

# Do Stakeholders Affect Pricing Strategies? : Pursuit of Multi-Market Contact Theory

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## Abstract

Previous research argues how and when Multi-Market Contacts facilitate collusion. These researches assume the firms take action to maximize their shareholder's profit. However, firms does not necessarily pursue their shareholder's profit. Some firms pursue other stakeholder, labor. In this paper, I examine a case in which the labor-oriented management proved detrimental and detail the mechanisms at work. My results suggest that the labor-oriented management, especially the firm that has low capacity to keep the employment of their labor may not facilitate collusion.

Keywords: product price, Multi-Market Contact, M&A, mature industry, collusion

## 1. Introduction

To keep product price high is one of the most important issue for managers. Multi-Market Contact (MMC) theory provide an answer to the problem. MMC theory argues that firms meeting rivals in more than one market will be able to keep product price high in one or all of those markets. When firms meet rivals in multi-market, the firms can retaliate for other firm's cheating effectively by attacking the market in which the retaliator has great competitive advantages and thereby firms can realize mutual forbearance.

While these research assume that the manager emphasize shareholder's interest and therefore pursue profit maximization, some research suggest that some managers emphasize labor's interest. Dore (2000) argues that Japanese firms give high priority

to maintaining labor force number than cash dividend, when firms face adverse environment like declining in demand. Thus, labor-oriented management differs from shareholder-oriented management. The difference in management behavior may leads to difference in collusive behavior through MMC. Then my research question is whether labor-oriented management facilitate keeping product price high or not through MMC.

To answer the question, this paper studies a case of cement industry in Japan. In 1993, *Onoda Cement Corporation* announced a plan to merge with *Chichibu Cement Corporation*. Although this merger increases the level of MMC, the announcement triggered a fierce price war in the next year. Therefore, investigating this case promote better understandings about the mechanisms that labor-oriented management produce price war under the condition of MMC.

This paper is organized as follows. The next section describes literature review and hypothesis. This is followed by a description of methodology and data in section 3. Section 4 contains case analysis and results. The discussion and conclusion are discussed in section 5.

## 2. Literature Review

Previous research on the effects of MMC has investigated the merit of MMC (Bernheim and Whinston, 1990; Evans and Kessides, 1994). MMC occurs when firms encounter the same competitor in multiple markets. When firms compete with each other in several markets, their competitive behavior may differ from that of single-contact competitors. MMC may result in the reduction of the competitive intensity among competitors, an outcome known as mutual forbearance (Edwards, 1955; Feinberg, 1985; Golden and Ma, 2003; Yuet al., 2009). When a firm that meets a competitor in multi-market is attacked some markets by the competitor, the firm can retaliate not only in the attacked markets, but also in other markets in which retaliator have competitive advantage. Therefore, as the level of MMC increases, threat of retaliation increases, and firms are less likely to act aggressively toward each other.

This kind of collusion can be realized at the mature period (McAFEE, 2002; Harrigan, 1988). Harrigan (1988) argue that one of the biggest problems in mature industry is redundant production capacity. If some firms have redundant capacity, these firms can produce a product with low marginal cost. If marginal cost is low, firms are likely to produce more products. If there are more products in the market, the product price go down unless the demand continues to outstrip supply. Thus to decrease product capacity is important to keep product price high and profitability. In spite of the importance of reducing production capacity, it is difficult for firms in mature industry to reduce their production capacity in a coordinated way when they compete in only one market. If a firm reduces their product capacity, the firm may lose source of cost advantage, scale merit. In that case, competitors may deviate from collusion and attack the firm. Thus when firms meet competitors only in one market, these firms face difficult situation to achieve avoid deviation.

However, it is easy for firms in mature industry to reduce production capacity in a coordinated way when they compete in several markets. When firms compete in several markets, even if firms reduce production capacity for a market, they can keep cost advantage in other markets. In that case, competitors cannot deviate from collusion easily, because threat of strong retaliation in other markets. Therefore, each firm can concentrates on a few markets which firm has great competitive advantage and reduces their product capacity for other market. Thereby, they can habitat isolation and improve their profitability.

