

# The impact of Apple's new product releases on Samsung's and its own stock price

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## Abstract

Apple and Samsung have been the two head contenders in the highly competitive electronics market by a long shot. Apple's new product releases have greatly impacted on the market, including their share prices. The problem of the research is whether Apple's new product releases influence on Samsung's and its own stock price. This study found that the launch of Apple's new products usually has a significant positive impact on its own stock price, while it harms Samsung, although Samsung can maintain market competitiveness by rapidly adjusting its strategy. Future research can further verify the impact of Apple's new products on other competitors, especially through the analysis of a wider range of technology companies. Through these studies, it can provide a reference for investors to make more informed decisions during the launch of new products.

**Key words:** Apple's New Products; Stock Price; Samsung; Regression Analysis; Event study.

## 1 Introduction

In the fast-growing global consumer electronics market, Apple and Samsung Electronics, as industry leaders, hold significant market positions with their own unique product ecosystems. They compete in market share, technological innovation, brand building, and user loyalty.

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Apple has recently released the iPhone 16 series, which has again attracted extensive attention in the global market. This is not only a way for Apple to improve its competitiveness but also a product that profoundly affects other competitors. To help consumers understand the most popular products, the stock price movement directly reflects the popularity of the company and its products, so the research chooses to study the stock price movement to indirectly refer to consumers' decision-making.

From 2015 to 2022, Samsung and Apple consistently held the top two positions in the smartphone and tablet markets. Although Samsung occupied the first position in most years, Apple's market share has gradually increased, even surpassing Samsung in some years.

In 2023, Apple's market capitalization exceeded \$3 trillion. Known for its innovative design and user experience, Apple has led the way in smartphones since the introduction of the first iPhone in 2007. Its product lines, including the iPad, MacBook, and Apple Watch, form a seamlessly integrated ecosystem with a huge fan base. With a market capitalization of over \$400 billion, Samsung Electronics is also one of the world's largest electronics makers, with products ranging from smartphones to home appliances and semiconductors. The Galaxy series, known for its powerful hardware and diverse range of choices, has strengthened Samsung's position in the smartphone market.

Apple's new product releases often cause significant stock price movements for both itself and its competitors, driven by market expectations and product reception. These launches can shift market share, affecting competitors' stock prices. The research investigates how Apple's new product releases influence its own stock price and that of its competitor, Samsung, and the event study results reveal that these launches generally have a significant positive impact on its own stock price, while they tend to negatively impact Samsung's stock price.

The Literature section examines prior studies using event study methodologies to assess the impact of new product announcements on stock prices, providing a foundation for the current research. The Data and Methods section outlines the data collection process, including the sources and statistical methods used to analyze stock price reactions. The Empirical Results and Discussion section presents and interprets the findings, focusing on how Apple's product launches affect both its own and Samsung's stock prices. Finally, the Conclusion summarizes the study's key in-

sights and suggests directions for future research, such as exploring the broader impact on other competitors in the industry.

This study aims not only to reveal the direct impact of Apple's new product releases on Samsung's stock price but also to provide important insights into the smartphone and tablet markets through an in-depth analysis of industry competition and market dynamics. These insights will help investors better understand the causes of market fluctuations and make more informed investment decisions. Additionally, this study hopes to offer new perspectives and reference materials for academic research in related fields.

## **2 Literature Review**

The literature review can be divided into studies related to event studies and studies on stock price movement factors. The event study methodology examines the impact of specific events, like new product releases, on a company's share price by evaluating unusual price movements around the event. This involves calculating Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) over an event window, typically a few days before and after the event.

Paul S. Koku et al. used an event study and concluded that while new product announcements generally have a positive impact on stock prices, the effect is significantly influenced by the type and timing of the announcement, with preannouncements often leading to different outcomes. This study will further explore the stock price changes at different periods.

Event study is also commonly used in studying the effect of component factors on the whole. This year, Gao et al. used event studies and cross-sectional regression analyses to examine announcements made by 88 firms between 2011 and 2022 and identified innovations that typically result in positive stock market reactions, as well as debunking the hypothesis that a portion of the specific features of social responsibility have an impact on stock prices, as they did not significantly alter stock market reactions. As early as ten years ago, also using Apple and Samsung as a comparative study, Shi Bohui had already used the event study method to establish a comprehensive competitive evaluation index system for the two enterprises, taking into account the cross-country specificity, and setting up indicators for multiple aspects of production, demand and trading and

downward sub-division, which could be used as a reference when interpreting the results when doing the stock price impact analysis.

The study also draws on academic information that explores the factors that influence changes in share prices, as well as information on market competition. In 2024, Jenny Chu et al. found that detailed announcements involving innovations usually indicate increases in stock price and sales and that innovations have long been an important factor in stock price changes. Shauna O'Brien provided a detailed analysis of the stock price movements of Apple Inc. following major product announcements, such as the iPod and iPhone. By examining both immediate and longer-term impacts on Apple's stock price, the study helps us understand the market's reaction to product innovation and the resulting investor confidence. The 2021 study by Margarida and her colleagues revealed that different communication strategies significantly influence consumer behavior, with Apple users demonstrating greater loyalty. Porter's Competitive Strategy: Techniques for Analyzing Industries and Competitors(1980) provided a framework for analyzing competing firms, with the study finding that Apple's introduction of new products may affect competitor stock prices through competitive market pressures. The results of the event study can be explained in terms of various market competition factors, which are also vital references for competitive strategies.

