



温州肯恩大学
WENZHOU-KEAN UNIVERSITY

The Impact of Covid-19 on Large-Scale Real Estate Companies' Stock Price

In Partial Fulfillment of the Requirements
for the Bachelor of Science in Finance

by

ZHU, Jiarui

1098156

December 2021

The Impact of Covid-19 on Large-Scale Real Estate Companies' Stock Price

December 3, 2021

Jiarui (Cherie) Zhu

College of Business and Public Management

Wenzhou-Kean University

Abstract

Since the outbreak of the Covid-19 epidemic in December 2019, it rapidly spread to other regions of China and other countries in the world and has become a public health emergency of international concern. This epidemic has caused a substantial short-term impact on China's national economy and many industries. This article will focus on China's real estate industry, applying the event study to analyze the impact of Covid-19 on China's real estate companies' stock prices, especially the stock prices of large-scale real estate companies. It has been found that China's real estate industry has been severely affected by the Covid-19 epidemic. The stock prices of the large-scale real estate companies have all declined due to the spread of the epidemic, with the most negative impact in the three and six months after the outbreak. The market presents a situation in which yields have decreased and volatility has increased.

Keywords: Covid-19, real estate industry, stock market reaction, event study, cumulative abnormal returns

Introduction

The Covid-19 epidemic is a major public health emergency with the fastest spread, the widest range of infections, and the most difficult prevention and control since the founding of the People's Republic of China. On January 23, 2020, the Wuhan Covid-19 Pneumonia Epidemic Prevention and Control Headquarters issued a message that Wuhan's urban buses, subways, ferries, and long-distance passenger transportation would be suspended, and the airport, railway station and other passages away from Wuhan would also be temporarily closed, in order to make every effort to prevent and control the Covid-19 epidemic and effectively cut off the spread of the virus. This is the first time in human history that the strictest epidemic prevention measures have been taken against a large city with a population of tens of millions. Affected by the epidemic, the operation of China's macro-economy has suffered a severe impact in the short term. According to data from the National Bureau of Statistics (Ma, 2020), China's economic growth rate in the first quarter of 2020 has dropped sharply, down by 13.2% from the same quarter in 2019. This is the first negative growth since China adopted the national accounts accounting system in 1992. According to He, Sun, Zhang and Li (2020), the economic impact of the Covid-19 epidemic is not like the cyclical fluctuations in the traditional economic development process, and the short-term disasters caused by the epidemic have exceeded any extreme past events.

In addition, the outbreak of the Covid-19 epidemic has also brought a significant and substantial impact on many industries in China, of which the real estate industry bears the brunt. Affected by the epidemic, the real estate industry has entered a period of dormancy, sales of real estate development companies have been suspended, and transactions in the real estate market have reached a freezing point. Statistics from Centaline Real Estate Research Center (Ma, 2020) show that starting from late January 2020, the transaction volume of most real estate companies has plummeted by 95% compared to previous years during the Spring

Festival. According to the report released by Cric (2020), in January 2020, the top 100 real estate companies achieved sales of RMB 509.75 billion, and the overall performance scale decreased by nearly 12% compared with the previous year. As the pillar industry of the national economy, the real estate industry accounts for a relatively high proportion of GDP, involves many upstream and downstream industries, and solves a large scale of employment. Therefore, if the huge impact of the sudden epidemic on China's real estate industry cannot be suppressed in time, this impact will inevitably spill over to many other industries and affect the smooth operation of the entire macroeconomy.

This article will mainly study the impact of the Covid-19 epidemic on the stock prices of China's real estate industry, especially the large-scale real estate companies. According to MacKinlay (1997), based on the rationality of the market, the impact of an event on the company will be immediately reflected in the price of securities. Therefore, the observed fluctuations in securities prices in the short term can be used to measure the economic impact of the event. Moreover, the two main factors affecting the stock price are the market and the company itself. Companies in the same industry or market are located under almost the same policy control, so when the market environment changes with emergencies, the external operating conditions of these companies will also change accordingly. (Moskowitz & Grinblatt, 1999). Therefore, this article will use event study to confirm the impact of the Covid-19 epidemic on the value of China's large-scale real estate companies, and measure the severity of the negative impact on the entire real estate market by calculating the cumulative average abnormal return of these companies' stock prices.

