

Anchoring Effect and Spin-offs:

A Case Study of Taiwan Companies, Asus and Yulon

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Abstract

This study uses a case study method to examine the spin-offs of Asus and Yulon. Both companies show negative cumulated abnormal returns after spin-off announcements and then return to the anchoring price as at the announcement day. The results are in contrast to the findings of Veld et al. (2004) and Schipper and Smith (1986). However, our results are consistent with Nanda's (1991) asymmetric information argument. Nanda (1991) suggests that the negative returns on the announcement day reflect overvaluation of the subsidiary company. The evidence shows that an anchoring effect is prevalent in companies conducting spin-offs in 2003. Also, the case study of "Asus Rule" in Asus' spin-off points out the necessity of dynamic adjustments in industry policies in emerging markets.

Keywords: Spin-offs, Anchoring Effect, Case study, Asus, Yulon

1. Introduction

Since the enforcement of IFRS, many US listed companies revalue their assets and find that they can increase the company value by spinning-off devalued assets. Bloomberg reports that spin-off companies in 2012 experienced a 47% increase in stock prices, which was higher than the performance of S&P index in the same time period. In Taiwan, Asus and Pegatron also find to have better long-run stock performance when they are independently listed on the stock exchange after the spin-off. The stock price of Asus is reported to increase from \$64.40 prior to the spin-off to \$333 in the Q2 of 2014, showing an increase of 417%. Pegatron also has an increase of 50.7% in stock prices. In the past, companies relied on cost reduction to increase profitability. In recent years, spin-offs have become a new, simple and fast strategy for increasing company values.

However, Commercial Times on December 12, 2009 reported that "the spin-off of Asus faced two challenges in stock prices"; the trading opened down by its daily limit and closed at the downward limit price. If mergers and acquisitions are for attaining synergy and spin-offs are for the purpose of reducing inefficiency, it is puzzling why stock market investors have different views on these events from corporate insiders who consider them as good for the companies. The uncertainty brought by the new business model and the information asymmetry that inhibits correct valuation of future firm value are some possible reasons for the falling stock price and investors' reluctance to hold the stocks.

The organization of this research is as follows. First, we discuss the related spin-off regulations and review the motives for corporate spin-offs in Section Two and Three, respectively. Then, we analyze two spin-off cases, Yulon and Asus, use GARCH event study method to test the abnormal returns, and compare the results with nine corporate spin-offs cases in 2003. (Note 1). The research method and data collection are outlined in Section Four. In Section Five, we provide case discussions and empirical evidence. The last section concludes and discusses investment strategies.

2. Spin-offs Related Regulations

Spin-offs refer to divisions of companies' business groups, products, employees and management that can then issue new stocks and become an independent listed company. Stockholding structure of the parent company remains unchanged. The spin-off subsidiary can avoid the problem of being devalued while the parent company has more potential of an increase in stock prices. According to Article 4 of Business Mergers and Acquisitions Act, "Division

refers to an act wherein a company transfers all its independently operated business or any part of it under this Law or other applicable law to an existing or a newly incorporated company as the consideration for that existing company or newly incorporated company to issue new shares to that company or shareholders of that company”.

In other words, for strategic considerations, the company may divide its assets and debts according to its business departments and establish a new independent company. After spin-offs, the newly established company can become a subsidiary of the original parent company (that is, division by the formation of new company) or the business departments being spun off all become independent companies and the original company does not exist (that is, division by acquisition).

In Taiwan, the law regarding spin-offs includes Company Act and Business Mergers and Acquisitions Act, which regulate public companies. If the company is a listed company, then Securities and Exchange Act also applies. The procedure for going public after spin-offs needs to comply with Operating Rules of the Taiwan Stock Exchange Corporation. (Note 2)

3. Literature Review

Some possible motives for spin-offs include:

- Consolidating inefficient business departments: Over-diversification may reduce synergy. Reorganizing the company can improve the efficiency in the allocation of resources.
- Solidify core business: The core business may face intense competition from the entry of new competitors. Spin-offs can prevent hostile takeovers and solidify core businesses.
- Improve operating performance and increase operating efficiency.
- Strategic alliance for getting outside funds and new technology.
- Company is being devalued due to the fact that one of the business departments cannot be correctly valued by the market.
- Tax saving and fund raising: The company may conduct spin-offs to reduce tax or have IPO split-off.
- Involuntary spin-offs: for example, to avoid monopolizing the market.