## **3 Data and methods**

### **3.1 Data**

Individual data are obtained from the finance.yahoo.com website. This includes stock prices of Apple Inc. and Samsung Electronics Co., as well as stock prices from the US and South Korean markets and the USD/KRW exchange rate. The data includes time series for each working day in the local market from 2003 to 2023. The obtained data are processed in Stata and Microsoft Excel. The next step is to edit the dataset and exclude irrelevant data, such as opening prices, closing prices, or the lowest and highest stock prices. The dataset keeps only the columns containing the dates and the adjusted closing prices of the stocks. Missing data in the USD/KRW exchange rate dataset, totaling 210 entries, are filled in using linear interpolation. Samsung's stock prices and the South Korean market stock prices are converted into USD using the daily USD/KRW exchange

rate. The returns for Apple Inc., Samsung Electronics Co., and the US and South Korean markets are calculated based on the stock prices. Two-panel datasets are created: one containing the returns of Apple Inc. and the US market, and another containing the returns of Samsung Electronics Co. and the US market. The datasets consist of 5,285 rows and 5,235 rows, respectively. The next step is to evaluate and compare the obtained data and establish market models corresponding to Apple and Samsung.

## 3.2 Methods

### 3.2.1 Calculation of Returns

Calculate the returns for Apple Inc. and Samsung Electronics Co. using the following formulas:

$$R_t = \frac{P_t - P_{t-1}}{P_{t-1}}$$

Here,  $t$  represents a specific working day,  $R_t$  denotes the company's return at time  $t$ ,  $P_t$  represents the company's stock price at time  $t$ , and  $P_{t-1}$  represents the company's stock price on the previous working day.

Calculate the returns for the US market and the South Korean market using the following formulas:

$$R_{mt} = \frac{P_{mt} - P_{mt-1}}{P_{mt-1}}$$

Here,  $t$  represents a specific working day,  $R_{mt}$  denotes the market's return at time  $t$ ,  $P_{mt}$  represents the market's stock price at time  $t$ , and  $P_{mt-1}$  represents the market's stock price on the previous working day.

### 3.2.2 Establish market models

To better study the impact of product releases on stock prices, we divided the event window into three categories:

Table.1 Event Window

Product	Event window 1	Event window 2	Event Window 3
Original iPhone	20070104-20070704	20070104-20070114	20070624-20070704
Apple Watch Series 1	20140904-20150429	20140904-20140914	20150419-20150429
AirPods	20160902-20161218	20160902-20160912	20161208-20161218
iPhone X	20170908-20171108	20170908-20170918	20171028-20171108

In Table 1, ‘Event window 1’ represents the period from five days before the announcement time to five days after the release time. ‘Event window 2’ represents the period from five days before the announcement time to five days after the announcement time. ‘Event window 3’ represents the period from five days before the release time to five days after the release time.

Based on this, we select the three years before the event window as the estimation window and use the following formula to establish the market models for Apple and Samsung:

$$\hat{R}_t = \hat{\alpha} + \hat{\beta}R_{mt}$$

Here, t represents a specific working day,  $R_{mt}$  denotes the market’s return at time t, and  $\hat{R}_t$  is the company’s predicted return at time t.

### 3.2.3 Calculate Abnormal Return and Cumulative Abnormal Return and Their Confidence Intervals

Use the following formula to calculate the Abnormal Return (AR):

$$AR_t = R_t - \hat{R}_t$$

Here, t represents a specific working day,  $R_t$  denotes the company’s actual return at time t,  $\hat{R}_t$  is the company’s predicted return at time t, and  $AR_t$  is the company’s Abnormal Return at time t.

Use the following formula to calculate the Cumulative Abnormal Return (CAR):

$$CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_t$$

Here,  $t$  represents a specific working day,  $textAR_t$  denotes the company's Abnormal Return at time  $t$ , and  $CAR(t_1, t_2)$  represents the company's Cumulative Abnormal Return from time  $t_1$  to  $t_2$ .

Based on this, assuming AR follows a normal distribution with a mean of 0 and standard deviation  $\hat{\sigma}$ , the 95% confidence interval is given by  $\pm 1.96 * \hat{\sigma}$ . Therefore, the confidence band for AR is:

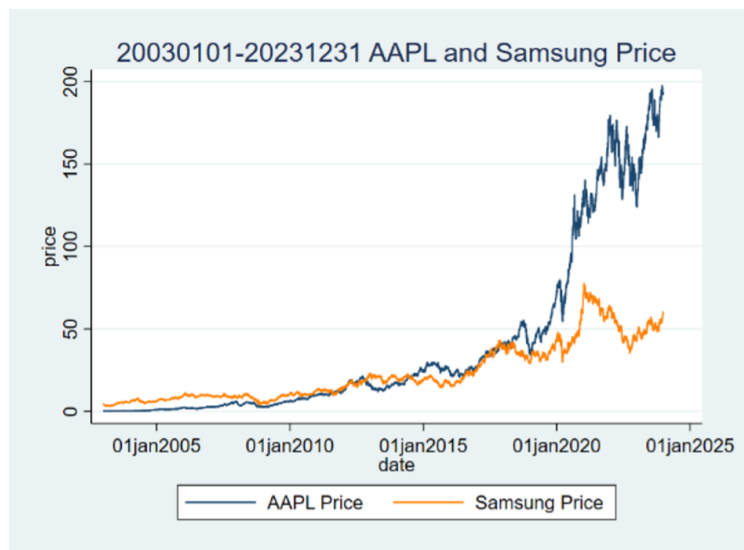
$$[-1.96 * \hat{\sigma}, 1.96 * \hat{\sigma}]$$

### 3.2.4 Statistical Testing Methods

We use two statistical test methods: first, one-sample t-test: This test checks whether the mean of the CAR for a single company within the event window is significantly different from zero. Second, single-point t-test: This test checks whether the CAR and AR for a single company within the event window are significant.