The results of the study show that the Covid-19 epidemic has had a serious impact on China's real estate industry, causing most of the top 100 large-scale real estate companies to fall abnormally in stock prices. This negative impact lasted for half a year, reaching two peaks three and six months after the outbreak. This article is mainly divided into five parts,

including literature review, research design, analysis and finding, as well as the conclusion.

As for the contribution of the study, the article studies the short-term impact of Covid-19 on China's real estate industry, especially large-scale real estate companies and the article uses event study approach to analyze the impact of the Covid-19 outbreak from the perspective of stock market reaction.

Literature Review

Negative Effects of Emergencies

In China, public health emergencies similar to the Covid-19 epidemic include SARS in 2003 and H7N9 in 2013. Although the severity of the three epidemics and their impacts on the economy are different, they have a similar process and similar impact on the market and investor sentiment. First of all, according to Xu and Pu (2021), the negative impact of the three epidemics on the stock market is short-term, and generally reaches the peak on the third to eighth trading days after the event day. In terms of the degree of impact, the impact of the Covid-19 epidemic is the strongest, followed by H7N9 and SARS. In terms of impact time, the Covid-19 epidemic also lasted the longest.

Additionally, Chen and Qu (2020) also found that these three epidemics have caused a significant negative impact on the stock market in the short term and the subsequent impact would depend on the degree of the epidemic, investor expectations and the overall development trend of the stock market in that year. Liu (2020) believes that the Covid-19 epidemic is greater than the other two epidemics in terms of the magnitude and time of the impact. In other words, the impact of Covid-19 on the economy and finance is even more serious.

Impact of Covid-19 on Stock Prices

In March 2020, the WHO made an announcement that the Covid-19 pandemic has become a global pandemic, in which month, the U.S. capital market experienced four unprecedented circuit breaks. Cheng & Liu (2021) believe that this means that the impact of

the Covid-19 epidemic has not only destroyed the real economy, but also further transmitted to the stock market.

Xu and Pu's (2021) research data show that, on the whole, the epidemic has had a significant negative impact on the stock market, and the cumulative negative impact has continued to expand at the beginning. From the trend of the CSI 300 Index, it can be seen that during the Covid-19 epidemic, especially during the period from January to March 2020, the degree of stock market price volatility has increased significantly (Cheng & Liu, 2021).

Although Xu and Pu (2021) said that five days after the epidemic was announced, the negative CAR began to gradually decrease and reverse. However, Guo (2020) found that as the Covid-19 epidemic further spread abroad, the stock market began to fluctuate. As a result, CAR showed a sharp downward trend around the 30th trading day, reached the bottom on the 40th trading day and then rebound. All in all, the impact of the epidemic on the stock market shows a W-shaped trend (Xu & Pu, 2021).

Impact of Covid-19 on the real estate industry

According to the analysis of Xu and Pu (2021), the epidemic has brought a strong negative impact on most industries, such as accommodation and catering, cultural tourism, agriculture, forestry, animal husbandry and fishery, construction, real estate, and finance. The main reason is that after the outbreak, restrictions on population movement and anti-epidemic measures such as agglomeration have a direct impact on consumer demand and corporate production. The expectation of losses in related industries has increased the risk aversion of stock market investors, leading to a sharp drop in industry indexes.

Additionally, Zhou, Qu, Huang and Liu (2021) believe that the impact of the Covid-19 epidemic on different industries is significantly different, and those labor-intensive

industries and industries that have a higher relationship with other industries are more affected by the shock. According to Zhong and Guo (2020), different industries are affected differently by the epidemic. Labor-intensive consumption industries such as transportation, accommodation and catering are more affected, followed by labor-intensive production industries such as manufacturing and real estate.

