THE IMPACT OF A CROSS-BORDER CONGLOMERATE MERGER ON THE TARGET FIRM AND ITS RIVALS - A CASE STUDY OF FOXCONN'S ACQUISITION OF SHARP

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Abstract

This study explores how a cross-border conglomerate merger impacts the wealth of the acquiring firm and the target firm and its rivals, using the case of Foxconn's acquisition of Sharp. Sharp's rivals include domestic firms in the Japanese market and major rivals in the global market. Our results show that the announcement of this cross-border conglomerate merger leads to an increase in the shareholder wealth of Foxconn and Sharp. We also find that domestic rivals are impacted by this acquisition. By contrast, major rivals are not affected at all by this acquisition.

Keywords: *Conglomerate merger, Foxconn, Sharp, Shareholder wealth, Rivals*

1. INTRODUCTION

On April 2, 2016, Foxconn and Sharp officially entered an acquisition contract. Foxconn and Terry Gou[1] invested approximately 388.8 billion yen in Sharp to own 66 percent of Sharp's shareholdings. In Japan, this type of transaction, in which a well-known original brand manufacturer (OBM) is acquired by a foreign electronic manufacturing services (EMS), is very rare. There is a special ownership structure in a Japanese company, which typically has a main bank that is a large provider of debt financing (Morck et al., 2000). The main bank often is not only a creditor but also a shareholder. Main banks play an important role in corporate governance and have a powerful influence in corporate strategy (Morck and Nakamura, 1999). Foxconn was able to successfully acquire Sharp because main banks[2] supported this acquisition deal. This rare case provides us an opportunity to explore whether this conglomerate merger has affected the shareholder wealth of Foxconn and Sharp and its rivals.

Mergers and acquisitions continue to play an important role in business activities worldwide, and they have become an important business strategy to help improve organizational performance (Vazirani, 2015). Prior studies have investigated the impact of mergers and acquisitions on the wealth of the acquiring firm. Most results suggest that acquisitions harm the shareholder wealth of the acquiring firm (Campa and Hernando, 2004; Moeller et al. 2005; Chiu et al., 2016); on the other the hand, some results show that an acquisition deal can increase the shareholder wealth of the acquiring firm (Lubatkin, 1987; Andrade et al., 2001; Shahrur, 2005). In recent years, studies have explored the influence of conglomerate mergers on the acquiring firm and the target firm (Gabrielsen, 2003; Chiu et al., 2016). A conglomerate merger is often described as a situation in which two firms operating in unrelated business activities merge. The acquiring firm extends distribution and multinational networks through a cross-border conglomerate merger (Doukas and Travlos, 1988; Gabrielsen, 2003). Gabrielsen (2003) suggests that the acquiring firm and the target firm can create complementary competition advantage and build up the competitive barrier for potential entrants and present rivals, especially in a conglomerate merger. Using the case study of Google's acquisition of Motorola, Chiu et al. (2016) find that this conglomerate merger has a negative wealth effect on Google and its rivals. However, Google's vendors benefit from this acquisition deal because Motorola's extensive patent portfolio can protect Android's vendors from

[1] Terry Gou is the founder and the chairman of Foxconn technology group.
[2] Sharp's main banks are Mizuho bank and Mitsubishi bank. Mitsubishi bank is the bank of Tokyo-Mitsubishi UFJ, and it is the largest bank in Japan.

a potential patent infringement war in the future. Prior literature seldom investigated the impact of mergers and acquisitions on the wealth of the target firm and its rivals. Our study fills this gap and contributes to the literature by exploring the impact of a cross-border conglomerate merger on the acquiring firm, the target firm and its rivals using the case study of Foxconn's acquisition of Sharp.

In 2012, Foxconn began collaborating with Sharp in the operation of Sakai Display Products Corporation (SDP). SDP turned from a loss to a profit in 2013. The main banks realized that Foxconn has considerable operating capabilities; however, Foxconn's team negotiated a merger and acquisition with Sharp's team that was not successful. After several failures in the negotiation, Foxconn's team began negotiating with the main banks. Foxconn promised to purchase preferred stocks from the main banks, while the main banks were willing to delay the maturity date of debt financing for Sharp. On March 30, 2016, this acquisition was officially approved by both companies' boards of directors. Foxconn successfully acquired Sharp with the support of the main banks.

In 2009, Sharp turned from being profitable to loss-making. The Innovation Network Corporation of Japan (INCJ) and the main banks provided a bailout for Sharp. Sharp still has poor operating performance. Terry Gou believes that Sharp is overly focused on its own products and the Japanese market. Compared with its rivals, Sharp has poor production efficiency and weak buying power. Sharp is gradually weakening as a market player. In cross-border mergers and acquisitions, Morosini et al. (1998) suggest that the acquiring firm generates a cultural shock to organizational efficiency, corporate culture, and corporate strategy for the target firm. The target firm will often have better post-acquisition performance. Foxconn created a cultural shock for Sharp, especially in terms of corporate culture and organizational efficiency. On February 3, 2017, the financial statement disclosed that Sharp became profitable. Foxconn is a company with high organizational efficiency. Sharp is a company with great innovation capabilities. Both companies have created complementary competition advantages through this conglomerate merger.

This study considers Foxconn's acquisition of Sharp and successive events related to Sharp's rivals. Research samples include Foxconn, as well as Sharp and its rivals, and these samples cover the period from September 22, 2014 through April 29, 2016. Our study first investigates how the shareholder wealth of Foxconn and Sharp are impacted by this conglomerate merger. We also examine whether this acquisition deal impacts the shareholder wealth of Sharp's rivals.

Our results suggest that the announcement of this conglomerate merger lead to an increase in the shareholder wealth of Foxconn and Sharp. Sharp is a well-known OBM and has a great innovative capabilities. Foxconn is the largest EMS in the world. There is a complementary competition advantage between both companies. Foxconn collaborates with Sharp, which erects competition barriers for potential entrants and present rivals (Gabrielsen, 2003).

We also find that the shareholder wealth of Sharp's rivals was affected by this acquisition deal, but not all rivals were affected. Sharp's rivals include major domestic companies, such as Sony, Panasonic, and Toshiba. Sony has a better competitive advantage in domestic and global markets, and its stock price represents a weak market reaction to this conglomerate merger. Because Panasonic and Sharp have similar market power, Panasonic's stock price has been impacted by this acquisition. Toshiba has had poor operating performance in recent years and is likely to be merged and acquired. Shareholders believe that Toshiba can teach Sharp to improve its operating performance. Thus, Toshiba and Sharp are similar in terms of market reaction.