The studies on spin-offs in the US include Daley et al. (1997), Desai and Jain (1999), and Krishnaswami and Subramaniam (1999). When there is no cash transaction involved in spin-offs and the stockholders of the parent company can concurrently hold the stocks of parent and subsidiary companies, the abnormal return on the announcement day is around 1.32% to 5.56%. The long-run performance of spin-offs is even more significant. Janssens de Vroom and Van Frederikslust (2000), Murray (2000) and Veld et al. (2004) examine the announcement day returns of spin-offs in other countries and find mostly positive abnormal returns. They attribute the findings to the following reasons: (1) companies can focus on their core businesses; (2) the problem of devaluation due to information asymmetry can be reduced; (3) stockholder rights are more secured due to more transparent corporate governance; (4) the complexity due to geographic locations can be lowered after spin-offs, and the inefficiency in global diversification or cross subsidization can be reduced.

Veld et al. (2004) examine 156 corporate spin-offs in 15 European countries between January 1987 and September 2000 and report cumulated average abnormal return of 2.62% during the three-day announcement period. The cumulated average abnormal return increases to 2.66% after spin-offs. The finding is consistent with the US evidence and companies with larger subsidiaries have higher abnormal returns. The evidence also shows that stockholders in European countries with lower stockholder protection have higher long-run abnormal returns.

The impression formation proposed by Asch (1946) argues that earlier traits have greater impacts on people's impressions than latter traits. Luchins (1957) documents that the last signal has more influential effect on impression than the first signal. Kahneman and Tversky (1974) point out that if a number is often used as the initial value when doing estimations, that initial value will be treated as an anchor and a reference, and the estimation results will be adjusted accordingly. However, the evidence shows that very often the adjustment is inadequate.

The anchoring effect is later applied to financial studies and used to explain some “anomalies” in the financial market. Northcraft and Neale (1987) find evidence of an anchoring effect in real estate transactions. The final purchase price is more significant when the initial price is set at a higher price than when it is set at a lower price. Culter, Poterba and Summers (1991) find that stock prices do not completely reflect new information when it becomes public information. La Porta (1996) reports that stock prices of low earnings growth firms (as predicted by financial analysts) will rise on the earnings announcement day while the stock prices of high earnings growth firms (as predicted by financial analysts) will fall on the earnings announcement day. The results show that financial analysts use changes in past earnings as an anchor to make future predictions and that adjustments for errors based on earnings announcement are very slow.

Shefrin (2000, 2002) also argues that the reactions of financial analysts to new information are too conservative and too slow. George and Hwang (2004) find that the 52-week high has an impact on future stock returns and the investment strategy based on such price yields significant returns. This is because the all-time-high price is used as an anchor by investors and the adjustments for new information are inadequate. This finding is consistent with Mitchell, Pulvino and Stafford's (2001). Without considering third-party acquisitions, the price difference can converge by about 90%.

Schipper and Smith (1986) examine spin-offs and separate out seasoned equity offerings (SEO) from the sample for the period 1963-1984. They find that the parent company has an average return of 1.8% five days after the announcement. In contrast, Korwar and Masulis (1986) report a negative return of -3.5% for SEOs. Therefore, after spin-offs, investors can more easily gather information on the growth potential of the subsidiary and from financial reports. Spin-offs can also increase the efficiency in asset management by enhancing managerial responsibility and improving incentive contracts.

Nanda (1991) analyzes corporate restructuring from the asymmetric information viewpoint. Spin-offs are considered as a way of issuing equity by the parent company. When the parent company is being devalued by the market while the subsidiary is being overvalued, spin-off is a better choice than SEO by the parent company. This suggests that spin-offs send a positive signal about the parent company but a negative signal about the subsidiary, which is believed to be overvalued. Therefore, asset divisions or sell-offs can be used to analyze the information effect in comparison with spin-offs.

Moreover, Vijh (1999) provides evidence that spin-offs can create value for the following reasons. First, by refocusing on core businesses, managers can increase the operating performance. As a financial strategy, the parent company can use the additional returns to repay debts. As an investment strategy, the parent company can use the additional returns to invest. For management incentives, stock prices can be used to measure managerial performance and incentive contracts can motivate managers to work hard. All these benefits show that spin-offs will not reduce the company's benchmark price.

The non-tradable stock reform is an issue unique to the capital market in China. On April 29, 2005, the Chinese government initiated the non-tradable stock reform and three companies were first to conduct the test run. The number of stock exchanges between holders of non-tradable stocks and tradable stocks were 10 for 2.5, 10 for 3 and 10 for 3.972, showing an average of 10 for 3.157. Interestingly, no matter when a second test run was conducted or when the reform was applied to the entire stock market, the average number of stock exchanges between holders of non-tradable stocks and tradable stocks fell at 10 for 3. How did this happen? Xu and Wu (2007) use the theory of anchoring effect in psychology to investigate two key issues, how to set up a compensation ratio and the determinants of compensation ratio. The results from a sample of 526 reformed firms show that compensation ratio is set up irrationally by reformed firms. There exists a significant anchoring effect and adjustment biases. In addition, Chapman and Johnson (2002) find that the size of anchoring effect, whether the anchoring effect is noticeable and whether there is money incentive involved are not necessary conditions for an anchoring effect. Therefore, as long as an anchoring effect can be noticed, usually the anchoring effect will exist. In particular, when both anchoring price and the estimated value are considered, the anchoring effect will become even more significant. Lan and Lin (2010) analyze the reasons of a successful spin-off in Asus by case study. However, one interesting issue remained, that is, whether or not the theory of anchoring effect in behavior finance exists during the spin-offs of a company.