Finally, Ma (2020) is committed to studying the impact of the Covid-19 epidemic on the real estate industry, and found that the epidemic has brought a significant impact on China's macroeconomic operation and the real estate industry in the short term, especially real estate investment, land transactions, and new construction areas have been greatly suppressed. And Zhao (2020) tends to study the regional impact of the epidemic on real estate. For example, first-tier cities have better fundamentals, stricter control and higher governance capabilities, so overall demand is stable; second-tier cities have both flexibility and space; three or four tier cities are most affected by the epidemic.

Impact of investor sentiment on stock prices

Investor sentiment is a factor that cannot be ignored that affects the volatility of the stock market. According to He, Sun, Zhang and Li (2020), in the capital market, emergencies often affect investors' behavior by affecting their sentiment, which ultimately affects stock prices. According to Chen's (2020) research, the volatility of the stock market is a concentrated expression of investor sentiment and the fundamentals of the real economy. Therefore, during the outbreak of the Covid-19 pneumonia epidemic, the overall market return rate dropped sharply, and the volatility rate rose sharply. In addition, Lee and Jiang (2002) also believe that in addition to the basic value of stocks, emergencies will also affect

the psychological and behavioral factors of investors. For example, investor pessimism will increase the volatility of yields.

Xu and Pu (2021) also studied the impact of investor sentiment on stock prices. They believe that the transmission mechanism of the Covid-19 epidemic affecting the stock market is the contagion effect of negative investor sentiment, causing the stock prices of companies in different regions to resonate and causing the overall stock market to fall. The gradual improvement in the later stage of the epidemic may be due to the joint fight against the epidemic across the country, pessimistic expectations gradually changed, and investor confidence began to recover. And with the outbreak of the epidemic abroad in early March, market panic once again gathered, causing severe turbulence in the international financial market (Ma, Yang & Jiang, 2020).

Methodology

Method used

In general, this paper applies event study to discuss the impact of the Covid-19 epidemic on the stock prices and yields of China's large-scale real estate companies.

In detail, to begin with, the method is based on the following three assumptions. First, according to the Efficient Markets Hypothesis (Clarke, Jandik & Mandelker, 2001), the financial market is efficient, in other words, the stock price fluctuations of real estate companies can reflect all known public information or the occurrence of a certain event. Second, the event studied is unexpected so that the abnormal return can measure the degree to which the stock price reacts to the event. Third, there is no other event that affects the company's stock price during the event window to avoid mixed effects.

Additionally, the event day t_0 is set to be the day when Wuhan was locked down on January 23, 2020. The event window $[t_1, t_2]$ is from 30 trading days before the day when Wuhan was locked down to 180 trading days after that day, that is, $[-30, 180]$. And the estimation window is a period of time before the outbreak of Covid-19, which is $[-210, -60]$. In addition, the time window $[-60, -30]$ is set as a gap to avoid the influence of the early disclosure of the message on the estimation window. Finally, I divided the event window into nine windows for specific analysis, including $[-30, -16]$, $[-16, -1]$, $[0, 1]$, $[1, 30]$, $[31, 60]$, $[61, 90]$, $[91, 120]$, $[121, 150]$ and $[151, 180]$.

Finally, the market model is used to estimate expected returns. And the abnormal return is expressed as:

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t})$$

Among them, $R_{i,t}$ represents the actual return of the stock, $(\alpha_i + \beta_i R_{m,t})$ represents the expected return determined by the excess return α_i , the market risk β_i and the market return $R_{m,t}$.

$$E(R_{m,t}) = \alpha_i + \beta_i R_{m,t}$$

$$AR_{i,t} = R_{i,t} - E(R_{m,t})$$

In addition, after determining the abnormal return of stock i on day t , I need to calculate the average abnormal return $AAR_{i,t}$ and the cumulative abnormal return $CAR_{i,t}$. The average abnormal return is that all companies' abnormal returns are averaged at a certain point in time, and the cumulative abnormal return is the sum of the company's average abnormal returns in a certain period of time. The calculation formulas of the two are as follows:

$$AAR_{i,t} = \frac{1}{N} \sum_{i=1}^N AR$$

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{i,t}$$

On this basis, the cumulative average abnormal return is calculated, that is, the cumulative abnormal returns of all companies are averaged at a certain point in time. The calculation formula is as follows:

$$CAAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AAR_{i,t}$$

Data Collected

The main data source of this paper is Bloomberg and all stock price data of China's large-scale real estate companies studied for the corresponding period is collected for further analysis.

