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The positive impact of corporate mergers on consumer welfare: from the perspective of corporate R&D investment

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Abstract:

Enterprise mergers are essential for the development and growth of enterprises, and they are also an important mechanism for the market economy to improve the overall efficiency of the market through the survival of the fittest. Compared to gradually growing a company through internal accumulation, merging with other companies can achieve various goals such as scale expansion, business expansion, and financial optimization faster in a short period. Although business mergers are spontaneous actions of enterprises, the merger of enterprises, especially large enterprises, affects their performance and consumer welfare. To better study the potential impact of corporate mergers, this article combines traditional and modern merger theories to investigate the positive effects of corporate mergers on product prices, corporate innovation, and overall consumer welfare. The impact channels of Chinese-listed company mergers on their R&D expenses are evaluated empirically. Through empirical and theoretical analysis, this article proves that business mergers can improve efficiency, innovation, and consumer benefits by increasing research and development expenditures.

Keywords: Firm merger; Consumer welfare; R&D expenditures.

1. Introduction

Corporate mergers and acquisitions, as one of the critical strategies for the development and growth of enterprises, are not only an essential way for enterprises to surpass themselves but also an effective mechanism for improving the overall efficiency of the market economy through the law of survival of the fittest. Compared to enterprises that rely on internal accumulation for slow growth, by merging with other companies, enterprises can quickly achieve multiple goals of scale expansion, business expansion, and financial structure optimization, thereby gaining an advantage in fierce market competition. Enterprise mergers can be divided into various categories, including horizontal, vertical, product extension, corporate group, and market expansion. Horizontal merger refers to enterprises that produce and sell the same or similar products, operate identical businesses, and provide the same services. Vertical merger mainly refers to the merger of enterprises whose products or services are produced and supplied with inherent connections. Product extension merger refers to a company entering a market area that is related to but different from its existing products. Enterprise grouping refers to forming enterprise groups through equity relationships among multiple enterprises, achieving resource sharing and complementary advantages. Market expansion and merger refer to enterprises entering new market regions through mergers and acquisitions to attain regional expansion. As an essential phenomenon in the market economy, corporate mergers and acquisitions have diverse types, clear objectives, and significant effects. Different mergers and acquisitions can help companies achieve rapid development and transformation, promoting the market economy toward a higher level.

Corporate mergers, as autonomous decision-making behaviors of enterprises, especially mergers with large enterprises, have an impact far beyond improving their performance and more deeply touch on multiple dimensions of consumer welfare. Taking horizontal mergers and acquisitions as an example, this strategy not only pursues economies of scale and synergies but also quietly changes the market competition pattern. On the one hand, horizontal mergers and acquisitions have achieved significant improvements in operational efficiency and effective cost savings by integrating the resources and capabilities of large enterprises. This synergistic effect not only enhances the market competitiveness of enterprises but also brings more significant economies of scale advantages to enterprises, which helps promote the optimization and upgrading of the entire industry. However, mergers between large enterprises also bring hidden concerns about reduced market competition. With the increased market concentration, the merged enterprise may have stronger market control, enhancing its pricing power. Without effective regulation, the enhancement of pricing power may lead to an increase in product prices, ultimately harming the overall welfare of consumers.

One of the core objectives of this article is to explore how large company mergers can positively impact consumers. We have explicitly incorporated positive factors from traditional and modern merger theories, such as promoting technological innovation through mergers and acquisitions and improving product quality and diversity, all of which contribute to enhancing consumer purchasing experience and satisfaction. The second important objective of this article is to evaluate the channels through which mergers and acquisitions of Chinese-listed companies affect their research and development expenses. Through empirical and theoretical analysis, we have revealed how mergers and acquisitions can enhance operational efficiency and innovation capabilities by promoting increased R&D spending in enterprises. Enhancing this innovation capability helps companies launch more competitive products and services and brings more benefits to consumers in the long run, such as lower prices, higher quality, and more decadent choices. To comprehensively and deeply study the potential impact of corporate mergers, this article combines traditional and modern merger theories, focusing on the positive effects of corporate mergers on product prices, corporate innovation, and overall consumer welfare. Through empirical research methods, we have paid particular attention to merger and acquisition cases of Chinese listed companies and deeply analyzed the impact path of mergers and acquisitions on their research and development expenses. In summary, this article aims to reveal the complex impact mechanism of corporate mergers on product prices, corporate innovation, and consumer welfare through comprehensive and in-depth analysis. We hope to provide valuable reference and inspiration for policymakers, corporate management, and market participants through this research and jointly promote the healthy development of the market economy and the continuous improvement of consumer welfare.