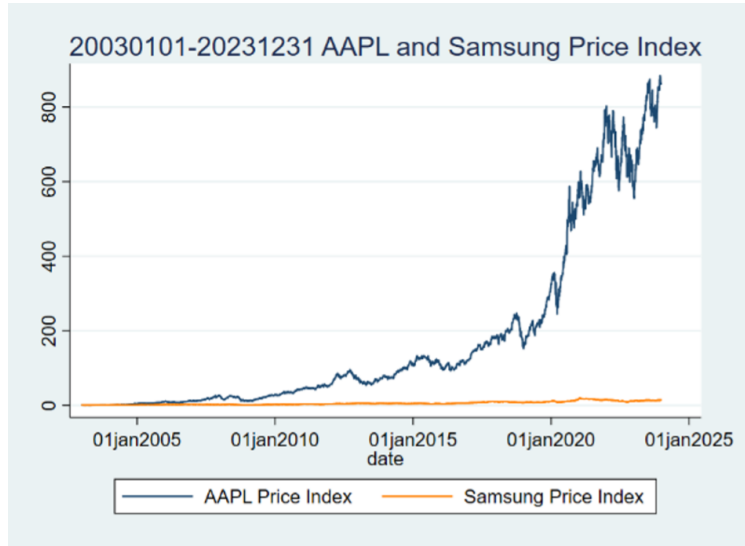
## 4 Empirical Results and Discussions

### 4.1 Data Description



**Figure 1:** 20030101-20231231 AAPL and Samsung price

From Figure.1, Apple’s stock price has grown from less than 1 initially to nearly 200, despite some fluctuations along the way. Meanwhile, Samsung’s stock price has gradually increased from around \$3 to about \$75 before falling back to around \$50. After being closely entangled for 12 years, Apple’s stock price sharply increased, leaving Samsung behind.



**Figure 2:** 20030101-20231231 AAPL and Samsung price index

We set the price on January 1, 2003, to 1 and calculated the corresponding price indices for Samsung and Apple. From Figure.2, Apple’s price index has increased more than eight hundredfold over the past twenty years, while Samsung’s growth appears much less significant in comparison.

Table.2 Descriptive statistical analysis of Apple’s data from 20030101 to 20231231

	Price	Market Price	Return	Market Return
Obs	5285	5,285	5285	5285
Smallest	0.198078	951.9	-0.1791955	-0.1219322
Largest	197.5895	16906.8	0.1390495	0.1257993
Mean	39.30577	5040.935	0.0015039	0.0006352

Std.Dev	52.44051	4323.322	0.0209265	0.0139868
Variance	2750.007	1.87E+07	0.0004379	0.0001956
25%	3.8453	1766.28	-0.0086711	-0.0056057
50%	16.99829	3002.62	0.001141	0.0010957
75%	44.3087	7044.5	0.0121002	0.0075151

For Apple's data, we conducted a descriptive statistical analysis of Apple's stock prices, market prices, Apple's returns, and market returns. We have a total of 5,285 samples. The smallest, largest, and variance of the returns indicate that Apple's return volatility is greater than the market's return volatility. (see Table.2)

Table.3 Descriptive statistical analysis of Samsung's data from 20030101 to 20231231

	Price	Market Price	Return	Market Return	Ex-rate
Obs	5235	5235	5235	5235	5235
Smallest	3.235453	0.4122579	-0.1674193	-0.1816716	903.2
Largest	77.49918	2.931528	0.2903328	0.2776983	1570.1
Mean	22.88301	1.651961	0.000747	0.0003945	1131.761
Std.Dev	17.32006	0.5080252	0.0212283	0.0165216	106.3427
Variance	299.9846	0.2580896	0.0004506	0.000273	11308.78
25%	9.185687	1.415854	-0.011287	-0.0074107	1071.86
50%	17.65698	1.755302	0.0003673	0.0009846	1131.79
75%	35.30888	1.92515	0.0121003	0.0084211	1184.93

For Samsung's data, we also conducted a descriptive statistical analysis of Samsung's stock prices, market prices, Samsung's returns, and market returns. Besides, we also analyze the USD/KRW

exchange rate data. We have a total of 5235 samples. (see Table.3) The observations for Samsung and Apple differ. A significant reason is that the two companies are listed in different regions, and their stock markets have different holiday schedules.

## 4.2 Estimation of Market Model

Based on the processed data, we conducted regression and forecasting for the four products. For each product, there are two important time points, namely, the announcement time and the release time. The announcement time refers to when Apple Inc. holds a conference to announce the product, while the release time refers to when the product is officially launched for sale by Apple Inc.

To better predict the return trends, we defined two different estimation windows:

- (1) Use five days before the announcement time and five days after the release time as the event window and three years before the event window as the estimation window.
- (2) Use five days before and after the release time as the event window and three years before the event window as the estimation window.

Next, we will establish models based on the two different estimation windows, respectively.

First, we use five days before the announcement time and ten days after the release time as the event window(see Table.4) and the three years before the event window as the estimation window 1.

Table.4 Event window of estimation window 1

Product	Announcement Time	Release Time	Event Window
Original iPhone	20070109	20070629	20070104-20070704
Apple Watch Series 1	20140909	20150424	20140904-20150429
AirPods	20160907	20161213	20160902-20161218

iPhone X	20170913	20171103	20170908-20171108
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Next, we established our market model based on estimation window 1.

Table.5 Market model with estimation window 1

Product	Original iPhone	Apple Watch Series 1	AirPods	iPhone X
Apple (AAPL) market model				
Beta	1.225129*	1.033051*	1.001935**	1.072538**
	(0.0767714)	(0.0506343)	(0.0423551)	(0.037428)
Alpha	0.002705***	0.000129***	0.00011***	0.00025***
	(0.000778)	(0.0005028)	(0.000426)	(0.0003683)
Samsung market model				
Beta	1.104998**	1.126981**	1.064352**	1.082913**
	(0.026564)	(0.0324468)	(0.0461961)	(0.0469532)
Alpha	-0.00048***	0.00061***	0.000351***	0.000845***
	(0.0003642)	(0.0004516)	(0.0004729)	(0.0004974)

In Table.5, we use ‘\*’ beside the estimates to indicate the significance level. Among them, ‘\*’ indicates a p-value less than 0.1 but greater than 0.05, ‘\*\*’ indicates a p-value less than 0.05 but greater than 0.01, and ‘\*\*\*’ indicates a p-value less than 0.01. The standard errors are presented in parentheses. Based on the processed data, we performed regression and forecasting for the four products. Apple’s beta is greater than 1, indicating that Apple’s volatility is higher than the market. Apple’s beta shows a decreasing trend with product releases, which means that investors face less market volatility risk when holding Apple stocks, and the performance of stocks is more stable.

