

# Review of Managerial Overconfidence and Corporate Acquisition Goodwill Impairment Research

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## Abstract

In recent years, the large amount of goodwill impairment caused by high-priced mergers and acquisitions has also aroused widespread discussion. Why do companies purchase at a high premium? What effect does a high premium have on the impairment of goodwill? With the development of behavioral finance, this article uses the perspective of overconfidence in this theory, and answers the above two questions by reviewing the domestic and foreign literature. We find that the overconfidence in management tends to form the overpayment in corporate acquisitions, and the overpayment is more likely to lead to the goodwill impairment. At last, this article also proposes future research directions and I hope it can provide theoretical references for future related research.

## Keywords

Managerial Overconfidence, M & A Activities, Goodwill Impairment, M & A Premiums

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## 1. Introduction

M & A activities have become more frequent in the domestic capital market, showing a trend of increasing scale and quantity. The value of global mergers and acquisitions reached \$3.5 trillion in 2017. It was the fourth year in a row that the trading level has exceeded \$3 trillion. High-premium mergers and acquisitions have also become a common phenomenon, leading to a continuous increase in the total amount of goodwill purchased. According to annual reports disclosure data statistics, the cumulative total of goodwill in Shanghai and Shenzhen stock markets has exceeded 1.3 trillion yuan until December 31 in

2017, accounting for 5.22% of these listed companies' net assets. Once M & A targets fail to fulfill performance commitments or expected future operations of M & A targets are not good, the accumulated high goodwill will be impaired. From 2014 to 2017, actual amount of goodwill impairment losses in the A-share market were 3.228 billion yuan, 7.766 billion yuan, 11.419 billion yuan, and 36.486 billion yuan, accounting for 0.13%, 0.31%, 0.42%, and 1.10% of the net profit in the same period. And it still has an increasing trend.

In general, on the one hand, the impairment of goodwill is like a life-saving sword that will always hang on the company's head. It will directly devour the company's operating profit and drag down its development. On the other hand, the impairment of goodwill has also become the "golden stone" for M & A decisions. If a company withdraws a large amount of goodwill impairment after an M & A has occurred, it proves that the M & A decision made by the company is inappropriate and this decision cannot bring excess profits and returns to the company.

So what factors will influence a company's M & A decision? And does a high M & A premium necessarily imply high goodwill impairment? In recent years, with the development of behavioral finance, studying corporate M & A decisions from the perspective of corporate managerial overconfidence has become a hotspot for scholars at home and abroad. The reason is that the bounded rationality theory represented by managerial overconfidence is closer to reality. Because in the investment decision-making process, managers do not fully follow the rational "economic man" assumption, and their psychological deviations, such as overconfidence, will directly affect strategic choices and implementation traditions of the company. More and more scholars in China have applied managerial overconfidence to the research of Chinese M & A.

This article summarizes and reviews two aspects of researches, which are managerial overconfidence and M & A activities, goodwill impairment and M & A premiums. This dynamically links the chains before and after M & A. That means that the managerial overconfidence affects M & A decisions, and high merger and acquisition premiums resulting from M & A decisions are prone to lead to goodwill impairment.

## **2. Literature Review**

### **2.1. Managerial Overconfidence and M & A Activities**

Foreign scholars conduct pioneering exploration of the economic consequences of manager's overconfidence earlier and reach more mature conclusions. The research focuses on three major decisions that are closely related to corporate development: M & A decisions (external expansion), investment decisions (internal expansion), and financing decisions. The iconic research result on M & A is the "Hubris Hypothesis" which is first proposed by Roll (1986). It believes that executives of the acquirer often presumptuously presume that their valuation is correct, resulting in overestimation of M & A income. The paid purchase pre-

mium (the difference between the M & A price and the market price of the target company before the announcement) is actually higher than the economic added value which is generated by the direct combination of real companies. In fact, the potential synergies may not exist at all or are much lower than expected [1]. The conclusions obtained by Hayward and Hambrick (1997) also support Roll's view. They think that excessively confident managers will underestimate the difficulties of integration after mergers and acquisitions. In that case, these managers may be too confident in estimating the development prospect of the merged company and pay too much money, which result in a decline of the final M & A performance [2]. Malmendier and Tate (2005) study the relationship between managerial overconfidence and mergers and acquisitions. They assume that there are only two types of CEOs: one is a rational, that is, no overconfident CEO; the other is an overconfident CEO. The differences between the two are mainly reflected in two aspects: First, overconfident managers will overestimate potential synergies. They believe that their leadership ability is better than the average, and they have "illusions of control", which makes them underestimate the risks of mergers and acquisitions, leading to overestimation of synergies; Second, an overconfident CEO mistakenly believes that the market value of the company has not been properly evaluated, which causes the CEO to overestimate the company's potential future profits [3]. Brown and Sarma (2007) use an empirical study of Australian and American companies and find that managerial overconfidence is positively correlated with M & A behavior choices. This conclusion is completely robust in two different financial and corporate governance systems [4]. Malmendier and Tate (2008) have further pushed the research on overconfidence and corporate mergers and acquisitions to a higher level, which mainly manifest in the choice of indicators of overconfidence substitution variables. They use the manager's response to stock options and the media's evaluation of managers. The research results find that overconfident managers are more inclined to corporate mergers and acquisitions, which is more than 65% compared with rational managers, and when corporate funds are abundant and undertaking diversified mergers and acquisitions, overconfident managers are more inclined to corporate mergers and acquisitions [5].

