, risk diversification are limited to qualitative. Second, for economies of scope and economies of scale, even thought there are both qualitative and quantitative researches, however they are mainly for single financial institution like banks and insurance companies rather than the financial holding company as a whole. Last, for synergy effects, even though there are many quantitative analysis, they study the synergy only on the overall performance of the financial holding company.

Dynamic Weighted Comprehensive Assessment Model for Economies of Scope

Since the first five advantages, synergy effects, reasonable tax avoidance, reputation outflow, risk diversification and economies of scale, they can all bring the total cost down and increase the overall profit hence they can all bring the effects of economies of scope. So the five advantages embodied in the economies of scope, which is equivalent to say the five advantages are factors of economies of scope. Given that the five factors are all qualitative, by common evaluation criteria, we divide them into five levels: excellent, good, fair, poor, very poor. We can use 5,4,3,2,1 to denote these 5 levels but we need to give a way to determine how some intermediate values mean. We can construct the fuzzy membership function to quantify. Usually in order to make the function to be continuous, we can set the function to be:

\[
y = \begin{cases} 
1 + \alpha (x - \beta)^2, & 1 \leq x \leq 3 \\
\alpha \ln x + b, & 3 \leq x \leq 5
\end{cases}
\]

where \(\alpha, \beta, a, b\) are parameters.

With the quantitative criteria, also note that the overall evaluation has five factors, while each factor has five levels, we can take advantage of the dynamic weight comprehensive evaluation model to solve this problem. Using the five normalized index values, denoted as \(y_i\), the corresponding dynamic weight function \(w_i\), we can establish the comprehensive evaluation model as

\[
X = \sum_{i=1}^{5} w_i(y_i) \cdot y_i
\]
As for the data for the model, we can find them in domestic or international financial databases. Since the research problem is new, we have less data, especially the time-series and cross-sectional data. So using the conventional mathematical statistics models such as regression analysis, variance analysis, principal component analysis, all of which require large samples and well-preformed distributions, is not suitable here. The use of fuzzy analysis can solve the data-unavailability much better.

We use the above dynamic weighted comprehensive evaluation model to quantitative analyze the traditional banks and financial holding companies, the result shows that the financial holding companies outstrip the traditional banks over business performance and risk management, so they will be continuing developing.

Conclusions

By the study ,we create the dynamic weighting comprehensive evaluation model by centralizing the first five advantages together into the last one, economies of scope; compare the advantages of financial holding companies on business performance and risk-control over traditional banks. Model results show that financial holding company outstrips traditional banks in terms of business performance, risk control ability.

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