In addition, China's top 100 real estate companies are selected as the main research objects, of which 51 have been listed. Since these companies are listed on different stock exchanges, this paper divides them into two categories, one is the real estate companies listed on the Hong Kong Stock Exchange, and the other is the real estate companies listed on the Shanghai Stock Exchange and the Shenzhen Stock Exchange.

As for the index used to calculate the market return, for those real estate companies listed on the Hong Kong Stock Exchange, the Hang Seng Index is used. And for those real estate companies listed on the Shanghai Stock Exchange and the Shenzhen Stock Exchange, the CSI 300 Index is selected.

Hang Seng Index	CSI300 Index	
Hong Kong Stock Exchange	Shanghai Stock Exchange	Shenzhen Stock Exchange
Evergrande	Poly Development	China Merchants Shekou Industrial Zone Holdings
Country Garden	ShiMao Group	Sunshine Industrial Development
Vanke	Languang Development	Jinke
SunacFoundation	Greenland Holdings	RiseSun
China Overseas Land & Investment	Huafa Industrial Share	Binjiang
China Resources Land	Macalline	GrandJoy Holdings
GreenLand Group	Dima Holdings	Suning Universal
Longfor Group	BBMG	Sam-Sum
Seazen Group	Yanlord Land	Rongan Property
China Jinmao	North Star Industrial Group	Milord Real Estate Development Group
Agile Group	Bright Real Estate	Hengtai Group
Zhenro Properties Group	Shanghai Construction Engineering	
GuangZhou R&F	Lushang Property	
Logan		
Kaisa		
Sino-Ocean Group Holding		
KWG Group Holdings		
Nimble		
Best Source Internatioanl		
MCC		
PowerLong		
GZI		
Fantasia		
Jingrui Group		
Modern Land		
Tian Shan Development		
Zhongan Group		

Table 1- List of China's Large-scale Real Estate Companies Studied

Analysis and Findings

I first calculate the actual returns of the 51 large-scale real estate companies under study, using the raw data collected, and obtained two market returns through the Hang Seng Index and the CSI 300 Index during the same period. Then, I get the excess return α_i and market risk β_i of each real estate company through regression. Finally, I calculate abnormal returns and cumulative abnormal returns of each real estate company, as well as the average cumulative abnormal return of the entire market through the above formulas. The results are as follows.

In order to observe the fluctuation of the average cumulative abnormal returns of China's real estate market during the outbreak of the epidemic, I simply divided the 210-day event window into nine time windows, respectively [-30,-16], [-16,- 1], [0,1], [1,30], [31,60], [61,90], [91,120], [121,150] and [151,180]. The following table shows the average cumulative abnormal returns for different time windows.

Event Window	CAAR
(-30,-16)	0.033594
(-15,-1)	-0.037567
(0,1)	-0.021551
(1,30)	0.017075
(31,60)	-0.015776
(61,90)	-0.012308
(91,120)	0.007868
(121,150)	0.004848
(151,180)	-0.030563

