

APPROACHES FOR EVALUATING THE EFFICIENCY OF MERGERS AND ACQUISITIONS IN THE BANKING SECTOR

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Abstract: In this paper describes main approaches to evaluating the efficacy of mergers and acquisition. The article considers the risk classification of bank mergers and acquisitions with the release of classification features and formation of clusters. In considering the acquisition of the banking firm as an investment was selected and reviewed in detail The Return on Investment Model. The main advantages of The Book Value Model were analyzed in this article as well.

Key words: Banking sector, Mergers and Acquisitions, Risks, The Return on Investment Model, The Book Value Model, Evaluation, and Efficiency.

1. Introduction

Today, the Ukrainian banking sector is going through an important period of development. Increased concentration of capital, increased competition, growth of requirements for bank capital adequacy encourage banks to restructure, improve their competitiveness. One way to solve to this problem are bank mergers and acquisitions, which form an important segment of the banking market.

Bank mergers and acquisitions sold under different scenarios may be accompanied by risks and chances. For bank mergers and acquisitions, it is extremely difficult to distinguish between the situation of negative or positive formation of targets, results and risks or opportunities.

2. Materials and methods

Mergers and acquisitions, including banking, should be considered in the complex of factors and formation conditions of uncertainty and risk, respectively. It is important to bear in mind that the processes of mergers and acquisitions, their results and objectives, the tools to achieve the target systems from the perspective of risk management are numerous and varied. They constitute the system are classified by certain characteristics and are considered as an essential component of corporate strategies.

Optimization tools of risk management, identifying opportunities for use in certain cases the standard methods and risk management tools require greater detail and specificity risks. This is achieved by risk classification, allocation classifications criterias and formation of clusters of risk.

As for making reasonable decisions about the valuation of the bank in the process of mergers and acquisitions used The Return on Investment Model and The Book Value Model.

3. Results

Banks and other participants of mergers and acquisitions processes under the influence of regional factors can form specific risks associated with the functionality of

industrial infrastructure, maintaining by the staff working capacity, working schedules of organizations, development of branch network, information support.

Analysis of the world experience impact of mergers and acquisitions on the financial position of shareholders and capitalization of absorbing and absorbed banks showed that banks are absorbed by shareholders of M&A substantial gain. The prices of their shares increase by 20-30% at low values in the starting period. Shareholders of absorbing banks as a result of mergers and acquisitions get much lower (less than 2%) increase in prices of its shares [6].

Mergers and acquisitions can be considered as factors of chances contributing to the expansion of markets (new territories in horizontal integration and new activities - in conglomerate mergers and acquisitions), effectiveness increase of channels of goods movement (reducing organizational and administrative costs, gain competitive advantage). Strategic mergers and acquisitions aimed at achieving a synergistic effect in various forms.

Table 1.

The classification of risks of bank mergers and acquisitions [7]

No	Classification criteria	Types of banking risks
1	The nature of organization of M&A	risks of equivalent mergers risks of unequal mergers risks of accessions risks of acquisitions
2	Initiation of mergers and acquisitions	risks of of mergers and acquisitions in the initiation of the acquiring party risks of of mergers and acquisitions in the initiation of the joined party risks of of mergers and acquisitions in the initiation of a third party (intermediaries)
3	Target setting of structure that joins	risks and chances of spheres of activity, client base, projects risks and chances of marketing and reputation
4	Target setting of structure that attaches	risks and chances of performance management, reputation, partnerships risks of organizational structure and staff chances adequacy standards of banking supervision

№	Classification criteria	Types of banking risks
5	Organizational motivation of M&A	risks and chances of of voluntary mutual interest merger risks and chances of unilaterally initiated mergers and acquisitions risks of forced absorption
6	Holders of mergers and acquisitions risks	risks and chances of structure that absorbs risks and chances of absorbed structure counterparties risks and chances of absorbing structure risks and chances of counterparties structures that is absorbed risks and chances of external structures
7	The result of mergers and acquisitions	risks and chances of synergies risks underestimating the consequences claims and chance to improve the organizational structure and personnel management risks of changing political priorities and loss of customers

However, for mergers and acquisitions characteristic pattern of risks in the sphere of management, personnel, market relations, reputation, performance regulations. Mergers and acquisitions often do not provide the intended effect, do not create added value for owners and managers of banks-buyers and banks-target, although requiring significant investment in these complex processes.

Special risks arising in conglomerate mergers and acquisitions, in result of which merged banks and non-banking financial institutions (investment and insurance companies, brokerage firms, pension funds, etc.). The same type of mergers and acquisitions include the establishment of banks and financial-industrial groups. For banks, this type of mergers and acquisitions is fraught with the formation and implementation of specific modification of risks associated with the issuance of loans to troubled borrowers under the problematic projects in many different ways.

Foreign experience of bank mergers and acquisitions shows the kind of situation where often the risks and chances almost balanced. Comparative analysis of the number and volume of successful and unsuccessful bank mergers and acquisitions shows that first little more, despite their obvious social utility [6].