Major rivals are mostly Korean and Chinese firms. Samsung and LG are Korean firms, and they enjoy a stronger competitive advantage in the display industry. Samsung is a leader in the display industry, and its stock price has not been affected by this conglomerate merger. The stock price of LG has shown a weak market reaction to this acquisition. LG and Sharp produce displays for iPad. If Sharp is acquired by Foxconn, it will be more competitive. Chinese firms are Hisense, TCL, Skyworth, Haier, and Changhong. Skyworth, Haier, and Changhong have been affected by this acquisition because Sharp is a potential competitor for them. Hisense and TCL have large market power, and therefore their stock price is not market reaction.

The remainder of this paper is organized as follows. Section 2 describes the relevant literature. Section 3 analyses Foxconn and Sharp and its rivals. The empirical method and dataset are described in Section 4. The empirical results are shown in Section 5. Finally, our conclusion is presented in Section 6.

2. LITERATURE REVIEW

Mergers and acquisitions continue to play an important role in business activities worldwide, and they have become an important business strategy to help improve organizational performance (Vazirani, 2015). Related studies investigate the wealth effect of mergers and acquisitions for U.S. and European companies and European banking (Cybo-Ottone and Murgia, 2000; Campa and Hernando, 2004; Moeller et al., 2005; Chiu et al., 2016). Most results show that acquisition deals harm the shareholder wealth of acquiring firms (Campa and Hernando, 2004; Moeller et al. 2005; Chiu et al., 2016). However, related studies also find that mergers and acquisitions can increase the shareholder wealth of acquiring firms (Lubatkin, 1987; Andrade et al., 2001; Shahrur, 2005).

In the literature on mergers and acquisitions, there is a view on the wealth effect of acquiring firms. Campa and Hernando (2004) suggest that acquiring firms may face a number of obstacles (e.g., cultural, legal, or transaction barriers) to merging with target firms. It is difficult for the acquiring firm to benefit from the merger. Moeller et al. (2005) find that the shareholder wealth of acquiring firms is harmed because of the agency problem. Managers overestimate the value of a target firm and overpay for the acquisition.

However, Andrade et al. (2001) find that mergers and acquisitions can increase the shareholder wealth of the acquiring firm in the long run. Acquiring firms will have better operating efficiency and more market power after integrating target firms. Gugler et al. (2003) also find that acquiring firms have better performance due to better operating efficiency and more market power. Shahrur (2005) suggests that mergers and acquisitions can create many benefits for acquiring firms, as well as their suppliers and customers. The acquiring firm will have better production efficiency and more buying power.

In addition, recent studies have investigated the impact of conglomerate mergers on the acquiring firm and the target firm (Gabrielsen, 2003; Chiu et al., 2016). A conglomerate merger is often described as a situation when two firms operating in unrelated businesses merge. The acquiring firm extends a distribution and multinational network through a cross-border conglomerate merger (Doukas and Travlos, 1988; Gabrielsen, 2003). Gabrielsen (2003) also suggests that the conglomerate mergers can decrease competitive threats from potential entrants and present rivals. Both conglomerates can integrate their advantage to create a complementary competition advantage. Using the case study of Google's acquisition of Motorola, Chiu et al. (2016) find that this acquisition deal has a negative wealth effect on Google and its rivals. However, Google's vendors benefit from this acquisition. Google collaborates with its venders, which creates more competitive barriers for potential entrants and present rivals.

3. ANALYSIS OF FOXCONN, SHARP, AND THE DISPLAY INDUSTRY

In this section, we analyze the competitive advantage of Foxconn, Sharp and its rivals. Samsung and LG are important competitors in the electronic industry. With the support of Korea's government, both companies are developing innovative technologies and improving the production efficiency. Samsung and LG develop many Liquid-Crystal Display (LCD) technologies, especially the Organic Light-Emitting Diode (OLED). Samsung is a leading company in the LCD industry, enjoying a market share in OLED displays of approximately 90 percent in 2017. Samsung and LG have not only a powerful manufacturing capability but also a well-known brand. The top 2 TV brands in 2006 were Samsung and LG.

In 2015, the Chinese government began enforcing the Made in China 2025 industrial policy. The government wants, which aims to set up complete industrial chains domestically to consist primarily of Chinese manufacturers. The LCD industry is an important industry for the Chinese government. Chinese display manufacturers have developed LCD technologies and improved production efficiency in recent

years. A large Chinese consumer market has resulted in the creation of many local brands, such as Hisense, TCL, and Skyworth. The top 10 global TV brands included five Chinese brands in 2016 – Hisense, TCL, Skyworth, Haier, and Changhong. Chinese companies are not only continuously developing their domestic business but also actively expanding internationally. Chinese companies have been important competitors in the global market.

Japanese companies enjoy tight, long-term cooperation with Taiwanese companies. LCD technologies are gradually being transferred from Japan to Taiwan. Japanese companies, such as Sharp and Japan Display Inc.[3] (JDI), are continuously innovating new LCD technologies. Although Japanese companies can manufacture high-quality products using leading technologies, their production inefficient and comes at a high cost. This causes a heavy burden on corporate operations. Taiwanese display manufacturers often depend on the technologies of Japanese companies to produce LCD displays. Because Taiwan manufacturers have high production efficiency and lower production costs, Japanese companies are willing to collaborate with Taiwanese manufacturers.

In Japan, the four major home appliance companies are Sharp, Sony, Panasonic, and Toshiba. The display departments of Sony, Toshiba, and Hitachi were integrated into JDI in 2011. Since 2011, Sony, Panasonic, and Toshiba have collaborated with JDI and other original equipment manufacturers (OEM) in producing LCD displays, and they concentrate on designing new products and developing new technologies. Sharp and JDI are two main display manufacturers in Japan. Sharp began experiencing losses in 2009 from its display the solar energy departments; this problem has become even more serious since 2012. INCJ and the main banks provided a bailout for Sharp that attempts to assist the company in improving operating performance. Terry Gou believes that Sharp focuses excessively on its own products and the Japanese market. Sharp has a strong LCD technology known as Indium Gallium Zinc Oxide (IGZO), which is favored by Apple and used in iPads. If Foxconn's acquisition of Sharp succeeds, Foxconn will enhance LCD technologies and strengthen customers' relationships with Apple.