### **Theoretical Framework and Hypothesis**

These researches implicitly assume that firms emphasize their shareholder's interest and thereby pursue profit maximization, because the MMC theory has been investigated mainly by economist. In some context, the assumption may have high validity. Yoshimori (1993) argue that most U.S. firms pursue their shareholder's profit. Shareholders profit by cash dividend and higher stock prices. Cash dividend and higher stock prices is caused by higher profit. Therefore, Shareholder's profit maximization and firm's profit maximization is almost much same. Thus the assumption has high validity in the U.S context.

However, not only shareholders but also labors provide essential resources to firms. Indeed some research suggests that some firms emphasize their labor's interest and therefore this type of firm's behavior differ from shareholder-oriented firm's behavior (Abegglen, 1986; Dore, 2000). More specifically, while shareholder-oriented firm may cut labor force number to reduce their cost easily, the labor-oriented firm may not cut labor force number even if the firm gets into low profitability.

This difference may leads to different collusive behavior. More specifically, previous research argues that the effect of MMC can be realized in the mature industry. The theory of MMC argues that there is two type of strategy to keep firm's profitability in the mature industry. First, firms reduce their product capacity each other in the each market to keep the level of MMCs. Second, each firm concentrate on a few markets in which these firms have competitive advantage and the other firms doesn't compete at all outside their own area. In each strategy, the firms must reduce their productive capacity and therefore must fire their labor. However, the labor-oriented firms which will not pursue shareholder's profit may not be able to fire their labor. Therefore, the labor-oriented firms may not realize mutual forbearance in the mature industry even if the firms understand the possibility of mutual forbearance. So my hypothesis is that in mature industry, the labor-oriented firms cannot keep their product price high even if the level of MMC becomes sufficient level.

### 3. Methodology

To identify how stakeholder's interest affects their decision making and product price, detailed research is needed. Japan provides appropriate context to examine the hypothesis. Yoshimori (1993) show that almost all Japanese firms emphasize their labor's interest, while nearly 90% of U.S firm emphasize their shareholder's interest. Thus Japanese context provide appropriate setting to examine the effect of the labor-oriented firm. This study employs a case study of Japan cement industry, a typical mature industry in Japan, during the period 1993-1994. The data on cement industry are mainly from *Cement nenkann*, which is the year book that contains information

about cement price, firm's product capacity, and demand in the Japanese cement industry. Annual reports and newspaper articles were used to confirm the firm's intent.

#### 4. Case: Merger which improve the level of MMC and price war in the cement industry

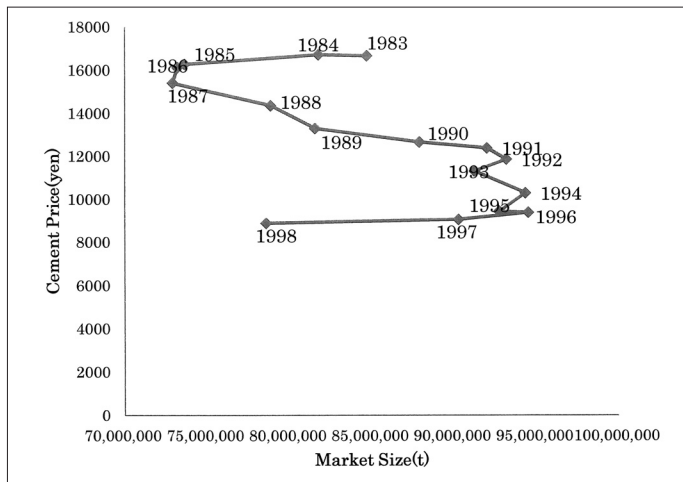


Figure 1 Market Size and Cement Price from 1983 to 1998

The Japanese cement industry had been experienced adverse circumstances that the cement price continuously went down. Figure 1 shows this cement industry's bad situation. Horizontal axis shows the Japanese cement market size from 1983 to 1998. Vertical axis shows the Japanese cement price from 1985 to 1998. This figure shows that Cement price in Japan continually go down even when market size is expanding.