Domestic researches on whether irrational deviations of managers affect corporate mergers and acquisitions decisions start relatively late and the number of studies is relatively small. Except for scholars Jiang Fuxiu *et al.* (2009) who believe that manager's overconfidence is not significantly positively related to mergers and acquisitions [6], most scholars have basically reached the same conclusion based on different measures of overconfidence, that is, they believe that managerial overconfidence will have an impact on corporate M & A activities. Earlier Hao Ying *et al.* (2005) use the proportion of changes in the number of shares held by managers to judge whether managers are overconfident. They empirically conclude that managerial overconfidence is significantly positively related to corporate M & A decisions [7]. Fu Qiang and Fang Wenjun (2008) use the industry's business climate index published by the National Bureau of Statis-

tics to measure whether managers are overconfident, and select A-share companies listed on the Shanghai Stock Exchange between 2003 and 2006 as a sample. They find that there is a significant positive correlation between managerial overconfidence and corporate M & A decisions, but this kind of corporate prosperity index released by the National Bureau of Statistics is only made for a certain industry and is not suitable for judging the overconfidence of individual corporate managers [8]. Lei Hui and Wu Chan (2010) use the percentage change in the number of shares held by managers during their tenure as an indicator to judge whether management is overconfident, and select listed companies in Shanghai and Shenzhen between 2005 and 2007 as a research sample. They get the same conclusion as Fu Qiang and Fang Wenjun [9]. Shi Yongdong and Zhu Guangyin (2010) use managers' relative compensation indicators to measure managerial overconfidence, and take listed companies in Shanghai and Shenzhen from 2006 to 2008 as the research sample. It is found that managers' overconfidence is an important driving force and reason for corporate M & A behaviors. Also there is a significant positive correlation between corporate M & A decisions and managerial overconfidence, and M & A behaviors implemented by overconfident companies are about 20% higher than those of non-overconfident companies. However there is no significant correlation between internal governance structures and corporate M & A decisions [10]. Xie Linghong *et al.* (2012) use the number of mergers and acquisitions to measure whether managers are overconfident, and conclude that managers are generally overconfident in the wave of mergers and acquisitions [11]. Li Jia (2016) use the principal component analysis method to construct a comprehensive measure of managerial overconfidence, and examine the relationship between managerial overconfidence and corporate M & A decisions in China's capital market from 2010 to 2013. The result also shows a significant positive correlation between managerial overconfidence and corporate M & A decisions [12].

At present, there is not much research on the impact of managerial overconfidence on M & A premium, mainly from foreign scholars, while few domestic scholars have studied the relationship between the two. Foreign scholars started earlier, and their conclusions tend to be consistent. They believed that overconfident managers tend to pay a higher premium in M & A activities. Roll (1986) find that overconfident managers will overestimate the synergies of mergers and acquisitions through literature review and indirect proof methods, thereby paying high M & A premiums. As a result, these kinds of M & A activity will not increase the acquirer's wealth but will cause value loss [1]. Hayward and Hambrick (1997) conduct a factor analysis of three variables of CEO evaluation from the mainstream media, CEO relative compensation, and the company's current performance to find new variables. It is found that conceited management's M & A payments are positively correlated with premium scale. And the loss of shareholder wealth is positively correlated with the level of managerial overconfidence [2]. Hietala, Kaplan, and Robinson (2003) also reach similar conclusions. There is a correlation between managerial overconfidence and the overpayment, but

there is no correlation between agency issues and M & A premiums [13]. Mal-mendier and Tate (2005) explore the top 500 CEO investment decisions of Forbes. It shows that over confident managers overestimate the return on investment projects and will pay more cash flow for investment projects, so that they will pay a higher level of premium in M & A bids [3]. Aida Smaoui (2010) studies M & A behavior in France from 1999 to 2007 and find that conceited CEOs tend to acquire at a higher acquisition premium [14].

## 2.2. Goodwill Impairment and M & A Premiums

The impairment of goodwill is accompanied by the merger and acquisition of enterprises. It refers to the related impairment loss recognized by the enterprise after the good will acquired from M & A is tested for impairment. As a special asset, goodwill cannot bring future benefits to the company independently of other assets or asset groups. Therefore, the recoverable amount of goodwill cannot be separately confirmed. It must be combined with other assets or asset groups when performing impairment tests. For the research on the impairment of goodwill itself, the current scholars mainly focus on the motivation and economic consequences of the impairment of goodwill, and there are relatively few studies on merger and acquisition activities, mainly on the relationship between merger premium and goodwill impairment.