Then, we use five days before and after the release time as the event window(see Table.6) and the three years before the event window as the estimation window 2.

Table.6 Event window of estimation window 2

Product	Release Time	Event Window
Original iPhone	20070629	20070624-20070704
Apple Watch Series 1	20150424	20150419-20150429
AirPods	20161213	20161208-20161218
iPhone X	20171103	20171028-20171108

Next, we established our market model based on estimation window 2.

Table.7 Market model with estimation window 2

Product	Original iPhone	Apple Watch Series 1	AirPods	iPhone X
Apple (AAPL) market model				
Beta	1.277625*	1.11858*	1.007339**	1.098955**
	(0.0780957)	(0.055302)	(0.0404252)	(0.0376642)
Alpha	0.00244***	-0.0000613***	0.000127***	0.000085***
	(0.0007542)	(0.0004969)	(0.0004093)	(0.0003624)
Samsung market model				
Beta	1.020643**	1.337542**	1.094147**	1.08605**
	(0.0299597)	(0.0430016)	(0.0474633)	(0.047526)
Alpha	-0.00071***	0.000176***	0.000426***	0.000967***
	(0.0003669)	(0.0004305)	(0.0004966)	(0.000504)

In Table.7, we use ‘\*’ beside the estimates to indicate the significance level. Among them, ‘\*’ indicates a p-value less than 0.1 but greater than 0.05, ‘\*\*’ indicates a p-value less than 0.05 but

greater than 0.01, and ‘\*\*\*’ indicates a p-value less than 0.01. The standard errors are presented in parentheses. The models established are all significant.

### 4.3 Significance of Releasing New Products

We predicted returns and calculated AR and CAR. As mentioned earlier, we have three types of event windows. We performed a t-test on the CAR corresponding to each of the three event windows for each product.

Table.8 The one-sample t-test on the CAR

Event Window	Event window 1	Event window 2	Event window 3
AAPL			
Original iPhone	-*** (1.50713E-06)	+*** (0.000163446)	- (0.120342261)
Apple Watch Series 1	+*** (2.72697E-35)	-*** (0.003505358)	+*** (0.007461374)
AirPods	+*** (8.06015E-25)	+ (0.484202768)	+*** (0.000107464)
iPhone X	-*** (6.08739E-16)	-*** (6.27531E-05)	+*** (3.70579E-05)
Samsung			
Original iPhone	-*** (3.05824E-26)	+ (0.957985854)	- (0.178481354)
Apple Watch Series 1	+*** (3.68983E-28)	-*** (3.74937E-05)	-*** (0.001059944)
AirPods	+*** (0.003265819)	-*** (0.001742301)	- (0.134299225)
iPhone X	+*** (6.59964E-21)	+*** (1.13489E-05)	+*** (4.81227E-07)

In Table.8, ‘Event window 1’, ‘Event window 2’, and ‘Event window 3’ are the event windows as defined in Table 1. The positivity and negativity (labeled as ‘+’ for positive and ‘-’ for

negative) are determined by evaluating whether the Cumulative Abnormal Return (CAR) is significantly different from zero. We tested whether the mean CAR for different event windows was significantly positive or negative using a one-sample t-test. This test helped us verify whether the observed CAR was statistically different from zero over the event windows. We use ‘\*’ beside the estimates to indicate the significance level. Among them, ‘\*’ indicates a p-value less than 0.1 but greater than 0.05, ‘\*\*’ indicates a p-value less than 0.05 but greater than 0.01, and ‘\*\*\*’ indicates a p-value less than 0.01. The standard errors are presented in parentheses.

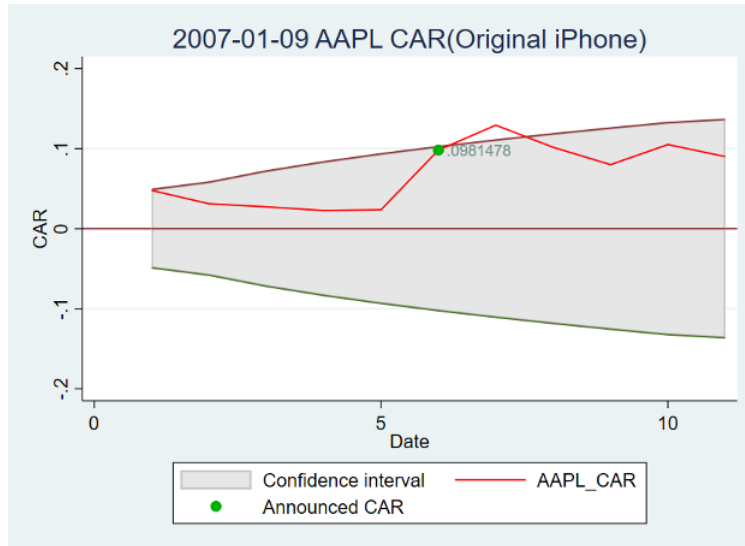
The standard errors in Table.8 may appear small because they measure the precision of the estimated coefficients. Small standard errors indicate a high level of precision, suggesting that the sample provides a strong estimate of the true coefficient. In Table 8, the significance of coefficients (indicated by asterisks) also shows that the results are statistically significant, even with small standard errors.