Overall, the division of assets and spin-offs allow investors to invest in the subsidiary company only who do not need to invest in the parent company at the same time. In addition, the subsidiary will provide periodic financial reports allowing separate valuations of the parent and the subsidiary. The improved information disclosure may also enhance investors' perception of the subsidiary. These partially explain why corporate spin-offs are often believed to be beneficial to the company by the market. After spin-offs, managers' responsibilities will be adjusted and incentive contracts are re-examined, thereby, improving the asset management efficiency. The evidence from western countries mostly shows positive excess abnormal returns on the announcement day. Whether the same pattern can be observed in the Taiwan market is an interesting issue and worth further investigation. Hence, this study proposes the following hypothesis:

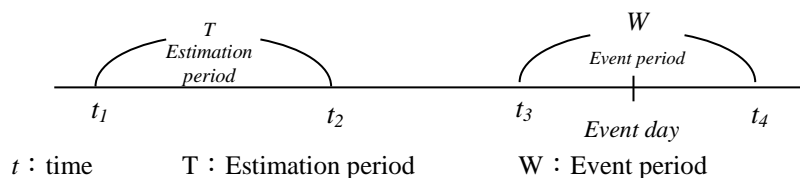
H1: The spin-off of Asus cannot apply the simplified IPO process which must be carried out within one year. As a result, the Pegatron will be unlisted and lack of liquidity, causing the spin-offs to have negative excess abnormal returns. The stock price will later return to the announcement day price due to the anchoring effect.

H2: An anchoring effect is prevalent in companies conducting spin-offs in 2003.

4. Event Study Methodology and Data

In addition to analyzing the reactions of market investors to individual stocks, this study uses an event study to examine the effect on stock prices and investment returns after the spin-off announcement. The following timeline defines the

timing for the event study:



Estimated return based on the market model is as follows:

$$R_t = \alpha + \beta R_{mt} + \varepsilon_t \text{ where } R_t: \text{Stock return at time } t; R_{mt}: \text{Market return on day } t$$

$$\hat{\varepsilon}_t | \Omega_{t-1} \sim N(0, h_t) \text{ Expected value of the error term, } \varepsilon_t, \text{ is zero.}$$

$$h_t = d_0 + d_1 \varepsilon_{t-1}^2 + d_2 h_{t-1}$$

Abnormal return (AR) during the event period is calculated as follows:

$$AR_t = R_t - \hat{R}_t \text{ Where } R_t = \ln P_t - \ln P_{t-1} \text{ and } P \text{ is the stock price.}$$

Cumulative abnormal return (CAR) is calculated as follows :

$$CAR = \sum_{t=t_3}^{t_4} AR_t$$

Then, we use the data from Taiwan Economic Journal (TEJ) database to proceed with GARCH model testing. Due to the restriction on stock trading after the announcement day, we use 30 days before and after the spin-off announcement day (Note 3) as the event period. Therefore, we use a 61-day period to test if AR and CAR are significantly different from zero. The estimation period includes 200 days, using the weighted stock market index as the benchmark.

Further, this study examines the CAR of nine companies, including Chia Hsin Cement Corporation (1103), Far Eastern Group (1402), Shihlin Electric (1503), Yulon (2201), D-Link (2332), E&C Engineering Corporation (2544), Nankang (2101), GTM (1437), Kwong Fong (1416) (Note 4), that conducted spin-offs in 2003 to analyze investment strategies.

5. Case Analysis and Empirical Evidence

After the Business Mergers and Acquisitions Act took effect on 6 February 2002, many companies in Taiwan use mergers, acquisitions or spin-offs as a development strategy. Prior studies on spin-offs in Taiwan have mostly focused on the motives and strategies of spin-offs, value creations from spin-offs and key success (or failure) factors. This study contributes to the literature by analyzing the spin-offs from the capital market point of view. Specifically, we examine investors' reactions and changes in stock holdings after the spin-off announcements and discuss the implications for investment strategies.

In this study, we study two cases of spin-offs, Yulon and Asus. The two cases share some similarities. First, the motives and strategies of spin-offs are alike. Both are for the purpose of separating the brand name and subcontracting tasks. Secondly, both are leaders in their industry sectors and have similar company size and stockholding structures. Based on these two cases, we show that the adjustment by the market after the spin-offs is appropriate.

