The Quarterly Review of Economics and Finance 58 (2015) 143–153

Contents lists available at ScienceDirect

The Quarterly Review of Economics and Finance

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

The performances of acquired firms in the steel industry: Do financial institutions cause bubbles?

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ARTICLE INFO

Article history:
Received 2 April 2014
Received in revised form
30 November 2014
Accepted 9 March 2015
Available online 20 March 2015

JEL classification:
G34
L25
L61

Keywords:
Acquisitions
Financial institutions
Operating performance
Steel industry

ABSTRACT

This study investigates the impact of acquisitions on the steelmaker's performances including PER and technical efficiency in the world steel industry over the period 1992–2011. The study classifies the acquiring firms into two types, steelmakers and financial institutions, to capture the differences of the effect of acquisitions depending on the type of acquirers. In this context, the study examines whether acquisitions by financial institutions result in bubbles in the steel industry. Empirical results demonstrate that steelmakers acquired by financial institutions have achieved relatively poor or insignificant operating performances, although there is a statistically significant increase of PER.

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1. Introduction

This study is aimed at investigating the impact of acquisitions on the target firms' economic gains in the global steel industry. It will be viewed by examining acquired and non-acquired steelmakers' operating performances over time in the long run.

In today's globalized economy, mergers and acquisitions (henceforth, "M&A") have played a defining role for improving a firm's competitiveness, a trait critical to the success of firms and their managers. Many firms find that the best way to get ahead is to expand ownership boundaries through M&A (Dash, 2010). Plenty of theories have suggested reasons why firms should pursue M&A. In general, the most common reasons used to justify mergers or acquisitions include claims of market power, efficiency, synergies (operation, financial, and managerial synergies), diversification, and globalization (Moeller & Brady, 2007; Petitt & Ferris, 2013, etc.).

In the steel industry, horizontal integrations between steelmakers have been actively witnessed over the past decades, leading to additional production capacity, efficiency and globalization. Fig. 1 shows the trend of M&A of global steel industry (classified by SIC code 3312; steel works, blast furnaces, and rolling mills). The number and value of consolidations between steelmakers rose sharply until the beginning of world financial crisis in 2008 and has decreased since 2009. The most important integration between steelmakers was Mittal's acquisition of Arcelor in 2006, creating the world's largest steelmaker, ArcelorMittal. Other big consolidations followed such that India's Tata Steel purchased Corus, Europe's second largest steelmaker in 2007. A landmark deal of 2012 was the merger of Japan's largest steelmaker Nippon Steel Corporation with Sumitomo Metal Industries to create the world's second largest steelmaker, Nippon Steel & Sumitomo Metal Corporation. Thanks to these consolidations, steelmakers have increased their share in the world steel production. Table A.1 in Appendix shows consolidated steelmakers rank from 1st to 3rd in the world production based on crude steel in 2012.

The remarkable growth in the global steel industry, particularly in China, was the main driver of mergers or acquisitions. The consumption of finished steel products in the world rose more than 8% a year in the five years prior to the global financial crisis in 2007. The annual growth rate of the consumption for steel products in China amounts to 18% during the same period. Steel production in

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http://dx.doi.org/10.1016/j.qref.2015.03.001
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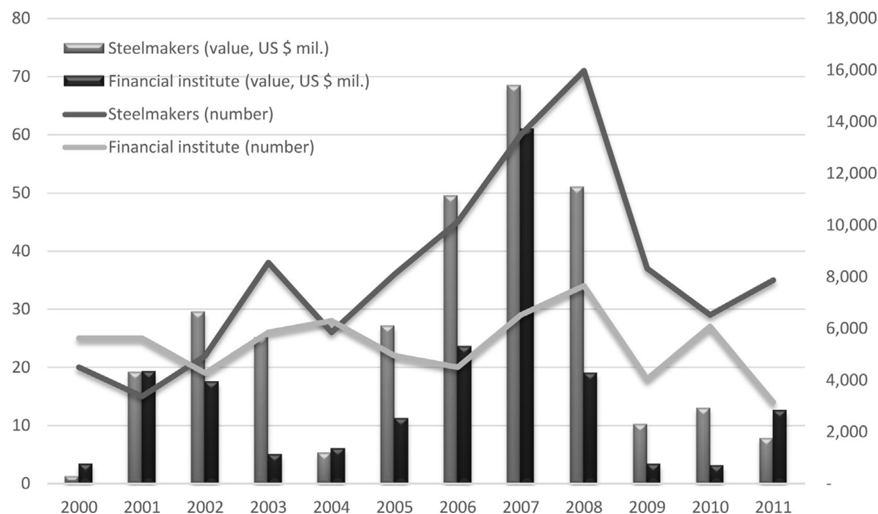

Fig. 1. Mergers and acquisitions in steel industry by steelmakers and financial institutes. This figure shows that the number and value of mergers and acquisitions in steel industry by steelmakers and financial institutes over world during 2000–2011. The unit of value on the right axis is U.S. million dollars. The data source is Thomson One Banker's dataset.