To change the situation, Onoda Cement Corporation, which had second largest share in the Japanese cement industry, announced a merger with Chichibu Cement Corporation at November 1993, which had sixth largest share in the Japanese cement industry. This merger change the structure of Japanese cement industry. As

table 2 shows, Chichibu Onoda Cement Corporation, the merger firm, get top share in Japanese cements industry.

Table 2 Share in 1993 and 1994

Share in 1993				Share in 1994	
1. Nihon Cement Corp.	16%	}	→	1. Chichibu Onoda Cement Corp.	25%
2. Onoda Cement Corp.	15%			2. Nihon Cement Corp.	16%
3. Mitsubishi Material Corp.	13%			3. Mitsubishi Material Corp.	13%
4. Sumitomo Cement Corp.	13%			4. Sumitomo Cement Corp.	13%
5. Ube Industries Corp.	10%			5. Ube Industries Corp.	10%
6. Chichibu Cement Corp.	9%				

The intention of this merger is to make up a cement price and the merger actually make situation to facilitate tacit collusion through MMC. The figure 1 shows each firm's factory location. The left map shows the place of *Onoda Cement Corporation* and *Chichibu Cement Corporation's* factory. And Right map shows the place of *Nihon Cement Corporation's* factory.

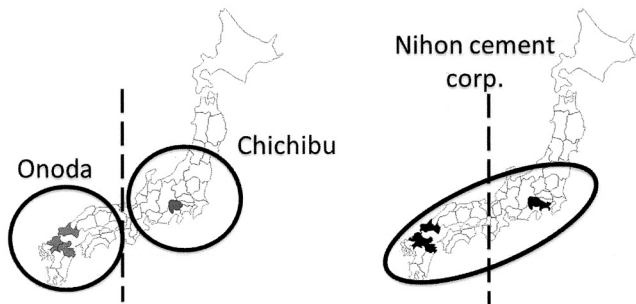


Figure 2 location of each firm's factory

This figure show the merger improve the MMC in the Japanese Cement Industry. Cement has a high ratio of distribution cost to total cost. Distribution cost influence

competitive advantages. Therefore, in cement industry, markets are likely to be divided by factory-centered area. From the point of this market view, before the merger, Onoda cement Corporation has high competitive advantages in the kyuusyu and cyugoku area and Chichibu Cement Corporation has high competitive advantages in thekanto area, while Nihon Cement Corporation has competitive advantages in both area. This means both *Onoda Cement Corporation* and *Chichibu Cement Corporation* can not realize the MMC with *Nihon Cement Corporation*. However, *Chichibu Onoda Cement Corporation* gets factory both area and thereby can realize MMC with *Nihon Cement Corporation*. This suggests that, as MacAfee argues, *Chichibu Onoda Cement* and *Nihon Cement Corporation* can reduce their production volume though closing down each factory. And the merger actually improved the level of MMC from 18.71 to 21.97.

Of course even if the merger realizes the situation that MMC facilitate tacit collusion, shared intention to collude is needed to accomplish the tacit collusion. As table 2 shows, almost all main competitors understood the intention. For example, Ube Kosan follows the merger firm's intent apparently. Thus, the merger facilitate product price high through MMC and the competitors understand the intention of the merger.

**Table 2: Main Player in the Japanese cement industry and their reaction to the merger**

Firm	Coment about the merge	Share at 1993
Nihon Cement Corporation	No coment	16.0%
Sumitomo Osaka Cement Corporation	expect to ease the competiton	17.7%
Mitshubishi Material	The merge is meaningful to ease the competiton	13.9%
Ube Ko-san	our strategic planning is based on higher price than now	11.5%
Chichibu Onoda Cement (merged firm)	I hope this merger contribute to higher price	24.0%

But *Nihon Cement Corporation*, which had largest share until the Onoda cement and Chichibu cement merged, attacked the merger firm. Figure 3 shows growth rate of product volume from 1993 to 1994. In the Japanese cement industry, Japan Cement Association announces supply and demand of cement every month. Therefore, Japanese cement companies can modify demand forecast and avoid over-

optimistic or pessimistic view on the market. Nevertheless, as figure 3 shows, Nihon Cement increase their product volume twice as much as competitors. This result suggests that Nihon Cement increase their product volume intentionally and attempt to increase the market share.