5.1 Case Study of Yulon's Spin-off

5.1.1 Yulon's Spin-off Motives and Process

Because the co-operator of Yulon, Nissan Japan, was more interested in the large potential in China market, on May 20, 2003 Yulon announced a spin-off of its brand name and subcontracting tasks. A new company, Nissan Taiwan (referred to as YLN, thereafter), was created, which is responsible for R&D of car models, marketing and business expansions in China. The original Yulon after spin-off (referred to as YLO, thereafter) then specialized in subcontracting tasks of car manufacturing. In order to reduce the cash flow burden, the original Yulon repurchase 25% of its stock from Nissan Japan. In exchange, Yulon issued 40% of YLN stocks to Nissan Japan to adjust its stockholding structures and Nissan Japan in the end withdrew from the operation of Yulon. Figure 1 depicts the spin-off process of Yulon.

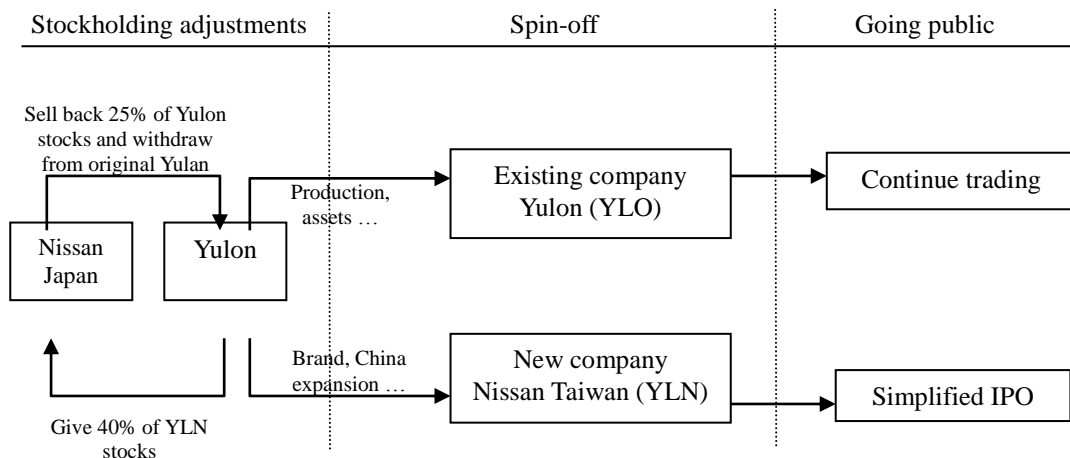


Figure 1. Spin-off of Yulon

5.1.2 Market Reactions to Yulon’s Spin-off

The market reaction to Yulon’s spin-off was not very volatile as some investors believed that due to the limited development in Taiwan market there was a real need to restructure Yulon in Taiwan. However, some investors perceived Yulon’s spin-off negatively. These investors argued that they lost the profit potential from business expansion in China. Figure 2a and 2b show that after the spin-off announcement, the stock price fell by \$2.10 and closed at \$40, showing a bigger drop than the overall market. Accordingly, the evidence shows that most investors thought that the spin-off was harmful to Yulon’s future development. Although there was no dramatic market reactions to Yulon’s spin-off announcement, Figure 2b shows that CAR is significant before the announcement day and turns negative after the announcement. The evidence suggests the market reacts before the spin-off announcement.

Table 1 shows that the market value of Yulon prior to spin-off is approximately \$76,100 million, which roughly equals to the total market value of YLN (\$25,650 million) and YLN (\$50,100m) after the spin-off. Interestingly, this finding suggests that market investors are able to identify that YLN has better future potentials and give a higher price-book ratio.

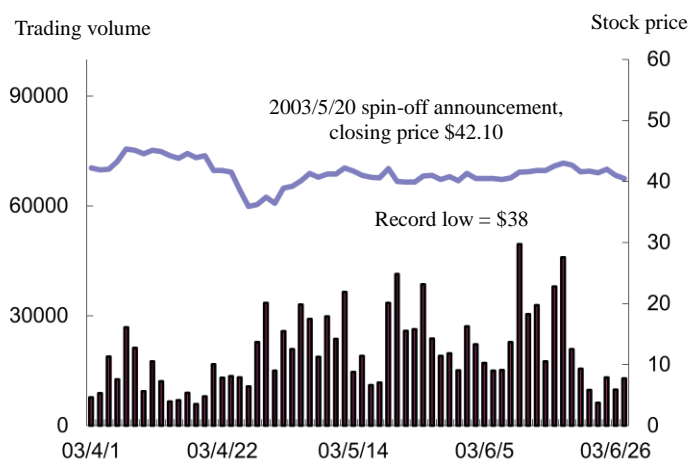


Figure 2a. Stock Price and Trading Volume of Yulon before and after Spin-off Announcement