China has also expanded explosively to share 46% of world's crude steel production, and as many as 6 Chinese steelmakers occupy the seats of the top 10 places of 2012 as shown in Table A.1.

Because the steel industry is such a rapidly growing market, the mergers or acquisitions of steelmakers by non-steelmakers are also growing rapidly. Specifically, the financial sector, which has dominated global M&A markets in almost all industries, shares an important role as an acquirer in the steel industry. Fig. 1 shows that the number and value of M&A in the steel industry vertically merged or acquired by the financial institutions have similar trend with those by steelmakers.

In this context, this study examines whether acquisitions by financial institutions invite an economic bubble in the world steel industry. The financial crisis began in the August of 2007, and the world has experienced serious economic downturn. Even though, there are multiple causes of the financial crisis, it is undeniable that the financial sector triggered the financial crisis. Many people believe that those in senior management positions in banks and investment firms were largely to blame for not understanding the highly complex models devised by their quantitative analysis and for their inability to properly manage how and the degree to which those models became highly sought-after products in the market.[1] According to the poll results by YouGov/Economist survey, 66% of US adults believe that major banks and financial institutions are greatly responsible for causing the financial crisis of 2008.[2]

In general, an economic bubble can be described as a trade in products or assets with inflated values. It is extremely difficult to measure whether bubbles in the steel industry are a result of the acquisition activities of the financial sector. However, if the stock prices of steelmakers acquired by financial institutions rose rapidly without a corresponding improvement of the firms' operating performances or competitiveness after acquisitions, the validity of such values must be placed in doubt. Namely, the stock prices may have risen far above their actual value after acquisitions, indicating overvalued or inflated prices.

A popular measure of equity value in regards to stock prices and operating performances is the PER (price-earnings ratio), which is defined as the price paid for a share relative to the annual earnings per share. The PER can indicate whether a share is undervalued or overvalued, and consequently, help identify a speculative bubble. In general, a high PER reflects the investor's anticipation of a higher growth in earnings compared to that of companies with a lower PER. However, if the expected growth in earnings per share does not eventuate, a stock bubble can quickly collapse. In the case of the steel industry, steelmakers have experienced a credit crunch, an economic downturn, and the collapse of consumer confidence at the onset of the financial bubble burst, which caused a dramatic turn for the worse with rapid demand falling, prices plummeting, and production slashing. For example, ArcelorMittal, the world's largest steel company, has cut steel production from between 30% and 50% for its various products from the last quarter of 2008 until at least March 2009. The firm also faced a stock price reduction of almost 80% from June 2008 to March 2009. Other large steelmakers have experienced similar difficulties. In the sample of this study, the change of PER for acquired steelmakers also demonstrates the possibility of an overvalued stock market in the steel industry. The PER for acquired steelmakers, which was 9.1 on average in 2004, increased rapidly to 50.4 in 2007 before the financial crisis, and then plummeted to 15.2 in 2009.

To capture the possibility of inflated stock prices in the steel industry after acquisitions, this study compares the impact of acquisitions on the PERs of acquired steelmakers by the financial institution and by the steelmaker. Furthermore, it examines the effects of acquisition activities on the steelmaker's operating performances such as profits and efficiencies. That is, there appear to be significantly different objectives between acquisitions of steelmakers by steelmakers and those by financial institutions. If the PERs in steelmakers acquired by financial institutions gain a statistically significant amount from acquisitions, while their operating performances and efficiencies are relatively poor or statistically insignificant, then it can be inferred that acquisition activities by financial institutes cause a speculated bubble in the steel industry.

In order to measure competitiveness, this study adopts the technical efficiencies that may increase from acquisitions. The increased efficiencies can flow from economies of scale to economies of scope that is possible in larger post-acquisition operations, with product rationalization, greater control over key inputs, and combined marketing/advertisement/distribution. These can also reduce overlapping research and development. On the other hand, various

[1] Ira Flatow, "Does Wall Street Need More Physicists?" *NPR: Talk of the Nation/Science Friday*, March 13, 2009.

[2] YouGov/Economist survey of 1000 US adults interviewed March 29–31, 2013.

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