Foxconn is the largest EMS in the world, but it lacks an international brand to build up a sales channel. Sharp has strong innovative capabilities and a well-known brand. Foxconn has strong production efficiency with a number of manufacturing facilities located around the world. There is a complementary advantage between Foxconn and Sharp. Sharp can devote more resources to developing innovative technologies, while Foxconn manufactures Sharp's products using its strong production efficiency. Foxconn and Sharp can adopt strategies focused on lower price and higher quality to compete with present rivals.

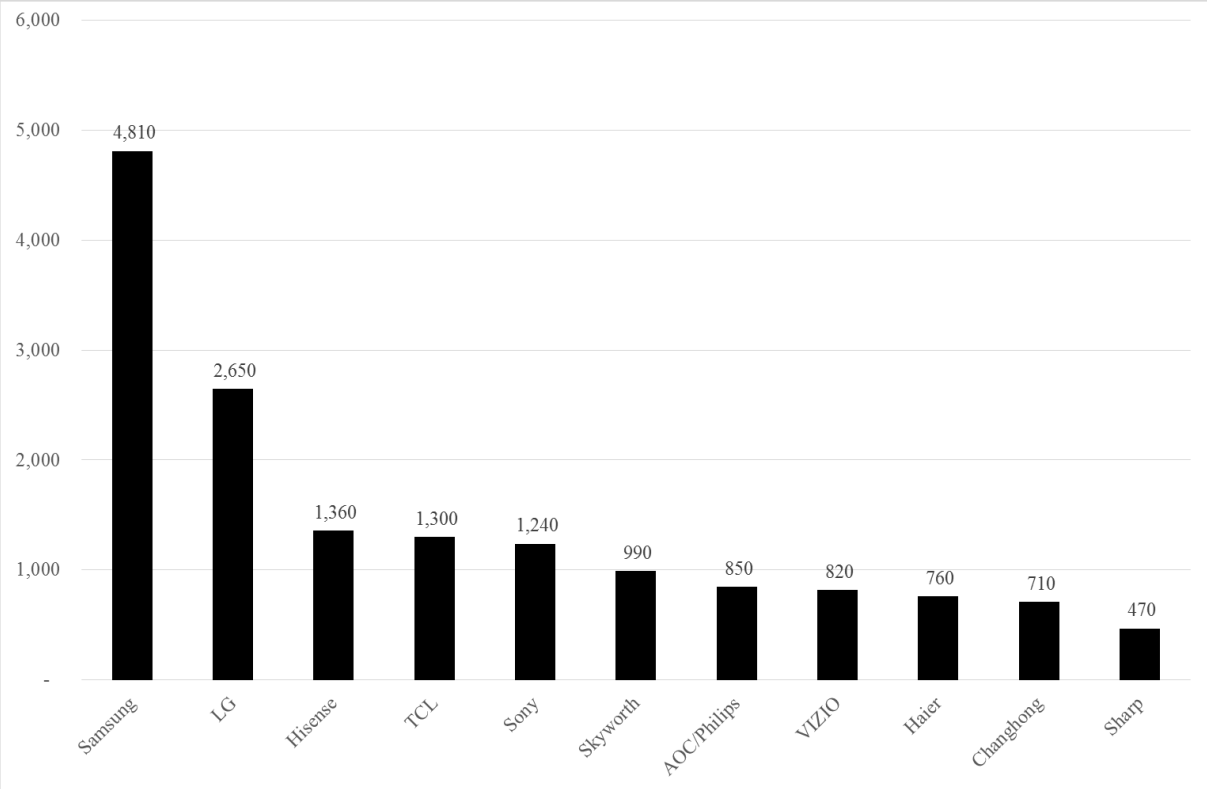
We examine how this conglomerate merger has affected Sharp's rivals, Foxconn's acquisition of Sharp and successive events related to Sharp's rivals will be addressed in detail. Event dates are based on the announcement of an event in the financial media, and the dates of each event are listed in table 1. In our study, we consider nine events that occurred in 2015 and 2016. On March 20, 2015 (event 1), the media disclosed that Sharp's debt was 1.94 trillion yen in first three quarters of 2015. Terry Gou announced that Foxconn was still willing to invest in Sharp, and Sharp indicated that it could negotiate with Foxconn based on a 550 yen per share price. After nearly two months, Sharp obtained capital support. On May 15, 2015 (event 2), Sharp acquired 200 billion yen through a Debt-Equity Swap (DES) from Mizuho bank and Mitsubishi bank. However, Sharp's credit rating decreased significantly following downgrades by Standard & Poor's and Japan's credit rating agency. Credit rating agencies believe that Sharp's debt justify a default rating. The third event shows that Sharp plans to split the LCD business. Sharp is likely to negotiate about the LCD business with Foxconn and JDI. The fourth event shows that Sharp may acquire 300 billion yen from INCJ. Sharp was required to announce an operating plan and split the LCD businesses before March 31, 2016.

On February 4, 2016 (event 5), Sharp's board of directors gave Foxconn first bidding rights after Foxconn increased the amount of investment. Foxconn would own a 65.86% share following and investment amount approximately 489 billion yen. The sixth event shows that Terry Gou providing financing of approximately NTD 12.7 billion, suggesting a likely investment in Sharp. On February 25,

[3] JDI is Japan Display Inc., which is jointly operated by the Japanese government, Sony, Toshiba, and Hitachi.

2016 (event 7), Sharp announces announced that Foxconn had taken a 65.8 percent stake in Sharp. The investment amount was 488.9 billion yen, but Foxconn announced a delay in contracting with Sharp due to the need for further review of documentation. The Wall Street Journal (WSJ) reported that Sharp may have hidden contingent liabilities of approximately 350 billion yen. Those contingent liabilities are likely to be above what Foxconn had expected. The eighth event shows that Foxconn's team consists of core managers and financial and legal advisers. Foxconn's team began enforcing Due Diligence (DD) for Sharp. On March 30, 2016, Foxconn's technology group officially contracted with Sharp, and Sharp became a Foxconn subsidiary. Foxconn technology group and Terry Gou own 66 percent of Sharp shares based on an investment amount of approximately 388.8 billion yen.