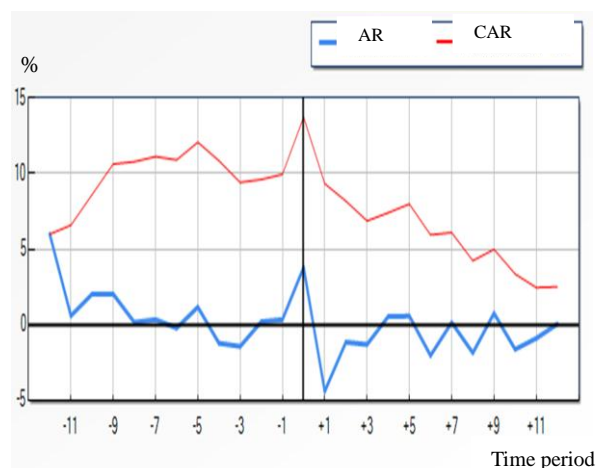


Figure 2b. AR/CAR of Yulon before and after Spin-off Announcement

Table 1. Financial Performance before and after Yulon’s Spin-off

	Before spin-off		After spin-off	
	Yulon		Nissan Taiwan (New company)	Yulon (Existing company)
Business	Car manufacturing, marketing		Manufacturing	Marketing, investment in China
	Announcement date: May 20, 2003		Spin-off date: October 1, 2003	
Capital	18,300m		3,000m	13,700m
Outstanding stocks (A)	1,808,511,600		300,000,000	1,371,216,258
IPO date	-		December 21, 2004	-
Stock price (B)	\$42.10 (Closing price on announcement date 2003/5/20)		\$85.50 (Closing price on 2004/12/21)	\$36.50 (Closing price on 2004/12/21)
Market value(A*B)	Approx. \$76,100m		Approx. \$25,650m	Approx. \$50,100m
Book value per share	\$23.89		\$39.75	\$31.53
Price-book ratio	1.76		2.15	1.16

5.2 Case Study of Asus Spin-off

5.2.1 Asus’ Spin-off Motives and Process

The reason for spinning-off of Asus and Pegatron was to separate brand management and subcontracting tasks. Asus began the spin-off in 2007. However, as the spin-off took a long time to complete and the design of spin-off structure was too complex, there were a lot of practical problems and investors were reluctant to hold the company’s stocks.

In July 2007, Asus proceeded the spin-off by dividing “one into three”. The official spin-off date was January 1, 2008. The spin-off began by making two subcontracting divisions become independent companies, Pegatron and Uniha. The former was responsible for subcontracting tasks of computer related products and the latter was responsible for subcontracting tasks of non-computer products. After the spin-off, the two companies were 100% held by Asus. In May 2008, the two spin-off companies were merged and Pegatron continued to exist. However, as Pegatron was still controlled by Asus after the spin-off, the investors questioned whether the spin-off was “real”.

In actual fact, there were a lot of difficulties involved in Asus’ spin-off because of high net value of Pegatron, which made it more difficult for strategic investors to purchase Pegatron’s stocks. As a result, Asus distributed 75% of Pegatron’s stocks to Asus’ stockholders and the remaining 25% of stocks were still held by Asus. However, Asus’ stockholders were dissatisfied with this decision as Pegatron was an unlisted company. From stockholders’ point of view, unlisted companies would have higher liquidity risks. This led to a selling pressure of Asus’ stocks. In order to solve this problem, Asus held several public meetings to communicate with its stockholders and market investors. Pegatron finally became listed on June 24, 2010.