Then, we obtained the graphs of CAR and AR for Apple and Samsung and performed single-point t-tests. We calculated the 95% confidence bands for AR and CAR based on the formulas mentioned earlier and represented them in gray in the graphs. To facilitate the assessment of the positivity and negativity of CAR and AR, we labeled the x-axis in the graph. The resulting image will be presented in the next section.

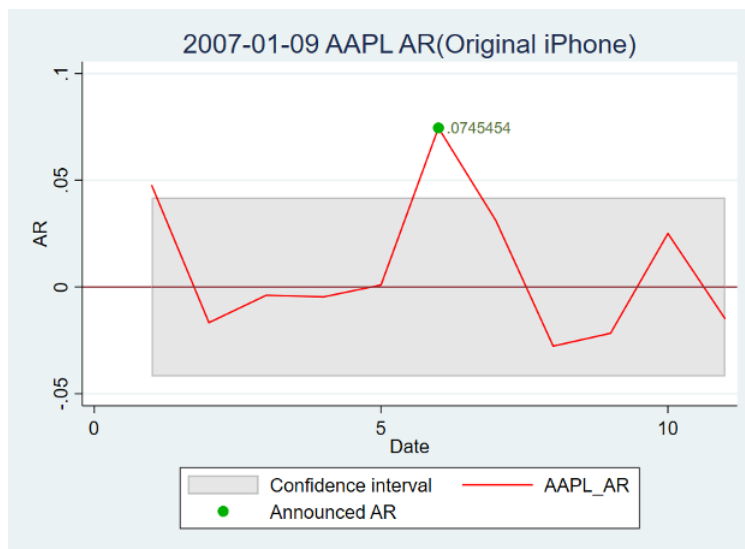
## **4.4 Discussion**

### **4.4.1 Original iPhone**

On January 9, 2007, Apple released its first iPhone. Figure.3 and Figure.4 showed that the CAR of the stock price was significantly positive at the time of release, and the AR reached the highest close to 0.8 in recent times on the same day. With high expectations in the market, Apple’s stock price rose by about 4% in the 60 days following the announcement of the first iPhone (Ben, 2020). Because the first iPhone was an epoch-making product, the media spoke highly of it as “Jesus’ phone” (Baidu, 2017).



**Figure 3:** 20070109 AAPL CAR (Original iPhone)



**Figure 4:** 20070109 AAPL AR (Original iPhone)

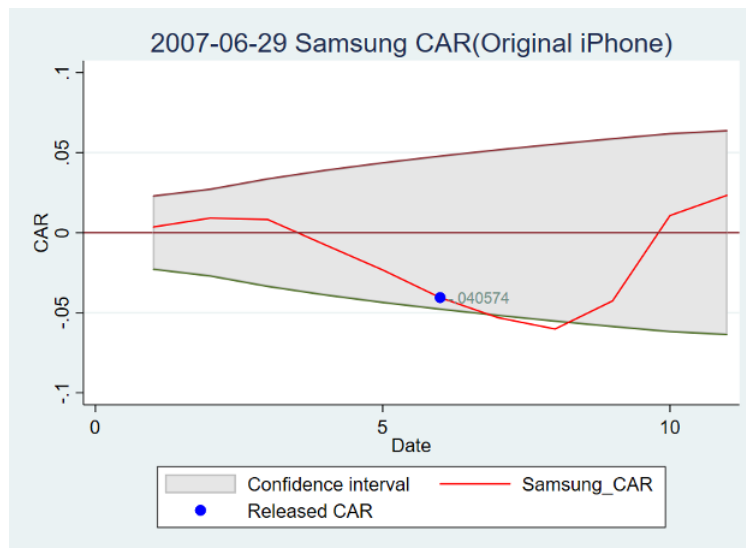
However, when Apple officially launched its first iPhone on June 29, the market conducted a more reasonable assessment of the actual sales data and market feedback and found that users pointed to the first iPhone:

- (1) lack of support for 3G networks
- (2) the elimination of the widely used physical keyboard

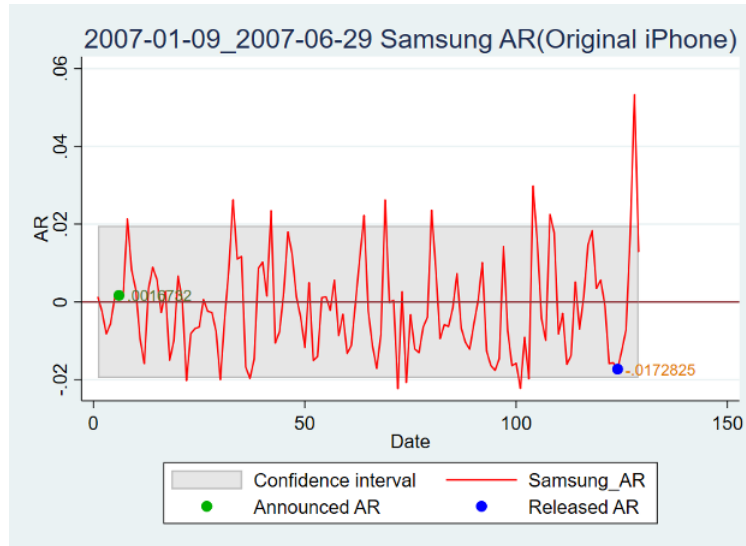
(3) Coupled with excessive publicity, the actual performance was not as expected

These problems have caused investors to worry about Apple's future profitability. The stock price has fallen, and the stock price of CAR has also turned from positive to negative.