Figure 1: Total sales of top 10 rivals and Sharp in 2016



Notes: This figure provides the total sales of top 10 rivals in 2016. Units are in the ten thousands. Top 10 rivals include Samsung, LG, Hisense, TCL, Sony, Skyworth, AOC, Philips, VIZIO, Haier, and Changhong. China firms include Hisense, TCL, Skyworth, Haier, and Changhong. However, VIZIO is an unlisted firm.

Table 1: Description of major event days

Event	Date	Event Description
1	March 20, 2015	Sharp is willing to negotiate with Foxconn.
2	May 15, 2015	Sharp acquires the aid of 20 billion yen, but its credit rating is decreased.
3	August 28, 2015	Sharp negotiates about liquid-crystal display business with Foxconn and Japan displays
4	January 20 2016	INCJ is willing to support Sharp with approximately 30 billion yen.

5	February 4, 2016	Board of Directors gives Foxconn bidding priority.
6	February 15, 2016	Terry Gou obtains NTD 127 billion through a stock pledge.
7	February 25, 2016	Sharp hides contingent liabilities of approximately 350 billion yen.
8	March 4, 2016	Foxconn enforces the due diligence for Sharp.
9	March 30, 2016	Foxconn and Sharp sign an M&A contract.

Notes: The table describes nine major event days reflecting information on Sharp and Foxconn that may have affected the stock price from September 22, 2014 through April 29, 2016.

4. EMPIRICAL METHOD AND DATA SOURCES

Research samples consist of Foxconn and Sharp, and its domestic and major rivals. Table 2 provides the company name, exchange, and market portfolio for M&A and rival firms. Foxconn and Sharp are listed on the Taiwan stock exchange (TWSE) and Tokyo stock exchange (TYO). Japan rivals consist of Sony, Panasonic, and Toshiba, which are listed on the Tokyo stock exchange (TYO). Major rivals include Samsung, LG, Hisense, TCL, Skyworth, AOC, Philips, Haier and Changhong; these rival firms are listed on the Korea Exchange (KRX), Shanghai Stock Exchange (SSE), Shenzhen Stock Exchange (SZSE), Hong Kong Exchange (HKEx), and Euronext. The market indices for Foxconn, Sharp and rivals include the Taiwan Capitalization Weighted Stock Index (TAIEX), Tokyo Stock Price Index (TOPIX), Korea Composite Price Index (KOSPI), Hang Seng Index (HSI), SSE A Share Index, SZSE A Share Index, and the Amsterdam Exchange index (AEX). Our study collects daily transactional data of each individual stock and index from the Taiwan Economic Journal and DataStream, and the data cover the interval between September 22, 2014 and April 29, 2016. The daily return of the individual stock is estimated from daily transactional data, and the return is adjusted for stock split and dividend payment.

This study follows Chiu et al. (2016) to apply the seemingly unrelated regression (SUR) methodology as the empirical method. The SUR method was developed by Zellner (1962), who suggests that it is shown to provide more efficient estimation in the presence of contemporaneous correlation and the analysis of micro-investment relations. Foxconn's acquisition of Sharp leads to a contemporaneous correlation for Foxconn, and Sharp and its rivals. The empirical model is as follows:

$$R_{i,t} = \alpha_i + \beta_{1i} R_{m,t} + \beta_{2i} R_{m,t-1} + \beta_{3i} R_{m,t+1} + \sum_{k=1}^{9} \lambda_{ki} D_{k,t} + \beta_{4i} \delta_t R_{m,t} + e_{i,t}$$

where $R_{i,t}$ is the daily return of each company or portfolio on day t; $R_{m(t)}$, $R_{m(t-1),}$ and $R_{m(t+1)}$ are market returns from market portfolio on days t, t-1, t+1, respectively; $D_{k,t}$ is a dummy variable that equals 1 for event k and 0 otherwise (Table 1 provides the date of each event); δ_t is a dummy variable that equals 1 on the first event day (March 20, 2015) and all subsequent days, and 0 otherwise; α_i is the intercept; β_{1i}, β_{2i}, and β_{3i} are cotemporaneous, lagged, and lead market betas for each company or portfolio; λ_k is the daily return of each company or portfolio response to event k; β_{4i} is the shift of each company or portfolio in systematic risk; and $e_{i,t}$ is the error term.

Table 2: M&A Companies and Rivals

Company Name	*Exchange*	*Market Portfolio*
Panel A: M&A Companies		
Foxconn Electronics Inc.	TWSE	TAIEX
Sharp Corporation	TYO	TOPIX
Panel B: Domestic Rivals		
Sony Corporation	TYO	NIKKEI
Panasonic Corporation	TYO	NIKKEI
Toshiba Corporation	TYO	NIKKEI
Panel C: Major Rivals		
Samsung Electronics Co. Ltd.	KRX	KOSPI
LG Electronics Inc.	KRX	KOSPI
Hisense Group	SSE	SSE A Share Index
TCL Corporation	SZSE	SZSE A Share Index
Skyworth Group	HKEx	HSI
AOC Monitors	HKEx	HSI
Royal Dutch Philips Electronics Ltd.	Euronext	AEX
Haier lnc.	SSE	SSE A Share Index
Changhong Electric Co., Ltd.	SSE	SSE A Share Index

Notes: The table provides company name, exchanges, and market portfolio for M&A and rival firms. M&A companies are Sharp and Foxconn, which are shown in Panel A. Panel B shows that domestic rivals are Sony, Panasonic, and Toshiba. In panel C, major rivals include Samsung, LG, Hisense, TCL, Skyworth, AOC, Philips, Haier, and Changhong. VIZIO is also top a 10 rival, but it is an unlisted firm. Chinese firms include Hisense, TCL, Skyworth, Haier, and Changhong.

5. EMPIRICAL ANALYSIS

In this section, we explore how this cross-border conglomerate merger impacts the shareholder wealth of the acquiring firm and the target firm and its rivals. Our results from the impact of this acquisition concern the shareholder wealth of Foxconn and Sharp and are shown in table 4. Our study also examines whether Sharp's rivals were impacted by this acquisition, and the results are shown in table 5 and table 6.