Table 2- Cumulative Average Abnormal Returns for Different Time Windows

	-30,-16	-15,-1	0,1	1,30	31,60	61,90	91,120	121,150	151,180
1	0.063366859	-0.074642831	-0.013788642	0.028119216	-0.018556664	0.374763747	0.27537932	-0.158702098	0.044338162
2	0.105771554	-0.098551861	-0.022964936	-0.035657153	0.018895546	0.079302203	0.016063603	-0.057360644	0.045180799
3	0.101135503	-0.073985094	-0.073287706	0.109345674	0.010604968	-0.042476463	0.027759816	0.058667677	-0.044050737
4	0.022253173	-0.098813719	-0.01194171	0.149034709	-0.035485348	0.021736172	0.002788924	-0.148397889	-0.089479445
5	0.04998606	-0.068825172	-0.030267965	0.0752399	0.000530986	-0.062950608	-0.022237364	-0.098541804	-0.057048446
6	0.012755124	-0.100670829	-0.025107155	0.117399519	-0.013274744	-0.003200513	0.009453534	0.031017308	0.017922472
7	0.114055998	0.08231893	-0.035655395	0.069445046	-0.000620976	0.031944842	0.056317961	0.107318425	0.279725494
8	0.044351571	-0.060433276	-0.016219729	0.070492641	-0.00249414	-0.113462448	-0.062919814	0.036753794	-0.0171608
9	-0.006823836	-0.110432713	-0.006165362	0.091089873	-0.033547207	0.051183614	-0.025718734	-0.111532013	-0.030752107
10	0.046057762	-0.057747807	-0.02307697	0.071885405	-0.048915699	0.016070049	-0.133103948	-0.180311675	-0.152061681
11	0.005646539	-0.016798767	-0.016353042	0.07187225	-0.015925644	0.101991484	0.045414972	0.118026245	0.035428823
12	0.019192587	-0.098631277	-0.006568698	0.022595977	-0.016429586	0.017751837	-0.10857306	-0.060785502	0.012632298
13	0.096248584	-0.061391383	-0.011174154	0.025773625	-0.044608053	-0.021708031	0.039970612	0.133274348	0.076168331
14	0.044949807	0.021113697	-0.012586148	0.138760952	-0.050688813	0.012080794	0.043479283	0.009588123	-0.12813439
15	0.078195502	0.007562482	-0.028899171	-0.015585738	-0.030212306	0.040019239	-0.007772626	0.125948912	0.044764509
16	0.013484741	0.013272239	-0.007593115	0.036781951	-0.028543182	-0.033126205	-0.00114856	-0.062959782	-0.062340409
17	0.045474519	0.025407774	-0.032926	0.124426917	-0.004552275	0.086240083	-0.035640137	0.112388659	-0.110856951
18	-0.042763256	-0.026566715	0.001583062	0.023092456	0.00137745	-0.10034071	0.709944055	0.048234852	0.209023714
19	0.012585577	-0.004862254	0.010628875	0.127366045	-0.02121175	0.012550824	0.049808807	0.156890942	-0.041809768
20	0.012605348	0.005694422	-0.075745641	0.151140951	0.029881211	0.047896283	0.149436779	0.046479537	-0.047487827
21	-0.027014024	-0.110995195	-0.04397688	0.143930491	-0.022103391	-0.088010401	-0.090194361	0.081374588	-0.004944383
22	0.008159269	-0.056180341	-0.005981888	-3.60967E-05	0.00452817	-0.06309629	-0.00518984	0.012403018	0.05187416
23	0.017717639	0.088522462	-0.01934897	0.247989586	-0.030916859	0.012960322	0.108548187	0.000513643	0.008339555
24	-0.049925355	-0.044165276	0.006053514	0.001034673	0.020912538	-0.184493188	-0.045300038	-0.019431412	0.003189636
25	-0.006171455	0.031930367	-0.029497918	0.013741465	-0.015413899	-0.01162919	-0.054027048	0.084558719	0.062472248
26	0.003631653	0.022488556	-0.00011239	0.071776066	0.01640981	0.038314447	0.025649878	0.062294963	-0.028516329
27	0.008985481	-0.014953959	-0.005013495	0.05939234	-0.009310487	0.006019345	0.165020732	0.351131267	0.018421076
28	0.012207904	-0.064238844	-0.015747808	0.071763273	-0.002332767	-0.049724256	-0.03178859	0.063872476	-0.026875008
29	-0.020652795	-0.115537321	-0.007625948	-0.126467527	-0.08122491	-0.121720581	-0.100375389	-0.103681147	-0.142450089