After Apple officially launched its first iPhone, Samsung's stock price was also hit, CAR was significantly negative, and AR as a whole fluctuated widely. The launch of the first iPhone represents a major change in the smartphone market. It introduces a full touchscreen design, an intuitive user interface, and powerful mobile internet capabilities. Although the actual user feedback was less than expected, the market generally believes that the first iPhone changed the mobile communication landscape, causing investors to worry about Samsung's competitiveness in the smartphone market and causing Samsung's stock price to fall. On top of that, Samsung hasn't been able to quickly launch a product that rivals the first iPhone to compete for market share. The strategic slowness led some investors to sell Samsung shares, which in turn made the CAR significantly negative.



**Figure 5:** 20070629 Samsung CAR (Original iPhone)



**Figure 6:** 20070629 Samsung AR (Original iPhone)

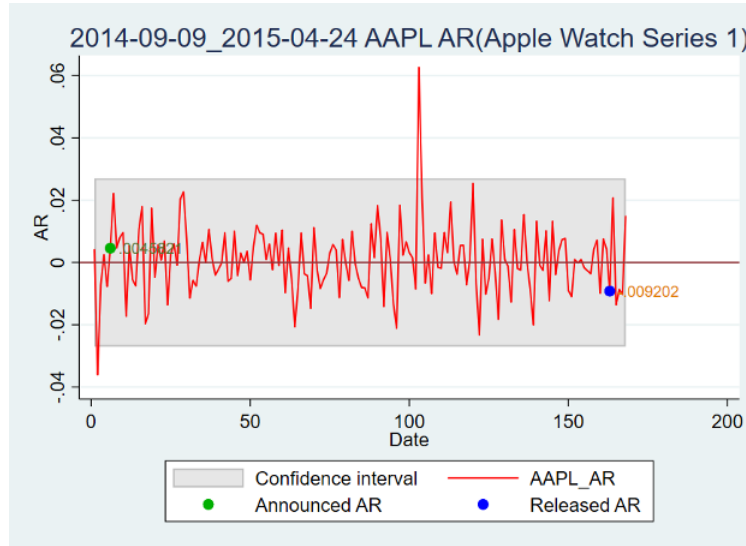
#### 4.4.2 Apple Watch Series 1

On September 9, 2014, Apple released the Apple Watch Series 1, which marked Apple’s first entry into the wearables market. However, Apple’s share price of AR was significantly negative after the Apple Watch was released. This comes down to the following.

Uncertainty in the wearables market: despite the market’s confidence in the Apple brand, investors may remain cautious about a completely new product category, especially in the immaturity of the wearables market.

Competitive pressure: Samsung had already launched the Samsung Gear series to enter the wearable market at the time. Investors may be concerned about whether the Apple Watch can stand out in a highly competitive market. Figure.7 shows that there was a surge in AR in Apple’s share price after the announcement of the Apple Watch due to Apple’s inclusion in the Dow Jones Industrial Average in March 2015, which attracted more investors(Money Morning,2015) Then, on April 24, 2015, Apple officially sold the Apple Watch Series 1 after AR was significantly positive. Although the response after the launch event was not as expected, after the official launch of the product, consumers’ experience and word-of-mouth for the Apple Watch were better than expected. Features such as health tracking and notification reminders are well received. The positive feedback has boosted investors’ confidence in buying Apple stock, and the stock price has

risen.



**Figure 7:** 20140909-20150424 AAPL AR (Apple Watch Series 1)

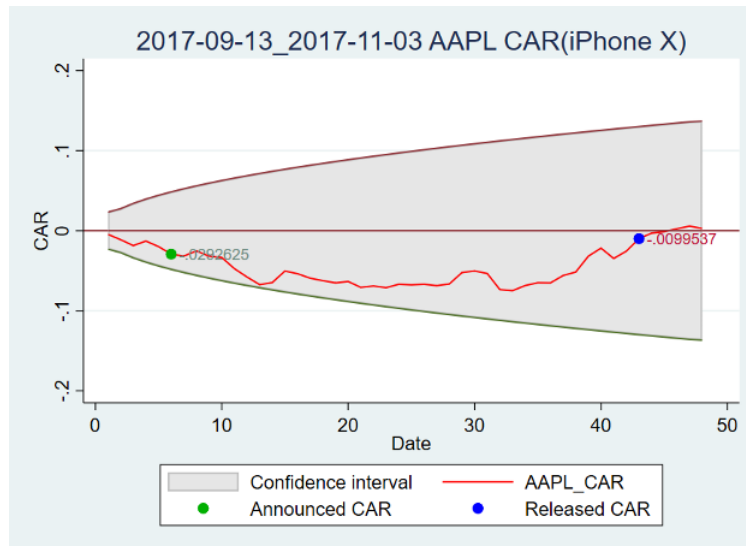
#### 4.4.3 AirPods

For Apple (AAPL), the study shows that its CAR following new product launches has turned from negative to positive, indicating a gradual shift in the market's attitude towards Apple from initial skepticism to acceptance. Although Apple's new products are typically accompanied by high risk and high pricing, the market eventually showed acceptance of its ability to innovate due to its technological leadership. This shift reflects investor confidence in Apple's ability to continue to innovate, especially as the initial uncertainty surrounding new product launches is gradually removed.

In contrast, Samsung's CAR has been consistently positive after new product launches, indicating that the market is unanimous in its attitude toward Samsung's new product launches. Samsung has a solid position in the market due to its strong research capabilities and extensive product line. Investors have shown confidence in Samsung's continued innovation and diversified product portfolio, which has enabled Samsung to consistently receive positive market reactions following new product launches.