5.1 Basic statistics

The results of descriptive statistics are shown in table 3. Panel A of table 3 shows the relative results for market portfolios. Most market portfolios have positive average returns. However, TAIEX and HSI have negative average returns. Shanghai and Shenzhen have high standard deviation values. Panel B of table 3 shows negative average returns for Foxconn and Sharp. Sharp has a higher standard deviation value than Foxconn. The results of descriptive statistics for domestic rivals are shown in Panel C of table 3. Sony has a positive average return. Panasonic and Toshiba have negative average returns, and Toshiba has a high standard deviation value. Panel D of table 3 shows the relative results of major rivals. Most rivals have positive average returns; however, Haier has a negative average return. Hisense and Changhong have high standard deviation values.

Table 3: Descriptive Statistics

	Mean	STD.	Min	Max	Q1	Median	Q3
Panel A: Market Portfolios							
TAIEX	-0.02	0.95	-4.84	3.58	-0.50	0.02	0.53
TOPIX	0.03	1.48	-5.86	8.02	-0.67	0.04	0.72
KOSPI	0.01	0.78	-2.93	2.96	-0.37	0.00	0.40
Shanghai	0.08	2.22	-8.49	5.76	-0.72	0.16	1.39
Shenzhen	0.11	2.45	-8.26	6.54	-0.83	0.29	1.43
HSI	-0.01	1.31	-5.76	4.13	-0.68	0.00	0.64
AEX	0.03	1.33	-5.24	4.05	-0.66	0.01	0.73
Panel B: M&A Companies							
Foxconn	-0.04	1.39	-4.56	4.72	-0.82	0.00	0.71
Sharp	-0.10	3.43	-26.36	16.79	-1.50	0.00	1.15
Panel C: Japan Rivals							
Sony	0.13	2.60	-8.26	12.41	-1.28	0.00	1.37
Panasonic	-0.02	2.23	-12.13	10.69	-1.06	0.00	0.93
Toshiba	-0.13	2.73	-16.55	8.17	-1.38	0.00	1.09
Panel D: Major Rivals							
Samsung	0.05	1.64	-4.37	8.69	-0.89	0.00	0.87
LG	0.00	1.87	-5.78	7.98	-1.19	0.00	1.01
Hisense	0.17	4.07	-11.02	10.03	-1.71	0.06	2.07
TCL	0.12	3.40	-10.04	10.14	-1.43	0.00	1.60
Skyworth	0.12	3.31	-25.50	16.02	-1.24	0.00	1.48
AOC	0.03	3.29	-46.67	30.77	0.00	0.00	0.00
Philips	0.03	1.51	-5.86	6.09	-0.88	0.04	0.97
Haier	-0.08	2.47	-8.40	14.98	-1.37	0.00	1.06
Changhong	0.05	4.28	-10.06	10.08	-1.78	0.00	2.15

Notes: This table provides the descriptive statistics of empirical data from September 22, 2014 through April 29, 2016. In Panel A, Market portfolios contain TAIEX, TOPIX, KOSPI, Shanghai, Shenzhen, HSI and AEX. M&A companies are Sharp and Foxconn, which are shown in Panel B. Panel C shows that Japanese rivals are Sony, Panasonic, and Toshiba. In Panel D, major rivals include Samsung, LG, Hisense, TCL, Skyworth, AOC, Philips, Haier and Changhong.

5.2 Impact on Foxconn and Sharp

Table 4 shows the influence of a conglomerate merger on the shareholder wealth of Foxconn and Sharp. Five of nine events impact the shareholder wealth of Foxconn and Sharp. First, event 1 had a positive and significant effect on Foxconn's shareholders. Sharp announced that they are willing to renegotiate with Foxconn based on a price of 550 yen per share. Foxconn's shareholders believed that Foxconn had an opportunity to negotiate with Sharp, so their response to this information was positive. Second, event

2 had a negative and significant effect on Sharp's shareholders. Although Sharp obtained 200 billion yen from Mizuho bank and Mitsubishi bank, Sharp's credit rating of was lowered significantly by Standard & Poor's and Japan credit rating agency. Sharp's shareholders were pessimistic about the company's prospects and responded negatively to this information.

Third, event 3 had a positive and significant effect on shareholders of Foxconn and Sharp. Sharp planned to split its LCD business and was likely to negotiate about its LCD business with Foxconn and JDI. This plan had the potential to reduce financial distress at Sharp. Foxconn could also acquire great LCD technology. Thus, shareholders of Foxconn and Sharp were optimistic about this plan. Fourth, event 5 had a negative and significant effect on Sharp's shareholders. Sharp's board of directors gave the first bidding rights to Foxconn based on an investment of approximately 489 billion yen. Sharp's stock price increased significantly on the event day. Fifth, event 6 had a negative and significant effect on Foxconn's shareholders. Terry Gou provided financing of NTD 12.7 billion through a stock pledge. In the capital market, this information was assumed to represent a likely NTD 12.7 billion investment in Sharp. Foxconn's shareholders worry that Foxconn is over-investment in Sharp, so they negatively respond to this information.

Sixth, event 7 has a weakly significant effect on Foxconn's shareholders and has a negative and significant effect on Sharp's shareholders. On the morning of the event day, Sharp announced that Foxconn was willing to invest 488.9 billion yen and to own 65.8 percent of common shares. In addition, on the afternoon of the event day, The Wall Street Journal (WSJ) reported that Sharp may have hidden contingent liabilities of approximately 350 billion yen. Those contingent liabilities are likely to be above what Foxconn had expected. Because the information on contingent liabilities was confirmed and this acquisition was likely to succeed, Foxconn's shareholders took a conservative approach in responding to this information. Sharp's shareholders worried that the acquisition would fail, so they responded negatively to this information. Finally, event 8 had a positive and significant effect on Foxconn and Sharp shareholders. Foxconn's team enforced DD for Sharp, and Foxconn's shareholders inferred that Foxconn may decrease the amount of investment for this acquisition. Sharp's shareholders inferred that this acquisition was not in jeopardy and that Foxconn might renegotiate with Sharp again. Thus, Sharp's shareholders responded positively to this information.