30	0.031703551	-0.03214873	-0.026295693	-0.000824799	-0.00226314	0.042008226	-0.074953466	0.012885054	-0.04132987
31	0.023776481	0.029627031	-0.081741549	-0.131536851	-0.020841002	0.064020279	0.103975566	-0.033220096	-0.030796749
32	0.049903157	-0.080918235	-0.008853379	0.009159228	-0.025164588	0.006643093	-0.114104697	0.012686873	-0.031268553
33	-0.005746126	-0.073666693	-0.057837341	-0.032929488	0.028812171	-0.079183653	0.019428684	-0.046367927	-0.049851197
34	0.081220697	-0.029265341	-0.001816325	-0.026083955	0.021968469	-0.187588577	0.00556469	-0.000859299	-0.032876267
35	0.049085772	-0.071446874	-0.039685653	-0.152436559	-0.00211766	0.001761381	-0.009369388	-0.019030944	-0.166969024
36	0.008285488	-0.356553843	0.090039464	-0.160324531	-0.44693881	-0.086252453	0.088385414	0.123282098	-0.148795662
37	0.008411972	-0.027554051	-0.058277992	-0.15364496	-0.049064695	0.104683721	-0.306395374	-0.053623041	-0.015169883
38	0.020206211	0.026892599	0.017884098	0.113863249	-0.083124002	-0.089548831	-0.079238872	0.138746483	-0.038160887
39	0.047322722	-0.017567661	-0.008753164	0.118875934	0.008613052	-0.016425544	-0.086515132	0.045697897	-0.020314431
40	-0.041193834	-0.011428199	-0.051393362	0.038763088	0.04694764	-0.023806912	0.140566377	0.033380334	0.047332868
41	-0.014425962	-0.020635092	-0.039957922	0.037805376	0.037809103	-0.071621853	-0.061335808	0.029646278	-0.002874377
42	0.182216925	-0.25356783	0.061301535	-0.228260447	0.036546716	0.170586352	-0.313169322	-0.236196966	-0.184734798
43	0.318876274	0.240739488	-0.136314586	-0.404024614	-0.132985791	-0.061327065	0.378954018	-0.390618003	-0.160969166
44	0.00496802	-0.038313607	-0.023345125	-0.054650349	-0.046268606	0.018602635	0.23178226	-0.007525163	-0.15675094
45	0.021414095	-0.026796772	-0.010387285	-0.013178308	-0.075913784	-0.136078592	-0.092621042	-0.014250745	-0.038186676
46	0.040421285	-0.036638093	-0.004020305	0.000110973	0.003608555	0.006674742	-0.051495293	0.015406633	-0.076609417
47	0.022015234	-0.054309663	-0.030511636	0.081614544	0.031875259	-0.068812788	0.002120468	0.065601949	-0.148886421
48	0.08238786	0.125085088	-0.03870661	-0.123458319	0.116174851	-0.071072741	-0.095667875	-0.080817486	0.182287655
49	-0.023127473	-0.063846264	-0.041793785	-0.08003487	0.15290542	-0.028669118	-0.197028848	0.00672396	-0.270248972
50	0.022560393	-0.056509713	-0.031205099	0.022384458	0.013276979	-0.03264019	-0.050810607	-0.029410254	-0.055653953
51	-0.002468521	-0.027003261	-0.018068513	0.07388558	0.004820761	-0.144557714	-0.037863558	0.036062135	-0.043392081
CAAR	0.03359377	-0.03756744	-0.021551012	0.01707488	-0.015775512	-0.01230822	0.007867748	0.004847712	-0.030562861