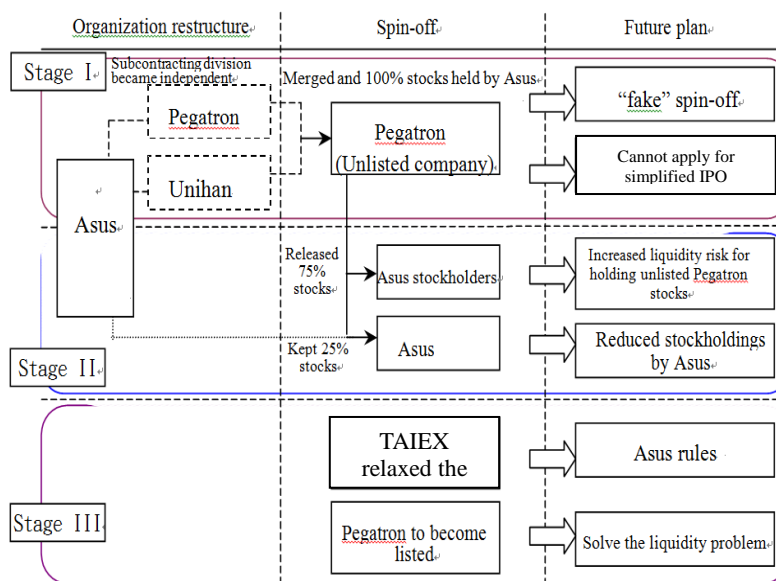


Figure 3. Spin-off of Asus

5.2.2 Market Reactions to Asus’ Spin-off

A plunge in stock prices was the first reaction from the market after the announcement of Asus’ spin-off. The stock market opened at the downward limit on the next day and the trading volume was extremely low with few buy-side investors. Interestingly, while the public showed negative attitude towards Asus’ spin-off and the stock prices remained weak, there appeared strong buying pressure with high trading volume on the second trading day after the spin-off announcement. Overall, the stock prices fell by only a relatively small degree (13%). Figure 4b shows that the abnormal return after the spin-off announcement was significantly negative. However, the stock price returned to its usual level prior to the spin-off announcement in just two weeks. On some days, the stock prices even exceeded its usual performance. Therefore, the level of AR was reduced as the stock price of Asus rebounded quickly in a short period of time.

Table 2. Financial Performance before and after Asus’ Spin-off

	Before spin-off		After spin-off	
	Asus		Pegatron	Asus
Business	Computer manufacturing, marketing		Subcontracting and manufacturing	Asus brand management
	Announcement date: December 11, 2009		Spin-off date: June 1, 2010	
Capital	42,468m		22,800m	6,370m (Capital reduction by 85% after spin-off)
Outstanding stocks (A)	4,246,777,500		2,280,000,000	6,370,000,000
IPO date	-		June 24, 2010	-
Stock price (B)	\$64.40 (Closing price on announcement date 2009/12/11)		Issue price: \$37.80 Closing price: \$38.95	Issue price: \$235.10 Closing price: \$240.50
Market value(A*B)	Approx. \$273,500m		Approx. \$88,800	Approx. \$153,200m
Book value per share	\$39		\$40.60	\$150.50
Price-book ratio	1.65		0.93	1.59

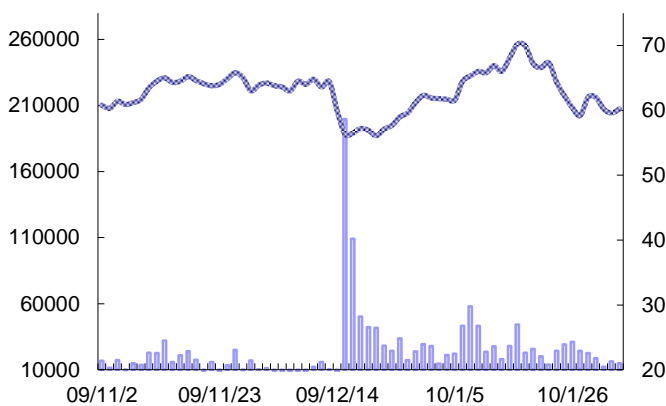


Figure 4a. Stock price and trading volume of Asus before and after Spin-off Announcement

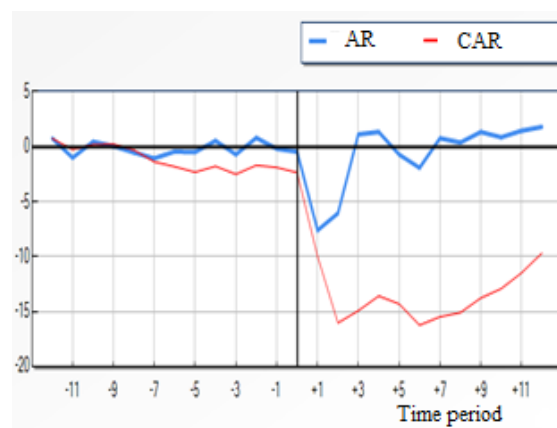


Figure 4b. AR/CAR of Asus before and after Spin-off Announcement

5.3 Spin-off Case Comparisons

In contrast to previous case study research which usually focuses on one case company only and its spin-off motives, this study compares two spin-off cases and analyzes the stock market reactions.

In terms of spin-off motives, the motive of Asus' spin-off originated from its need to divide the tasks of brand management and subcontracting. On the other hand, Yulon's spin-off was caused by the intense competition in car industry and Yulon adopted spin-off as a future development strategy.

In terms of the form of spin-off, both Asus and Yulon adopted the "division by the formation of a new company". At the time of spin-off, Asus had a very high value of total assets, \$273,500 million, which was five times higher than Yulon. This subsequently caused a lot of trouble for Asus when conducting the spin-off. In particular, Asus distributed the spin-off company's (i.e., Pegatron's) stocks to existing stockholders and led to a lot of arguments afterwards. The stock price of Asus subsequently fell by 13% after the spin-off announcement.