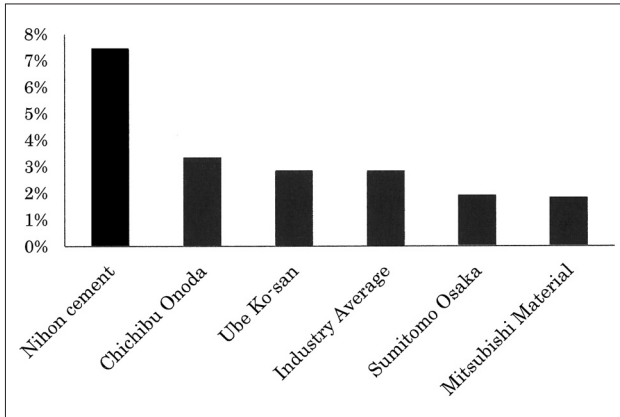


Figure 3: Growth Rate of product volume (1993 to 1994)

As the result, the cement prices dramatically went down in the next year (see figure 4). Thus, although the Japanese cement industry improved the level of MMC and thereby increased the potential to realize implicit collusion, the Japanese cement industry faced high competition.

Then why Nihon Cement Corporation is engaged in such a high competition. *Onoda Cement Corporation and Chichibu Cement Corporation's* merger bring about the situation that firms in the Japanese cement industry can collude tacitly through MMC easily. And the benefit of tacit collusion is large for *Nihon Cement Corporation*, the second largest firm in the industry. In contrast, the cost of price down is large for *Nihon Cement Corporation* because of its size. If *Nihon Cement Corporation* emphasizes shareholder's interest, *Nihon Cement Corporation* may want to collude to keep cement price high and thereby get higher profitability. In spite of such a cost and benefit of collusion and competition, why Nihon Cement Corporation produce the price war?



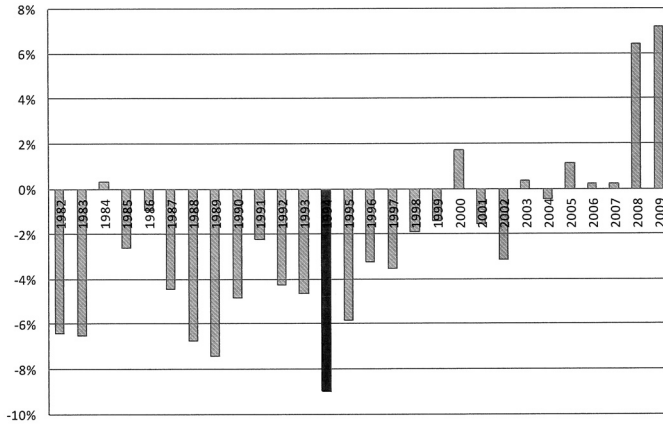


Figure 4: Cement Price Change Ratio (year on year)

As previous research shows, the shareholder-oriented firm and the labor-oriented firm conduct different behavior. That is, while shareholder-oriented firm may cut labor force number to reduce their cost easily, the labor-oriented firm may not cut their labor number, but attempt to absorb the redundant labor by transferring to a different department (Dore, 2000). This suggests that if the labor-oriented firm is undiversified and doesn't have growing divisions, the firm cannot reduce their production capacity and attack other firms to keep their production volume when the labor-oriented firm faces the declining demand. If this kind of reasoning is true, the *Nihon Cement Corporation* is the firm which is undiversified and doesn't have growing divisions. Figure 5 shows the level of each cement firm's diversification.