Table 3- Cumulative Abnormal Returns of 51 Real Estate Companies

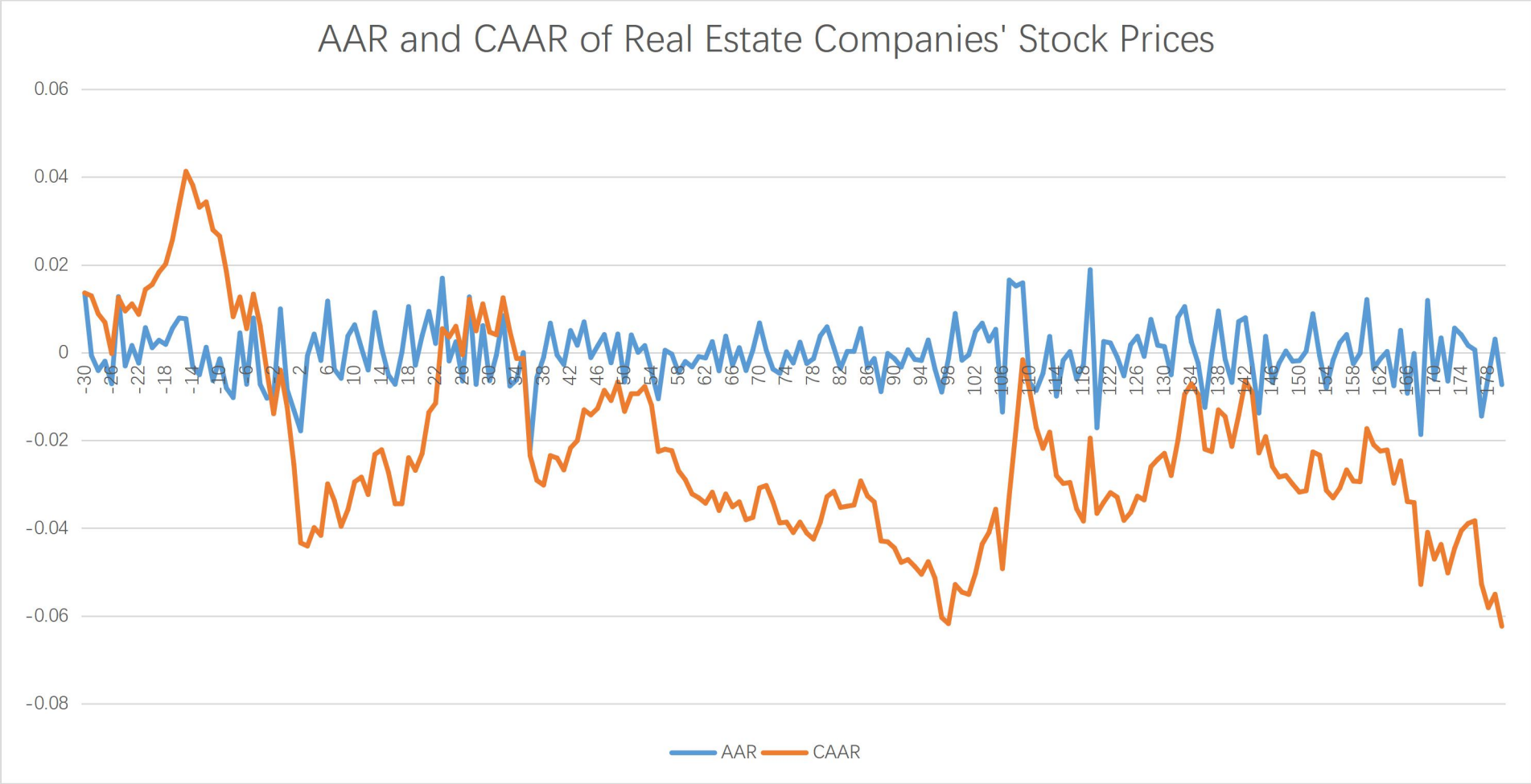


Figure 1-AAR and CAAR of Real Estate Companies' Stock Prices

It can be seen from Table 2 that 15 days before the official release of the news about the Covid-19 epidemic, it has already had a negative impact on the market of China's large-scale real estate companies, leading to a decline in stock prices. Thirty days after the outbreak, perhaps due to the rapid response of the large-scale real estate companies, the abnormal return experienced a short-term rebound. However, as the epidemic intensified, the stock prices of 51 large-scale real estate companies began to fall again, lasting for two months. Then, after the abnormal return rose briefly again, it ushered in a third sharp decline. In general, the cumulative average abnormal return on the stock prices of these 51 large real estate companies has not been always falling during the outbreak, but showed a broken line trend that has repeatedly fallen and rebounded.