Table 4: Abnormal returns and risk shift for Foxconn and Sharp

	Foxconn		Sharp	
	Coefficient	*t-statistic*	*Coefficient*	*t-statistic*
$R_{m(t)}$	1.1871	11.3***	0.6769	2.81***
$R_{m(t-1)}$	-0.0456	-0.92	-0.0648	-0.62
$R_{m(t+1)}$	-0.0456	-0.92	-0.0383	-0.38
D_1	2.0130	2.18**	-0.0408	-0.01
D_2	-0.3358	-0.36	-7.5093	-2.47**
D_3	2.4297	2.58***	6.9229	2.26**
D_4	-0.9142	-0.98	-1.4002	-0.45
D_5	-1.4467	-1.57	17.5293	5.72***
D_6	-2.4609	-2.65***	1.5876	0.49
D_7	1.6278	1.76*	-15.4428	-5.07***
D_8	2.6967	2.92***	9.3246	3.06***
D_9	-1.3870	-1.5	5.0073	1.65

$R_{m(t)}*\delta_t$	-0.1946	-1.63	-0.0001	0.00
Constant	-0.0257	-0.55	-0.1598	-1.05
N	393		409	
R^2	0.57		0.24	

Notes: This table shows that nine events impacted the daily return for Foxconn and Sharp. We apply the SUR method as the empirical model. The equation is the following:

$$R_{i,t} = \alpha_i + \beta_{1i} R_{m,t} + \beta_{2i} R_{m,t-1} + \beta_{3i} R_{m,t+1} + \sum_{k=1}^{9} \lambda_{ki} D_{k,t} + \beta_{4i} \delta_t R_{m,t} + e_{i,t}$$

where $R_{i,t}$ is the daily return for Foxconn and Sharp on day t; $R_{m(t)}$, $R_{m(t-1)}$, and $R_{m(t+1)}$ are market returns from TAIEX and TOPIX on days t, t-1, t+1, respectively; $D_{k,t}$ is a dummy variable that equals 1 for event k and 0 otherwise; δ_t is a dummy variable that equals 1 on the first event day and all subsequent and 0 otherwise; α_i is the intercept; β_{1i}, β_{2i}, and β_{3i} are cotemporaneous, lagged, and lead market betas for the portfolio; λ_k is the daily return of portfolio response to event k; β_{4i} is the portfolio's shift in systematic risk; and $e_{i,t}$ is the error term. The R^2 is also provided. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

5.3 Impact on Sharp's domestic rivals

Table 5 shows the impact of this conglomerate merger on domestic rivals. Japanese companies mostly profit from the domestic consumer market. Sharp, Sony, Panasonic, and Toshiba are the main home appliances manufacturers in Japan. These companies own over 90 percent of the consumer market share. Thus, we consider Sony, Panasonic, and Toshiba to be domestic rivals.

First, event 4 and event 8 have weakly significant effects on the shareholders of Japanese rivals[4]. Event 4 shows that Sharp was likely to acquire 300 billion yen from INCJ. This event had a negative and significant effect on Japanese rivals. If Sharp obtained 300 billion yen, the competitive threat it posed would increase for Sony, Panasonic, and Toshiba. Shareholders of rival companies responded negatively to this information. Furthermore, event 8 shows that Foxconn's team enforced DD for Sharp, which implies that Foxconn may have been backing down from this acquisition. Sharp's competitive threat may decrease for rivals, and therefore rivals' shareholders responded positively to this information. Because both events hide considerable uncertainty, the response of rivals' shareholders is weak.

Second, event 4 had a weakly significant effect on Sony's shareholders. If Sharp were to obtain 300 billion yen, Sony may have faced a competitive threat from Sharp. Although Sony has a better competitive advantage in Japan and global markets, Sharp represents a potential competitive threat to Sony. Thus, shareholders negatively respond to event 4.

Third, event 5 and event 8 had significant effects on shareholders of Panasonic. Event 5 shows that Sharp's board of directors allowed Foxconn to have first bidding rights. This implies that Foxconn's acquisition of Sharp was likely to succeed. Panasonic is likely to face a large competitive threat from Sharp, so their shareholders negatively respond to event 5. Furthermore, event 8 shows that Foxconn's team enforced DD for Sharp. Panasonic's shareholders inferred that Foxconn may be backing down from the acquisition. If the acquisition were to fail, Sharp would pose a weak competitive threat to Panasonic. Thus, Panasonic's shareholders responded positively to event 8.

Fourth, Toshiba also has also had poor operating performance in recent years. Japanese shareholders consider whether Japanese companies must accept external shocks from foreign companies. In event 1, Terry Gou announced that Foxconn was still willing to invest in Sharp; however, Sharp's debt was 1.94 trillion yen in 2015. Toshiba's shareholders inferred that Japanese companies are valuable for foreign

[4] In model 1, the Japanese rival is the portfolio of rivals that includes Sony, Panasonic, and Toshiba.

companies. Thus, shareholders responded positively to this information. Event 2 shows that Sharp's credit rating was lowered by credit rating agencies. Toshiba's shareholders believe that Toshiba's the credit rating was also likely to decline, so their response is negative and weak. In Event 5, Sharp's board of directors gave Foxconn first bidding rights. Toshiba's shareholders inferred that Foxconn's acquisition of Sharp may succeed, and they believe that managers could apply Sharp to reform Toshiba. Thus, the response of Toshiba's shareholders is positive and weak. Event 6 shows that Terry Gou provided financing of NTD 12.7 billion through a stock pledge. Although this information was assumed to represent an investment in Sharp, it was not confirmed. Toshiba's shareholders responded conservatively to this information. In event 8, Foxconn's team enforced DD for Sharp, which implied that Foxconn was not planning to give up on this acquisition and that it was still likely to succeed, so Toshiba's shareholders responded positively.