Ukraine is characterized by great diversity of processes of mergers and acquisitions. It is the weakness of state regulatory control of the processes of mergers and acquisitions; relatively low use in mergers and acquisitions capital market instruments; opacity of banks' ownership structure and concentration in the hands of a much larger stake in comparison with Western banking institutions [3].

These features are complemented by the active use of administrative resources and non-market methods of corruption in the process of mergers and acquisitions, carry them to high-risk operations. This was confirmed by the

last financial crisis. If in 2007 the volume of mergers and acquisitions in Ukraine amounted to \$15.337 billion, in 2010 it fell to 7.572 billion. (Fig. 1.1). Technical analysis of the dynamics of mergers and acquisitions in Ukraine clearly subscribes chart "head-shoulders". This means that in the post-crisis period, domestic banks are wary of mergers and acquisitions. This is quite reasonable. Bank risk management is still pending recovery of the global and ukrainian economy, the implementation of the state privatization program, the accumulation of liquidity by banks, financial market development.

For the purpose of making reasonable decisions about the value of the bank in the process of merger or acquisition focuses on The Book Value Model that operates according to specific financial statements and The Return on Investment Model based on the use of discounted cash flow method (DCF).

The Return on Investment Model, considering the bank acquisition as an investment, determines the bank's own capital as the value of future payments to shareholders (investors) that discounted on the weighted average cost of capital.

Thus, according to The Return on Investment Model, the price (or value) of the bank which the investor is willing to pay is a present value (PV) of all future income available to the investor.

$$\text{Bank Value} = PV \quad (1)$$

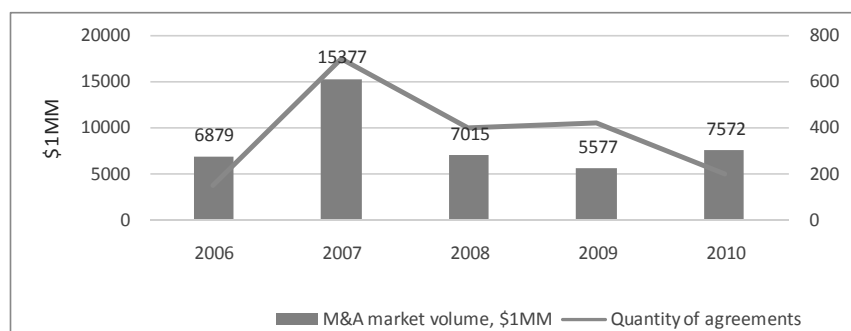


Figure 1. Dynamics of mergers and acquisitions in Ukraine in 2006-2010 [8]

Using The Return on Investment Model for evaluating the bank must take into account the value of expected income available to investors, the volatility of income, length of time in obtaining or longevity and certainty that such income will be received and the level of discount.

One of the problems arising from the use of this model is how to determine the final value (terminal value) investment. In practice, the value of the bank for the investor is the sum of the present value of future income PV_n and terminal value of investments TV_n .

$$\text{Bank Value} = PV_n + TV_n \quad (2)$$

Under certain conditions, expected future income available to investors can be defined as the future cash flow FCF (Future Cash Flow):

$$FCF = NI + D - RCA \quad (3)$$

where NI - net income, D - depreciation, RCA - required capital addition.

As soon as the purchase bank-target occurs, investors probably will try to minimize its capital, which will increase the yield at their investments (acquired ordinary shares of the bank-buyer). Thus, the RCA index can be defined as:

$$RCA = [(NI_t + TE_{t-1}) / TA_t - C / A] * TA_t + NE \quad (4)$$

where NI - net income; TE - total number of existing ordinary shares in issue, TA - growth of total assets, C / A - required ratio capital / assets, NE - new shares issued into circulation.

Ignoring depreciation costs as insignificant for banks, as well as the volume of newly issued shares, obtain the value of future cash flows:

$$FCF_t = NI_t - [(NI_t + TE_{t-1}) / TA_t - C / A] * TA_t \quad (5)$$

The duration of life cycle of the bank usually unknown or unclear, therefore, for investors is quite difficult to ascertain the final cost of investments in its purchase. The approach allows determining the approximate value of the final cost of the bank, based on a mathematical model to determine the future income stream. Because the value of the future income stream increases in the permanent proportion - g, and r - the discount rate, the final cost of the bank can be defined as:

$$TV_t = FCF_{n+1} / (r - g) \quad (6)$$

Thus, the problem of determining the value of the bank using The Return on Investment Model can be divided into two parts: the first, which gives a detailed assessment of future cash flows and the second, which provides a stable income growth in fixed proportions for an indefinite period of time:

$$Bank\ Value = \sum_{t=1}^n [(FCF_t / (1 + r)^t) + (TV / (1 + r)^n)] \quad (7)$$

Assuming that stable income of bank-target will grow in a constant proportions - g, then the value of the bank is defined as:

$$Bank\ Value = \sum_{t=1}^n [(FCF_t / (1 + r)^t) + (FCF_n + 1 / (r - g) / (1 + r)^n)] \quad (8)$$

The cost, which is defined as the discounted cash flow is the best feature because it takes into account all the information about the bank activity.