2. Literature review

Consumer benefits from large firm mergers are a popular topic in theory and practice. Mergers can be classified into several types, each impacting consumers differently. In the case of horizontal mergers, when companies that produce similar products merge, the result may be a monopolistic product market and price discrimination, which negatively impacts consumer welfare (Vasconcelos, 2010; Williamson, 1968). In economic theory, horizontal mergers traditionally involve two firms that produce the same products or services. Raising prices due to a horizontal merger may adversely affect consumer welfare. As an example, when Kroger and Albertson (two major grocery firms) merge, they gain a share of the total market 13 percent, becoming the second largest grocery market in the country, resulting in higher prices (since they will be less motivated to compete on price) and fewer choices for consumers (Fox et al., 2023; Kwoka, 2014). There are, however, some disagreements between the traditional view that mergers might reduce consumer welfare. Dertwinkel-Kalt and Wey (2016), Focarelli and Panetta (2003), and Hollenbeck (2020) suggest that mergers may improve efficiency in the long run, such as reduced management costs and increased research and development expenses, which ultimately benefit consumers.

There are several ways that consumer welfare may be affected in varying degrees by a merger between two large firms. As summarized in Table 1, the acquisition of ExxonMobil by Exxon demonstrates that horizontal mergers frequently reduce competition and increase prices. In contrast, vertical mergers, such as AT&T and Time Warner, can reduce management costs, improve production efficiency, and improve product quality. PepsiCo and Frito-Lay, for instance, are examples of product-extension mergers that increase product variety and innovation.

Table 1: The Types of Mergers and Their Effects on Consumers

Type of Merger	Impact on Consumers' Welfare	Real-world Examples	Brand before and after Mergers
Horizontal Merger (Weinberg,2008): mergers between firms producing similar products	(1) Usually results in a reduction in competition and therefore a higher price for the product (2) There may be fewer options available to consumers	In the energy sector, the merger of Exxon and Mobil enhanced ExxonMobil's market share. The merger resulted in a 5-10% in- crease in gasoline prices, however (Bald win, 2023).	

Vertical Merger (Church and Gandal,2000): The merger of two or more firms in different production segments or supply chains	(1) Reduce management costs and improve production efficiency (2) Better product quality (3) Combined firms may control the input market, resulting in a monopoly and long-term dead weight loss in consumer welfare.	A merger between AT&T (telecom firm) and Time Warner (cable firm) is aimed at streamlining content creation and distribution, potentially lowering consumer costs by eliminating intermediaries and leveraging economies of scale. (Carlton et al., 2022).	
Product-Extension Merger (Colwell, 1969): Mergers between firms in different segments of the industry or supply chains	(1) Boost innovation by pooling R&D resources. (2) Customers will ultimately benefit from the development of new products and technologies.	Upon the merger of PepsiCo and Frito-Lay (both leading food companies), new food and beverage combinations will be developed, providing consumers with a greater choice of products. Following the merger, sales increased by 15% (Punjabi, 2015).	
Conglomerate Merger (Scott, 1977): mergers involve companies from different industries.	(1) A possible reduction in product prices and a greater variety of products. (2) It results in the diversification of business risks and the steady production.	As a result of the merger between Disney (the entertainment industry) and American Broadcasting Company (the media industry), a comprehensive network of content distribution was created. In this manner, Disney was able to bundle its content across a variety of media channels, increasing the choice available to consumers. (Gershon, 2013).	
Market-Extension Merger (Gilbert, 1975): Expansion of the international market through international direct investment	(1) Market penetration and product availability have increased. (2) Low production costs and multiple international input sources have resulted in a reduced price	Through the merger of T-Mobile and Orange (leading telecom companies), T-Mobile's international market reach was expanded, as was the availability of services, and mobile service costs were lowered and internet speed increased (Buccirossi et al., 2020).	

Another type of merger is a conglomerate merger, which combines vertical and product-extension mergers. Vertical mergers, in which a corporation merges with a supplier or distributor, can result in lower operating costs and simplify management, thereby resulting in lower consumer prices; according to Figure 1, there has been a significant drop in product prices following a merger of two firms around ten months after the merger. (Bhattacharya et al., 2023; Kwoka, 2014). Among the examples of conglomerate mergers are Disney and ABC, which diversify risk for companies and expand their markets at the same time. The merger of companies extending the market, such as T-Mobile and Orange, increased service availability and lower costs. Overall, these mergers provide both benefits and challenges to consumers. Overall, mergers can benefit consumers in several ways. As a result, they can provide a wider variety of products, enhance the quality of service, and offer lower prices. Moreover, mergers can result in new products and expanded markets, ultimately providing consumers with more choices and better products.