Table 5: Abnormal returns and risk shift for domestic rivals

	Domestic rival		Sony		Panasonic		Toshiba	
	Coefficient	*t-statistic*	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*
$R_{m(t)}$	1.0881	12.07***	1.2153	7.82***	1.1161	10.46***	0.9330	4.98***
$R_{m(t-1)}$	0.0140	0.36	-0.0757	-1.13	0.0301	0.65	0.0877	1.08
$R_{m(t+1)}$	-0.0023	-0.06	0.0972	1.48	-0.0059	-0.13	-0.0981	-1.24
D_1	1.1307	1.00	-1.1901	-0.61	-0.0840	-0.06	4.6663	1.98**
D_2	-1.2961	-1.14	0.5745	0.29	-0.4478	-0.33	-4.0150	-1.70*
D_3	0.4898	0.43	0.1511	0.08	0.4362	0.32	0.8823	0.37
D_4	-2.2131	-1.92*	-3.5191	-1.77*	-0.6341	-0.46	-2.4861	-1.04
D_5	-0.5538	-0.48	1.1131	0.56	-7.1462	-5.28***	4.3717	1.84*
D_6	-1.4517	-1.20	-1.3930	-0.67	1.6768	1.17	-4.6391	-1.84*
D_7	0.5746	0.50	-2.8865	-1.47	4.6140	3.43***	-0.0037	0.00
D_8	2.1454	1.89*	2.4440	1.25	-1.0670	-0.79	5.0591	2.14**
D_9	-0.1842	-0.16	-0.6736	-0.34	0.6683	0.50	-0.5473	-0.23
$R_{m(t)}*\delta$	-0.0068	-0.07	-0.0610	-0.35	0.0346	0.29	0.0062	0.03
Constant	-0.0369	-0.65	0.1059	1.08	-0.0504	-0.75	-0.1663	-1.40
N	1227		409		409		409	
R^2	0.40		0.45		0.65		0.28	

Notes: This table shows that nine events impacted the daily return for Japanese rivals. Domestic rivals include Sony, Panasonic, and Toshiba. We apply the SUR method as the empirical model. The equation is the following:

$$R_{i,t} = \alpha_i + \beta_{1i} R_{m,t} + \beta_{2i} R_{m,t-1} + \beta_{3i} R_{m,t+1} + \sum_{k=1}^{9} \lambda_{ki} D_{k,t} + \beta_{4i} \delta_t R_{m,t} + e_{i,t}$$

where $R_{i,t}$ is the daily return for Japan rivals on day t; $R_{m(t)}$, $R_{m(t-1)}$, and $R_{m(t+1)}$ are market returns from TOPIX on days t, t-1, t+1, respectively; $D_{k,t}$ is a dummy variable that equals 1 for event k and 0 otherwise; δ_t is a dummy variable that equals 1 on the first event day and all subsequent and 0 otherwise; α_i is the intercept; β_{1i}, β_{2i}, and β_{3i} are cotemporaneous, lagged, and lead market betas for the portfolio; λ_k is the daily return of portfolio response to event k; β_{4i} is the portfolio's shift in systematic risk; and $e_{i,t}$ is the error term. The R-square are also provided. ***, **, and * indicates significance at the 1, 5, and 10 percent levels, respectively.

5.4 Impact on major rivals of Sharp

Table 6 shows the impact of this conglomerate merger on the shareholder wealth of major rivals[5]. Major rivals mostly are Korean and Chinese firms. Panel A of table 6 reports the estimation of major rivals and non-Chinese firms. Only event 2 has a negative and significant effect on the shareholders of major rivals. Although Sharp's credit rating was lowered by credit rating agencies, Sharp obtained 200 billion yen from Mizuho bank and Mitsubishi bank. The capital structure of Sharp could be improved. The shareholders of rivals responded negatively to event 2; however, nine events did not have significant effects on the shareholders of Samsung and AOC. Foxconn's team enforced DD for Sharp on March 4, 2016 (event 8). LG's shareholders inferred that Foxconn was still likely to acquire Sharp. LG may have faced a more competitive threat from Foxconn and Sharp, and therefore LG's shareholders responded negatively to event 8. Furthermore, event 1 and event 5 had negative and significant effects on the shareholders of Philips. Event 1 reveals the inclination of Sharp to negotiate with Foxconn, and event 5 reveals the determination behind Foxconn's acquisition of Sharp. This conglomerate merger had a chance of succeeding, and Philips may have faced intense competition, especially in the Asia market. Thus, Philips' shareholders responded negatively to event 1 and event 5.

Panel B of table 6 reports the estimation of Chinese firms. All events do not have significant effects on shareholders of Hisense, TCL, and Changhong. On August 28, 2015 (event 3), the Japanese media reported that Sharp planned to split the LCD business and negotiate about it with Foxconn and JDI. After splitting the LCD business, the capital structure and operating performance could be improved for Sharp. Skyworth's shareholders responded negatively to event 3. In addition, event 6 and event 8 had significant effects on the shareholders of Haier. Terry Gou provided financing of NTD 12.7 billion through a stock pledge on February 15, 2016 (event 6). In the capital market, this information was assumed to represent an investment in Sharp. Foxconn's team enforced DD for Sharp on March 4, 2016 (event 8), implying that Foxconn's acquisition of Sharp might fail. Thus, Haier's shareholders responded negatively to event 6 and positively to event 8.

Table 6: Abnormal returns and risk shift for major rivals

Panel A: Major rivals and Non-China firms

	Major rival		Samsung		LG		AOC		Philips	
Variables	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*
$R_{m(t)}$	0.6878	10.47***	1.2713	6.31***	0.9519	3.93***	-0.3952	-1.14	1.1168	15.51***
$R_{m(t-1)}$	0.0063	0.25	-0.1696	-1.84*	-0.0306	-0.28	-0.0526	-0.41	0.0014	0.04
$R_{m(t+1)}$	0.0068	0.27	-0.0673	-0.73	0.1380	1.25	0.0759	0.60	0.0265	0.80
D_1	-1.0304	-1.24	-0.3362	-0.23	-1.6024	-0.93	0.0123	0.00	-2.3720	-2.67***
D_2	-1.6710	-2.01**	-0.3352	-0.23	-2.6816	-1.55	0.0133	0.00	0.7636	0.86
D_3	-0.2416	-0.29	-0.1967	-0.14	-1.3594	-0.78	0.1491	0.04	-0.2065	-0.23
D_4	0.4743	0.57	-0.3534	-0.24	0.6845	0.39	0.2077	0.06	0.2786	0.31
D_5	-0.7727	-0.93	-0.7018	-0.49	0.4247	0.24	-0.2118	-0.06	-2.2569	-2.54**
D_6	-1.2724	-1.53	0.4237	0.29	-0.6637	-0.38	-0.2124	-0.06	-0.1714	-0.19
D_7	-0.5175	-0.62	0.2233	0.16	-2.7312	-1.59	-0.3016	-0.09	0.4711	0.53
D_8	0.3350	0.4	-0.2121	-0.15	-3.0234	-1.75*	-0.0589	-0.02	1.3817	1.56
D_9	-0.6407	-0.77	1.0673	0.74	0.7216	0.42	-0.0342	-0.01	-0.1471	-0.17
$R_{m(t)}*\delta$	0.4279	6.00***	-0.2367	-1.04	0.0168	0.06	0.4057	1.08	-0.2630	-3.23***
Constant	0.0508	1.22	0.0378	0.53	0.0207	0.24	0.0403	0.24	-0.0114	-0.26
N	3681		409		409		409		409	
R^2	0.33		0.27		0.18		0.005		0.67	

[5] In model 1, major rivals are the portfolio of rivals that include Samsung, LG, Hisense, TCL, Skyworth, AOC, Philips, Haier, and Changhong.