#### 4.4.4 iPhone X

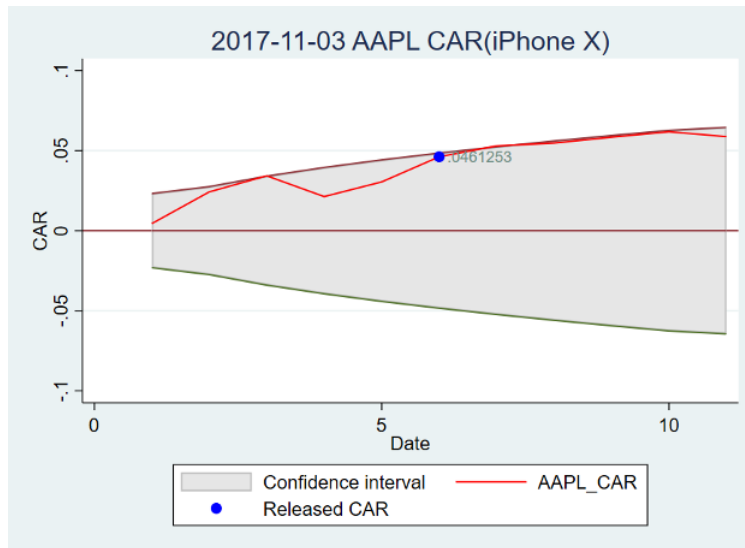
On September 13, 2017, Apple released the iPhone X, and Figure.8 shows that on the seventh day after the release, Apple's stock price CAR was significantly negative, and it cannot be ruled out that Samsung released the Galaxy Note 8 on September 15. The market is not optimistic about the iPhone X. The iPhone X is Apple's most expensive model to date, priced at \$999 for 64GB and \$1149 for 256GB (Nasdaq, 2018), but some reviewers say it's not innovative enough to support such a high price. To make matters worse, some reports that Apple may be facing production and supply chain issues have led to doubts about its ability to deliver products on time and at scale. What's more, the iPhone X is known as the most fall-resistant phone. The test shows that even if it only falls from three feet, it may smash the display and back of the iPhone X. The maintenance fee of more than \$800 has caused dissatisfaction among users, which greatly affected the stock price (Brad, 2017).



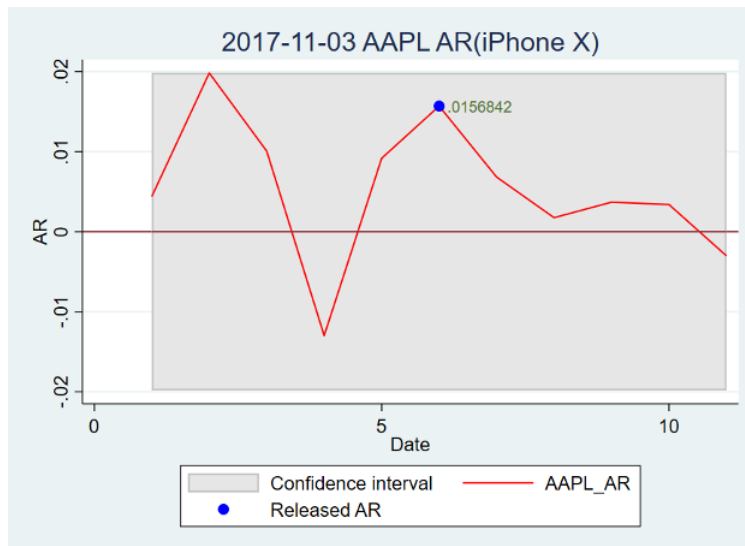
**Figure 8:** 20170913-20171103 AAPL CAR (iPhone X)

On November 3, Apple officially launched the iPhone X. Figure.9 and Figure.10 show that Apple's share price CAR is significantly positive, and AR is also positive before selling. The vast majority of users agree that the iPhone X's full-screen design, wireless charging capabilities, and facial recognition are revolutionary advancements. It can also be seen from Figure.9 that after receiving positive feedback from users, investors have become more active in buying Apple shares, and the stock price has also stably risen. The market's enthusiasm for the iPhone X continued into

August 2018, when Apple became the first United States company to reach a \$1 trillion market (Money Morning, 2015).



**Figure 9:** 20171103 AAPL CAR (iPhone X)



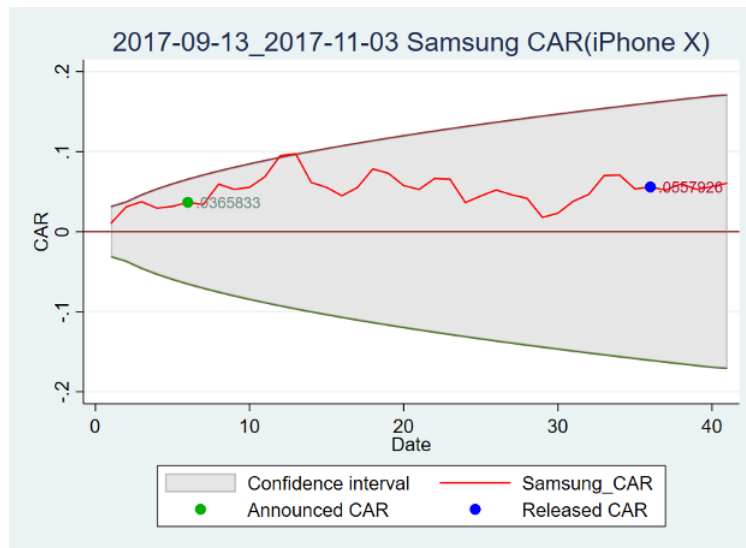
**Figure 10:** 20171103 AAPL AR (iPhone X)

Surprisingly, on the seventh day of Apple’s iPhone X announcement and three days before its official launch, Samsung’s share price had a significantly positive CAR. It can also be seen from Figure.11 that the CAR of Samsung’s price has been in a relatively stable state There are three reasons for this.

Samsung has a wide range of products that cover different price points and feature needs. Investors believe that Samsung will be able to remain competitive needs. Investors believe that Samsung will be able to remain competitive in the market by diversifying its product line.

Samsung has a well-established supply chain. Samsung is a major supplier of Apple’s OLED display (a screen that emits light separately for each pixel to save battery and provide a great viewing experience), which is used in the iPhone X. Even if the iPhone X doesn’t have as many appointments as expected, Samsung, as a supplier, can profit from it.