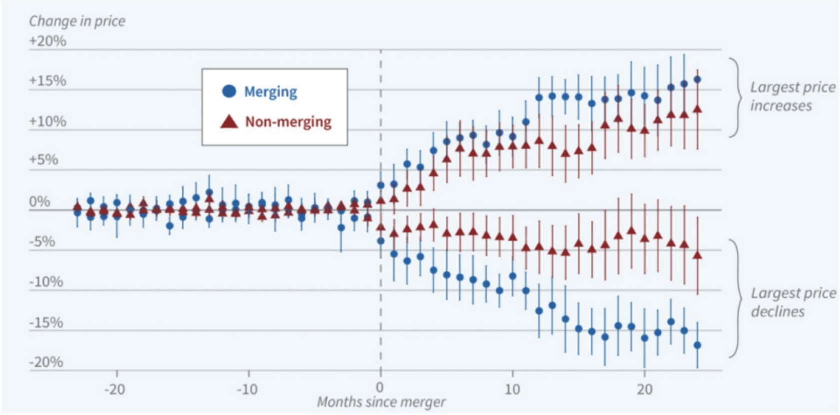

Figure 1: Mean Price Change of Merging and Non-merging Retailers (Source: Bhattacharya et al., 2023)

3. Empirical Evidence from Mergers of Chinese-Listed Firms

From the perspective of product and service prices, the impact of horizontal and vertical mergers of enterprises is not the same, and it may not be apparent to judge the impact of enterprise mergers on consumer welfare solely from the perspective of prices. To better assess the impact of corporate mergers on consumer welfare, this article provides a more detailed analysis from the perspective of research and development investment.

Generally speaking, companies with high R&D investment can produce products or provide services that increase consumers' convenience and improve their welfare. However, the results of R&D investment often require a long period to bring benefits to the enterprise, and the knowledge level challenges and the risk of product market effects inhibit the enterprise's investment in R&D innovation. As a mode of external resource import for enterprises, business mergers enable new enterprises to improve their technological level and enhance their innovation capabilities by acquiring the merged enterprises' knowledge, patents, and talents, thus making them more motivated to invest in research and development. At the same time, the merging of two big companies can result in the merged firm having more resources for research and development (R&D), which may result in the creation of new products and benefits for consumers.

Based on the above analysis, this article uses the panel dataset extracted from the China Stock Market and Accounting Research (CSMAR) database to investigate the relevant mechanisms. Specifically, this article uses data from Chinese listed companies from 2007 to 2022 and employs time and individual fixed effects models to study the impact of corporate mergers on R&D expenditures. The specific model is as follows:

$$\ln(\text{R\&D Exp})_{i,t} = \beta \times \text{Merger}_{i,t} + \lambda_i + \phi_t + \epsilon_{i,t} \qquad (1)$$

Where Mergeri,t equals 1 if a merger exists and 0 otherwise, for firm i in year t. λi are a set of firm fixed effects that control for time-invariant shocs such as firm locations. ϕt are yearly fixed effects that absorb time-variant shocks common to all firms, such as interest rates and some universal policies. β represents the estimated coefficient of interest capturing the effect of mergers on R&D expenditures.

Table 2 shows the results of the regression. The first column shows the regression results using dummy variables without controlling for fixed effects. The second column shows the regression results with individual control of company-fixed effects. In contrast, the third column shows the results of regression with both company-fixed effects and time-fixed effects, which are also the most reliable results. The regression results show that the coefficient of a column of dummy variables is 0.531, which is significant at the 1% significance level. The regression coefficient of the dummy variable in the second column is 1.057, which is significant at the 1% level. The coefficient in column (3) is 0.331, which is also significant at the 1% level. Whether fixed effects are controlled or not, regression analysis results indicate that business mergers will increase research and development expenditures, thereby providing consumers with higher-quality products and improving their welfare. Based on the consistent results of the three regressions, merging may stimulate innovation and improve product selection in the market.

Table 2 Mergers and Impact on Research and Development (R&D) Expenditure

Variables	(1)	(2)	(3)
	R&D Exp	R&D Exp	R&D Exp
Merger Indicator	0.531***	1.057***	0.311***
	(0.047)	(0.035)	(0.036)
Constant	17.229***	17.148***	17.278***
	(0.032)	(0.006)	(0.006)
Observations	17804	17804	17804
R-squared	0.014	0.737	0.286
Firm Fixed Effects	No	Yes	Yes
Yearly Fixed Effects	No	No	Yes

Note: Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

4. Conclusion

In global economic integration, mergers and acquisitions (M&A) activities between large enterprises are becoming increasingly frequent, a significant force in promoting industrial upgrading, market integration, and economic development. As the world's second-largest economy, the merger and acquisition activities of listed companies in China affect the domestic market competition pattern and have a profound impact on the interests of consumers. This article focuses on the impact of mergers and acquisitions of large enterprises on consumers. Taking Chinese listed companies as an example, from the perspective of research and development expenditure, it analyzes the mechanism by which mergers and acquisitions enhance innovation capabilities, develop new products and services, and thus positively impact consumer welfare. Moreover, it is concluded that effective R&D investment can significantly improve consumer satisfaction and welfare levels and promote industrial and consumption upgrading. Although mergers between large enterprises have positive impacts, their potential risks cannot be ignored. While promoting merger and acquisition activities, the government must protect consumer rights and interests. By strengthening anti-monopoly supervision, promoting fair competition, encouraging innovation investment, and strengthening consumer rights protection measures, the government can ensure that merger and acquisition activities can genuinely benefit the vast number of consumers and promote the sustainable and healthy development of the economy and society.

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