Panel B: China firms

	Hisense		TCL		Skyworth		Haier		Changhong	
Variables	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*
$R_{m(t)}$	0.5757	3.69***	1.2281	7.48***	0.3209	1.1	0.4414	2.15**	0.5930	3.48***
$R_{m(t-1)}$	0.0497	0.76	-0.1352	-2.73***	0.0837	0.77	0.1400	1.84*	0.0948	1.33
$R_{m(t+1)}$	0.0145	0.22	-0.0209	-0.42	0.1628	1.52	0.1721	2.29**	-0.1409	-1.98**
D_1	-2.2664	-0.78	-0.1925	-0.08	-3.7070	-1.32	0.6754	0.34	0.3634	0.12
D_2	0.4033	0.14	-3.7296	-1.54	-1.6121	-0.57	-3.0908	-1.56	-2.2037	-0.7
D_3	0.0494	0.02	1.4047	0.57	-6.7986	-2.39**	-1.4040	-0.7	2.6016	0.81
D_4	-2.4150	-0.83	-1.3363	-0.55	3.3971	1.19	2.2381	1.12	-1.7131	-0.54
D_5	-0.6833	-0.24	-1.3277	-0.55	-0.6902	-0.24	0.5538	0.28	-1.4100	-0.45
D_6	-1.4610	-0.51	-0.9781	-0.4	-2.4562	-0.87	-4.2845	-2.14**	1.8687	0.59
D_7	-0.4990	-0.17	-0.2276	-0.09	-1.6361	-0.58	2.4091	1.21	-0.8427	-0.26
D_8	-1.9891	-0.69	2.8211	1.16	3.8646	1.37	4.5514	2.3**	-3.5548	-1.13
D_9	-2.9814	-1.03	-1.6219	-0.67	-2.7724	-0.98	1.4408	0.73	-0.4604	-0.15
$R_{m(t)}*\delta$	0.8370	4.86***	-0.2623	-1.52	1.1332	3.6***	0.7676	3.46***	0.8155	4.34***
Constant	0.1749	1.2	0.0213	0.17	0.1811	1.29	-0.0564	-0.57	0.0434	0.27
N	409		409		409		409		409	
R^2	0.51		0.51		0.31		0.38		0.48	

Notes: This table shows that nine events impacted the daily return of major rivals globally. Panel A provides the estimation of major rivals and non-Chinese firms. Panel B provides the estimation of Chinese firms. We apply the SUR method as the empirical model. The equation is following:

$$R_{i,t} = \alpha_i + \beta_{1i} R_{m,t} + \beta_{2i} R_{m,t-1} + \beta_{3i} R_{m,t+1} + \sum_{k=1}^{9} \lambda_{ki} D_{k,t} + \beta_{4i} \delta_t R_{m,t} + e_{i,t}$$

where $R_{i,t}$ is the daily return for major rivals on day t; $R_{m(t)}$, $R_{m(t-1)}$, and $R_{m(t+1)}$ are market returns from TOPIX on days t, t-1, t+1, respectively; $D_{k,t}$ is a dummy variable that equals 1 for event k and 0 otherwise; δ_t is a dummy variable that equals 1 on the first event day and all subsequent and 0 otherwise; α_i is the intercept; β_{1i}, β_{2i}, and β_{3i} are cotemporaneous, lagged, and lead market betas for the portfolio; λ_k is the daily return of portfolio response to event k; β_{4i} is the portfolio's shift in systematic risk; and $e_{i,t}$ is the error term. The R^2 is also provided. ***, **, and * indicates significance at the 1, 5, and 10 percent levels, respectively.

6. CONCLUSION

A well-known OBM merging with a foreign EMS is rare in Japan. In Japanese companies, the main banks play an important role in corporate governance and have a powerful influence on corporate strategy (Morck and Nakamura, 1999). Foxconn was able to successfully acquire Sharp because the main banks supported this acquisition. This study investigates whether the impact of a cross-border conglomerate merger on the wealth of the acquiring firm and the target firm and its rivals.

Our results show that this conglomerate merger led to increased shareholder wealth of Foxconn and Sharp; on the other hand, this merger generated a negative wealth effect on Sharp's rivals. Foxconn is a large EMS with strong production efficiency. Sharp is a well-known OBM with great innovation capabilities. There is a complementary competitive advantage between both conglomerates. Foxconn was able to enhance production technology and buying power after acquiring Sharp (Snyder, 1996). Sharp was able to focus more resources on developing innovative technologies. Foxconn collaborates

with Sharp, which builds up competitive barriers for potential entrants and present rivals (Gabrielsen, 2003). Both conglomerates benefited from this conglomerate merger.

Furthermore, Sharp's rivals include domestic and major companies. Domestic rivals were impacted by this acquisition. By contrast, major rivals were not at all affected by this acquisition. Domestic rivals include Sony, Panasonic, and Toshiba. Sony has a better competitive advantage in the Japanese and global markets, and it was weakly and negatively impacted by this conglomerate merger. Market power is similar between Panasonic and Sharp, so Panasonic's stock price is a larger market reaction than Sony. Toshiba also has poor operating performance in recent years. Their shareholders believe that Toshiba can learn from Sharp to improve corporate performance. Thus, Toshiba's stock price had a similar market reaction to that of Sharp.

Major rivals are mostly Korean and Chinese firms. Korean firms have strong innovation technologies and better production efficiency. Chinese firms depend on a large domestic market and government support. Compared with other rivals, Korean and Chinese rivals have a better competitive advantage. Some rivals were not affected by this acquisition because they have a large market power in the global market. Sharp cannot generate a competitive threat to them. However, those rivals have similar market power with Sharp that are affected by this conglomerate merger. Sharp would be a potential competitor for those rivals, and therefore this impact of this acquisition is a negative wealth effect on those rivals.

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