Some scholars believe that the higher the M & A premium paid during M & A transactions, the greater the risk of goodwill impairment. Sirower (2001) points out that the M & A consideration has an important impact on whether or not the expected results can be achieved after the completion of the merger. The probability of maintaining high operating performance after the merger declines with the increase of the M & A premium. Once the company's operating performance cannot achieve the expected results after the merger, the risk of goodwill impairment will increase [15]. Hayn and Hughes (2006) study the predictability of goodwill impairment, and believe that the characteristics of the merger and acquisition at that time (acquisition premium, merger costs, payment methods, etc.) have an explanatory power for goodwill impairment in the future. The research finds that the acquirer's excessive payment has a positive correlation with impairment losses [16]. Gu and Lev (2011) believe that the loss of goodwill is due to the unwise consequences of acquisitions made by companies whose share prices are overvalued at the time of the original transaction, and that it is a potential overpayment, which may lead to possible impairment of goodwill in the future [17]. Maria Elena Olante (2013) believes that the overpayment index at the time of merger and acquisition can predict the impairment of goodwill to a certain extent. He uses two different methods when defining the premium index: one is the difference between the corporate value of the target company and the market value of the target asset, and the other is the part where the purchase price of the purchaser is significantly higher than the book value of the purchased asset, that is, the book value premium. The study finds that the book value premium combined with other overpayment indicators (number of

bidders, payment methods, geographic location of the acquirer, interbank M & A, etc.) can predict goodwill impairment at a level of 40% [18]. Domestic scholars Chen Min and Huang Bin (2015) point out that if over-pricing is paid during mergers and acquisitions, which results in a higher premium and the excessive goodwill, there will be a risk of impairment later. It adversely affects the company's long-term operating performance [19].

### **3. Summary**

The review of the related research literature above has important practical significance. However, we also find that although there is a wealth of research at home and abroad, involving many aspects of managerial overconfidence and goodwill impairment, a systematic and complete theoretical and empirical research system has not yet been established. In this regard, this article raises some of the current research deficiencies and possible future research directions.

#### **3.1. Research Significance**

The literature review of this paper starts from the individual characteristic of managerial overconfidence, which breaks the traditional rational man hypothesis. It finds that overconfidence behavior will make so bad M & A decisions that lead to a large amount of M & A goodwill impairment in the later period.

From the company level, this conclusion above provides guidance and experience for the selection, supervision and training of managers in the daily operation process of enterprises. It also strengthens the attention to the psychological state of managers to alleviate the lack of managers' own understanding, which is conducive to the real realization of the company's value.

From the view of report users, this conclusion above is also an important reminder. Statement users should learn to identify effective and ineffective mergers and acquisitions. It is blind to follow the trend and think that high-priced mergers and acquisitions are good news for the market. They are supposed to make investment decisions more carefully and avoid investment losses caused by goodwill impairment risk to a certain extent.

#### **3.2. Deficiencies in Existing Research**

First, the introduction of behavioral finance theory and the use of overconfidence to explain the reasons for corporate mergers and acquisitions do have some explanatory power, but they are still not very persuasive. The reason is that there are many and complicated factors that affect corporate mergers and acquisitions. So it is a bit weak to reveal only from the perspectives of rationality and bounded rationality, which is also the main reason for different research results that have appeared over the years.

Second, at present, the relationship between managerial overconfidence and goodwill impairment is mostly reflected by the M & A premium as an intermediate variable. There is no direct theory or empirical test to verify whether the two are indeed causal or otherwise, which needs further research.

Third, the research on corporate mergers and acquisitions is mainly based on western theories and methods. It can be seen from the measurement of overconfidence in the review that the selection of indicators of overconfidence has an important impact on the research. In fact, there are multiple methods to measure overconfidence, but there is no set of overconfidence measurement methods that are more suitable for mergers and acquisitions in China.

### 3.3. Possible Future Research Directions

First, establish a systematic research on corporate mergers and acquisitions. There are many and complicated factors that affect corporate mergers and acquisitions, such as internal management and external macro environment, etc. The study of corporate mergers and acquisitions from the perspective of rational assumptions and bounded rational assumptions will inevitably result in deviations. Therefore, it is necessary to use multidisciplinary theories and methods to conduct systematic research on corporate mergers and acquisitions.

Second, improve the overconfidence index measurement method. Although some scholars have used different indicators to measure the indicator of overconfidence, they have not formed a more mature method, and these methods are used in the context of western developed countries. Therefore, it is an important issue to explore the method of measuring overconfidence in China's context.

### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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