In terms of the changes in market value from the spin-off announcement date to the date becoming listed, the total market value of YLO and YLN after spin-off was lower than the market value of Yulon prior to the spin-off. The price-book ratio of existing company had also become worse after the spin-off. This suggests that the potential benefit from spin-off was not as expected. Figure 5 shows the ROE of Asus and Yulon. The same conclusion could be made about Yulon's spin-off. The reason that YLN had better ROE than YLO was that YLN was involved in an expansion investment plan in China, which was perceived to have great future potentials. Accordingly, the price-book ratio of YLN was higher than YLO. After the spin-off, both YLO and YLN showed declines in ROE, possibly due the industry and economic conditions. Not till 2009, YLN found its way out and performed better than YLO, which was evident in their EPS as shown in Table 4. As for Asus, after the spin-off, both Asus and Pegatron continued to grow and benefited from the spin-off.

Table 3. Comparisons of Yulon and Asus Spin-offs

	Asus spin-off	Yulon spin-off
Spin-off motives	Division of tasks	Industry pressure
Form of spin-off	Division by the formation of new company	Division by the formation of new company
Spin-off process	Distribute stocks of new company to stockholders of existing company	Gradually sell off new company's stocks
Total assets prior to spin-off	\$87,600m (2009Q3)	\$76,400m (2002 year-end)
Stock price changes		
On spin-off announcement day	\$64.40	\$40
Lowest price	\$56.10	\$38
Stock price change	-13%	-5%
Market value changes		
On spin-off announcement day	\$273,500m	\$76,100m
IPO of new company	\$242,000m	\$75,800m
Changes (%)	-11.5%	-0.4%
Price-book ratio changes		
Spin-off announcement	1.65	1.76
New company	1.6	2.15
Existing company	0.93	1.16

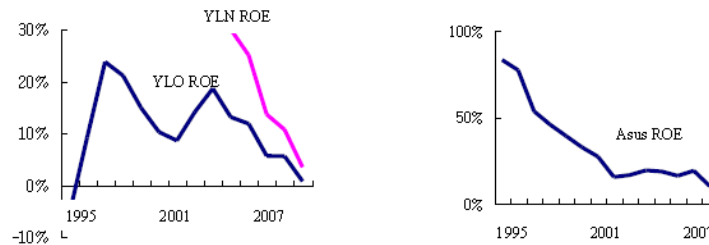


Figure 5. Changes in ROE Prior to and after the Spin-off for Yulon

Table 4. EPS after Spin-off

%	Asus	Pegatron	Yulon	Nissan Taiwan
2009	2.94	2.95	0.72	2.18
2010	7.72	2.73	2.62	9.61
2011	21.99	0.05	2.28	12.77
2012	29.79	2.71	1.89	16.43
2013	28.66	4.16	1.62	24.33

This study further analyzes nine companies (Note 5) which conducted spin-off in the first year after the Business Mergers and Acquisitions Act was enforced. The stock prices of these nine companies can return to the anchoring price on the announcement day in six days on average. The evidence shows that an anchoring effect does exist in spin-off events as shown in Table 5 and Figure 6. Figure 6 shows that five days after the spin-off announcement, the CAR is -34.89% and the AR is -3.9%. This is similar to Korwar and Masulis' (1986) findings; that is, the announcement of seasoned equity offerings leads to a return of -3.5%. The result also confirms with Mitchell, Pulvino and Stafford's (2001) finding that when the parent company distributes subsidiary's stocks to stockholders of the parent company, the differences in stock prices will converge in the end. On balance, the evidence on spin-offs is consistent with the general market practice. The evidence is consistent with the hypotheses that the nine spin-off companies in 2003 have negative abnormal returns and that stock prices of spin-off companies will return to the anchoring price.

Table 5. Stock Prices on the Spin-off Announcement Day in 2003 and on the Price Rebound Day

Company	Announcement date	Opening price	Highest price	Lowest price	Closing price	Price rebound date	Opening price	Highest price	Lowest price	Closing price
Chia Hsin Cement Corporation (1103)	2003/9/15	16.2	16.2	15.7	16.2	2003/9/16	16.3	16.4	15.9	16.1
Far Eastern Group (1402)	2003/3/13	11.8	12.4	11.75	12.2	2003/4/4	12.25	12.75	11.7	12.75
Shihlin Electric (1503)	2003/10/9	19.2	19.9	19.2	19.6	2003/11/18	19.4	19.5	19.2	19.3
Yulon (2201)	2003/5/20	40.4	42.2	40.1	42.1	2003/5/22	39	40.1	38	39.9
D-Link (2332)	2003/2/10	28	28.9	27.8	28.5	2003/2/12	28.6	28.7	26.8	27.1
E&C Engineering Corporation (2544)	2003/11/18	5.75	6.15	5.75	6.15	2003/11/21	5.85	5.95	5.75	5.9
Nankang (2101)	2003/11/11	25	25.4	25	25	2003/11/12	25.8	25.8	24.8	24.9
GTM (1437)	2003/11/6	14.6	15.3	14.35	14.4	2003/11/7	14.6	15.1	14.6	14.9
Kwong Fong (1416)	2003/4/8	3.18	3.23	3.15	3.15	2003/4/9	3.15	3.2	3.15	3.19