However, given the peculiarities of Ukrainian evaluation practice of banks - participants of mergers and acquisitions, in an unstable economic environment and significant difficulties in the selection of the discount rate cash flow forecasting is very challenging with a low level of confidence in the long term. Nevertheless, to ignore this method, as well as other methods of the bank evaluation used in international practice, it would be incorrect.

In practice of bank analysis is also often used The Book Value Model for valuation of shares. The Book Value Model received wide spread in Western countries because it is quite simple and easy to assess banks involved in mergers and acquisitions.

According The Book Value Model, the value of the bank's shares is equal to the cost of equity as reported in the bank's balance sheet divided by the number of outstanding shares. The shareholders of the acquiring bank pays the bank's-target shareholders a certain amount in the form of premium (bonuses) for the merger as compensation for taking part in the transaction. Premium for the merger (premium to book value) equates the price per share offered to shareholders of the bank -target (MPt), and the carrying amount of the bank's-target shares (BVt):

$$Premium\ to\ Book\ Value = (MP_t - BV_t) / BV_t * 100\% \quad (9)$$

In order to use The Book Value Model in the evaluation of the bank, it is necessary, firstly, to calculate an average premium of the merger, as proposed at the recent deal, which involved banks with similar parameters, and, secondly, to extrapolate the results on the considered bank-target merger.

Thus, we define the merger price (Pbv) as:

$$P_{bv} = [MP_t / BV_t]_{avg} * BV_t \quad (10)$$

The conditions of merger transaction also considered from the point of view of shares exchange rate setting or exchange ratio (e) that determines the number of shares of the bank-buyer, which will receive the bank's-target shareholders for each of their share:

$$e = P_{bv} / MP_a = BV_t * (1 + Premium\ to\ BV / MP_a) \quad (11)$$

where MP_a - the market price per share of bank-buyer.

The evaluation procedure using The Book Value Model has several disadvantages. Despite the multitude of regulatory requirements on the part of supervisory authorities, as well as the requirements of the rules of accounting and reporting applicable to credit institutions, it is very difficult to determine how much of the balance sheet profit, for example, is lost as a result of changes in market interest rates, fluctuations in profitability on the securities market, national exchange rates against foreign currency, provide financial result on pending transactions. Therefore, the most obvious is that The Book Value Model ignores the real value of bank assets, and completely ignores the risks.

Since we have determined that the book value deviation of the banking capital of its real economic value quite significantly, it would be appropriate to determine the adjusted book value of the bank-target merger, in order to determine the true value of the deviation.

Adjusted book value may be obtained by adding and subtracting from the base value of following factors: the change in the provision for possible loan losses, changes in the market value of the investment portfolio, the change in the evaluation of other assets, the value of off-balance sheet operations of the bank, the cost of core deposits. Using the adjusted book value of the bank under The Book Value model in the ukrainian context, in our view, has a number of advantages over the valuation of The Return on Investment Model. Firstly, the balance sheet valuation of a clear and their calculation is much simpler than the procedure for determining the value of the bank based on discounted cash

flows within The Return on Investment Model. Secondly, the balance sheet estimation of cost of stable market prices and do not depend on changes in the stock market.

The financial success of a merger or acquisition largely depends on the amount of net income declared by banks for the foreseeable future (10 years). Most bank mergers and acquisitions have a negative short-term effect of declining profitability per share that the bank-buyer pays the shareholders of bank-target too high a premium for the merger, resulting in an earnings per share dilution effect (EPS dilution effect).

Modeling of concrete situations allows to conclude that the value of earnings per share depends on changes in the four main factors:

- premiums for the merger paid to shareholders of the bank-target;
- relative value of income of banks involved in the merger;
- relative growth rates of banks - participants of the transaction;
- presence or absence of synergy effect. [4]

4. Conclusions

Arguably, the initial dilution of income, depending primarily on the value of the premiums for the merger, overcome by a more rapid EPS growth after the merger of banks. Mergers and acquisitions in the banking sector is generated by international practice effective method of selection of credit institutions adapted to generate a competitive market environment. There is a need to restructure the Ukrainian banking system, consolidation of banks and reduce the number of ineffective credit institutions poses the problem to research goals, motives and conditions for the successful consolidation of agreements and their widespread use in the practice of the Ukrainian banking business. Combining banking resources as a result of mergers and acquisitions create a number of advantages that allow the merged bank to get some economic benefit.

Implementation of these positive effects leads, ultimately, to increase the net income of the bank and the value of its shares. Proper assessment of the value of the

merger or acquisition is one of the most important conditions for successful operations of this kind.

It allows partner banks to make informed decisions about the desirability of combining with other banks and about the conditions of future agreements. The analysis indicates a preference for use in the Ukrainian conditions The Book Value Model to estimate the value of the bank under merger or acquisition. The use of The Return on Investment Model based on the method of discounted cash flow (DCF) that why we have difficulties due to the weak development of the bank shares market and the complexity of determining the discount rate

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