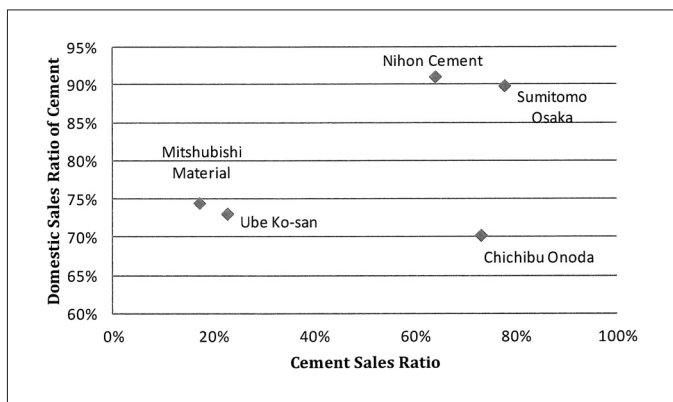
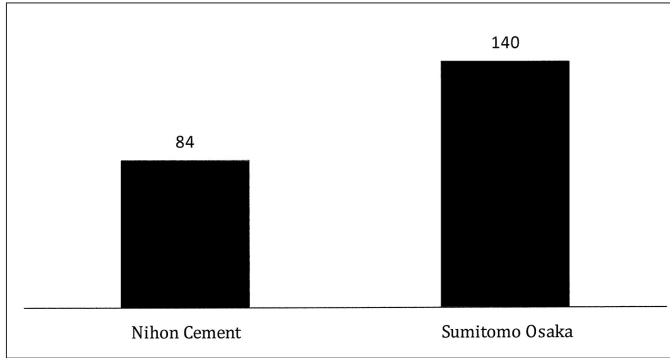


Figure 5: Diversification of Japanese Cement Firms

Horizontal axis shows the cement sales ratio which is cement division's sales divided by total sales. Vertical axis shows the domestic sales ratio of cement which is domestic sales volume of cement divided by total cement sales volume. Therefore, the firm which is plotted upper right is the undiversified firm and the firm which is plotted left lower is the diversified firm. Figure 5 suggest that *Nihon Cement Corporation* and *Sumitomo Osaka Corporation* is the most undiversified firm and therefore is under the most trying condition to absorb their redundant labor in the Japanese cement industry.

Then which firms is the lower growth rate firms? As discussed above, the lower growth rate firm faces difficult situation to redeploy of labor form Japanese cement division to foreign cement division and therefore. Figure 6 shows the growth rate of divisions which is except for domestic cement division. The value is calculated by multiplying the growth rate of cement sales volume in foreign country by the growth rate of divisions which is except for cement division.



**Figure 6: Growth rate**

Figure 6 suggest that the *Nihon Cement Corporation* experience low growth rate. Thus, *Nihon Cement Corporation* faces the most trying condition to absorb their redundant labor in the Japanese cement industry. This is consistent with my reasoning.

Thus, *Nihon Cement Corporation* is the most undiversified and lower growth rate firm in the Japanese cement industry. This leads to the situation that Nihon Cement Corporation has low capability to redeploy their labor force in Japanese cement division to other divisions. This low capability produce the need to keep production volume in Japanese cement market to keep labor force in Japanese cement division. This need prevent tacit collusion though MMC, because the collusion need to abandon the some factory. Consequently, *Nihon Cement* is engaged in the severe price war.

## 5. Conclusion

This paper discusses whether labor-oriented management facilitate keeping product price high or not through MMC. To answer the question, this paper investigates Japanese cement industry and the result suggests labor-oriented management do not facilitate keeping product price high through MMC in mature period. Firms that pursue their labor's interest may face difficult problem in absorbing redundant

labor force when the firm is undiversified and low growth firm. In such a situation, they may attack competitors to save their labor's interest and the behavior results in price war.

My results contribute to the literature that addresses the relationship between the level of MMC and product prices. Previous researches implicitly assume that firms pursue their shareholder's interest and therefore these overlook the existence of the labor-oriented firms. But, this paper focuses on it. My findings suggest that when firms want to collude, it is important whether competitors emphasize labor's interest or shareholder's interest. This paper introduces the view of stakeholder into MMC theory.

Although this paper makes such a contribution, this paper also has some limitations. This paper investigates only one case, the M&A and the competitors' reaction in Japanese cement industry. Therefore, the conclusion in this paper may not have applicability to other settings. That is to say, the argument may have some problems in external validity. So, in the future research, we should research this theme using large sample.

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