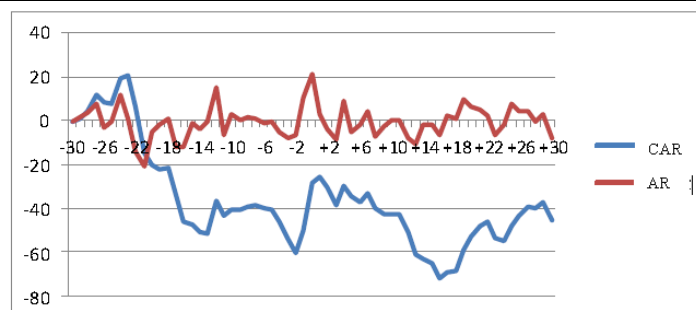


Figure 6. AR/ CAR of the Spin-offs in 2003

6. Conclusion and Discussions on Investment Strategies

This study distinguishes from previous theoretical studies and adopts a case study method to review the performance before and after the spin-off of Yulon and Asus. The finding is consistent with the argument of Rodrik (2007) about market-supporting institutions is critical industrial policy for developing countries in 21st century. Furthermore, we also propose some investment strategies for current stockholders and potential investors of Asus.

The results from this study differ from Schipper and Smith's (1986) findings. However, the evidence is consistent with Korwar and Masulis' (1986) finding of negative returns. Our finding also confirms with Mitchell, Pulvino and Stafford's (2001) research, which finds that when the parent company distributes the stockholdings of the subsidiary to stockholders of the parent company, the difference in stock prices will converge. Our CAR graph shows that initially investors have negative perceptions of the spin-offs. Yulon experienced a 5% fall in stock prices and Asus experienced a fall of 12%. The results support Nanda's (1991) asymmetric information argument. That is, managers believe that the best timing for spin-off is when the parent company is being devalued while the subsidiary is being overvalued. This suggests that spin-offs send out a positive signal about the parent company but a negative signal about the subsidiary. Therefore, the stockholders of Asus were not happy when given the stocks of the subsidiary, Pegatron. Not till the Taiwan Stock Exchange (TAIEX) relaxed its simplified IPO rules and allowed for a new "Asus Rule" and public meetings were held by Asus, the dissatisfaction problem of existing stockholders was solved. The stock price then returned to the pre-spin-off level after the announcement by TAIEX about the Asus Rule on January 29, 2010. It points out the necessity of dynamic adjustments in industry policies in emerging markets.

Spin-offs are considered to be a big change in the organization and in its development strategies. Using Asus as an example, the stock price on the spin-off announcement day was \$64.40 and reached a low of \$56.50. It then bounced back and reached a high of \$70.20, showing an increase of 24%. Therefore, investors faced with spin-offs can adopt the following strategies:

- (1) Buying-side investors can sell the stocks first based on the significant news event and buy the stock when the stock price lowers. This strategy is usually adopted by financial investors.
- (2) Selling-side investors can take the opportunity and enter the market.

Areas for future research include analyzing how hedging (using warrants or futures) may affect the investment portfolio on the spin-off announcement day. Also, future research can examine whether the stock price is reasonable on and after the spin-off announcement and test the degree of divergence. Finally, as this study adopts a case study method, future studies can use a larger sample to conduct an empirical test of the theories.

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Endnotes

¹ Yulon works with Nissan which is a well known car manufacturing company, and this case is the best example for spin-offs in 2003.

² The relevant law includes Articles 32 and 33 of Business Mergers and Acquisitions Act and Articles 316 and 317 of Company Act and Article 52-2 of Operating Rules of the Taiwan Stock Exchange Corporation.

³ The spin-off announcement day of Asus is December 11, 2009.

⁴ Chia Hsin Cement Corporation (1103) conducted a spin-off on September 15, 2003, Far Eastern Group (1402) on March 13, 2003, Shihlin Electric (1503) on October 9, 2003, Yulon (2201) on May 20, 2003, D-Link (2332) on February 10, 2003, E&C Engineering Corporation (2544) on November 18, 2003, Nankang (2101) on November 11, 2003, GTM (1437) on November 6, 2003, and Kwong Fong (1416) on April 8, 2003.

⁵ The nine companies are Chia Hsin Cement Corporation (1103), Far Eastern Group (1402), Shihlin Electric (1503), Yulon (2201), D-Link (2332), E&C Engineering Corporation (2544), Nankang (2101), GTM (1437), Kwong Fong (1416).



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