Shortly after Apple released the iPhone X, Samsung launched the Galaxy Note 8, a high-end smartphone.



**Figure 11:** 20170913-20171103 Samsung CAR (iPhone X)

## 5 Conclusion

The object of this study is the impact of Apple’s new product launch on its own stock prices and those of its competitor, Samsung. When researching, the relevant sock prices and currency exchange rates were collected to calculate the AR and CAR of each company when Apple released a new product, tested them, and carried out the empirical analysis with the existing reports and comments.

For Apple itself, the market’s attitude towards Apple’s new products is usually determined by

the innovation of the new product and the matching of the price. Apple's production of breakthrough products, high risk, and high price are inevitable, but most of the time, the CAR is significantly positive, proving that its leading technology level is favored by the market again and again.

For Samsung, the announcement and the sale of Apple's new product hurt Samsung's stock price, but as the largest conglomerate in Korea, Samsung also has strong scientific strength and numerous product lines, so it can quickly adjust its strategy when Apple releases new products, launch its own new products, and maintain its competitiveness in the market.

Future research can further explore the impact of Apple's new products on competitors' stock prices, as well as the strategies of competitors to verify the applicability and generalizability of this study, not limited to the mobile phone and tablet market, such as Apple's recent landmark product, Apple Vision Pro. In addition, the research can also be expanded to include competitors whose market capitalization is expanding, such as Xiaomi. Through the change in stock price, it is possible to better understand the market performance and competitive strategy of technology companies during the new product launch to provide a valuable reference for investment decisions.

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Jiajia Yang, Yuejia Li, and Xinran Wang contributed equally to this work and should be considered co-first authors.

## **Reference**

Brown, B. (2020). How Apple stock reacts after every major iPhone reveal. CCN. Retrieved August 6, 2024, from <https://www.ccn.com/apple-stock-iphone-launch/>

Koku, P. S., Jagpal, H. S., & Viswanath, P. V. (1997). The effect of new product announcements and preannouncements on stock price. *Journal of Market-Focused Management*, 2(3), 183-199. <https://doi.org/10.1023/A:1009735620253>

Gao, P., Li, Y., Liu, W., Yuan, C., Lee, P.T., & Long, S. (2024). Impacts of digital technology

innovation for social responsibility of platform enterprises on shareholder value. *Ind. Manag. Data Syst.*, 124, 1940-1970.

Shi, Bohui. (2014). An empirical study on the comprehensive comparative advantage of multinational corporations Master (Dissertation, Hangzhou University of Electronic Science and Technology). Master [https://kns.cnki.net/kcms2/article/abstract?v=yQB21MkjwM-OfYCP9X3LyHyOUddGBFSTYlkZS7u0loXCh-gJE0v-vsXkhm9kSNctsApq7WYH6icXu2CrNVXLDuZ2DUzv4U3w3fhSTZNpF2h4Dm9twDH0txTeSVPL6BO0FZnMv\\_hrxIfAYnmEvykC48uSebtMF03MFxOmaAGV0v\\_OXGb9vQuFTtNyXz7su4mDY5PTVDk\\_dXQ=&uniplatform=NZKPT&language=CHS](https://kns.cnki.net/kcms2/article/abstract?v=yQB21MkjwM-OfYCP9X3LyHyOUddGBFSTYlkZS7u0loXCh-gJE0v-vsXkhm9kSNctsApq7WYH6icXu2CrNVXLDuZ2DUzv4U3w3fhSTZNpF2h4Dm9twDH0txTeSVPL6BO0FZnMv_hrxIfAYnmEvykC48uSebtMF03MFxOmaAGV0v_OXGb9vQuFTtNyXz7su4mDY5PTVDk_dXQ=&uniplatform=NZKPT&language=CHS)

Lee, A. L.. (2021). A study on the impact of cross-listing on the share price of industry competitors - an empirical analysis based on the event study method. *National Circulation Economy* (26), 128-130. doi:10.16834/j.cnki.issn1009-5292.2021.26.042.

Chu, J., He, Y., Hui, K. W., & Lehavey, R. (2024). New product announcements, innovation disclosure, and future firm performance. *Review of Accounting Studies*. <https://doi.org/10.1007/s11142-024-09820-0>

O'Brien, S. (n.d.). How does Apple stock react to product releases? *Dividend.com*. Retrieved from <https://www.dividend.com/how-to-invest/how-does-apple-stock-react-to-product-releases/>

Almeida, M., Sousa, E., Rodrigues, C., Candeias, M. B., & Au-Yong-Oliveira, M. (2021). Samsung vs. Apple: How different communication strategies affect consumers in Portugal. *Administrative Sciences*, 11(1), 19. <https://doi.org/10.3390/admsci11010019>

Porter, M. E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. Free Press.

Baidu. (2017). Apple becomes the first company in the world to reach a market value of \$1 trillion. Baidu. Retrieved August 14, 2024, from <https://baike.baidu.com/tashuo/browse/content?id=12a05361061e91d312341247>

Money Morning. (2015). An Apple stock history timeline: Every key event since the IPO. *Money Morning*. Retrieved August 6, 2024, from <https://moneymorning.com/2015/05/01/an-apple-stock-history-timeline/>

Moon, B. (2017, November 14). 6 iPhone X issues Apple Inc. has to deal with. InvestorPlace. Retrieved August 14, 2024, from <https://investorplace.com/2017/11/iphone-x-issues-apple-inc-has-to-deal-with/>

Nasdaq. (2018, December 27). What happened with Apple stock in 2018, and what's next. Nasdaq. Retrieved August 6, 2024, from <https://www.nasdaq.com/articles/what-happened-apple-stock-2018-and-whats-next-2018-12-27>