Figure 1 shows the fluctuation trend of the cumulative average abnormal return more intuitively and specifically. It can be seen from Figure 1 that 15 days before the official announcement of the epidemic-related news, due to the early disclosure of news in some areas, the stock prices of the 51 large real estate companies have been affected by the epidemic and have begun to fall sharply. 2 to 6 days after the outbreak of the epidemic, the cumulative abnormal return of the real estate market reached a relatively low point. This may be due to the poor operation of the real estate companies themselves caused by the strict anti-epidemic policy, which in turn affected the stock prices of the real estate companies. Then, about 30 days after the event, the abnormal return of the real estate market rebounded briefly. During this period, many large-scale real estate companies have launched countermeasures, such as online sales. However, starting from about 50 days after the outbreak, although the stock prices of these real estate companies have occasionally increased, on the whole, the cumulative average abnormal return is negative, and even fell to the bottom again around the 100th day. The overall trend continued to decline, and until the 180th day after the event, the serious negative impact of the Covid-19 epidemic on the stock price of the real estate

industry still did not disappear. The main reason is that the epidemic has not completely ended, negative investor sentiment has intensified, and the market has lost confidence, which has led to the continued decline in stock prices.

Conclusion

In this paper, I mainly applied the event study method to explore the impact of the Covid-19 pneumonia epidemic on the stock prices of China's large-scale real estate companies. I selected 51 of the top 100 real estate companies in China and used the Hang Seng Index and the SCI 300 Index to calculate the company's cumulative abnormal returns and the cumulative average abnormal return in the real estate market. The results of the study show that the impact of Covid-19 on the stock prices of real estate companies has already begun before the official announcement. During the entire event window, although the value of stocks has rebounded due to some countermeasures taken by the government and real estate companies themselves, overall, the real estate market was still severely affected by the Covid-19 epidemic, and this impact continued until half a year after the outbreak.

Since the emergence of the Covid-19 epidemic at the end of 2019, it has spread rapidly across the country, not only threatening the health and safety of the people, but also bringing a huge impact on the development of the national economy. This paper uses the reaction of the stock market to explore the impact of the epidemic on China's real estate industry, especially large-scale real estate companies, and tries to analyze the reasons for its stock price fluctuations in conjunction with consumer sentiment and other influencing factors. The conclusions reached provide suggestions for China's some large-scale real estate companies to fight the epidemic, restore stock prices and seek development.

References

- Chen, L., & Qu, X. (2020). Research on the market response to infectious public events-based on the impact of the Covid-19 pneumonia epidemic on China's stock market. *Financial Forum*, 26 (07): 25-33.
- Chen., F. 2020. The Heterogeneous Impact of the New Coronary Pneumonia Epidemic on Chinese Enterprises——An Empirical Study Based on the Perspective of Stock Price Volatility. *Industrial Technology Economy*, 2020, 39(10): 3-14.
- Cheng, C., & Liu, K. (2021). Research on the Impact of Capital Markets under the New Coronary Pneumonia Epidemic—Based on the Perspective of Stock Price Synchronization. *Industrial Technology Economy*, 40 (03): 125-135.
- Clarke, J., Jandik, T., & Mandelker, G. (2001). The efficient markets hypothesis. *Expert financial planning: Advice from industry leaders*, 7(3/4), 126-141.
- Cric Research Center (2020). Top 100 sales of China's real estate companies from January to February 2020. CricChina.
- Guo, T. (2020). China's financial market during epidemic. *Beijing Observation*, (3): 68-69.
- He, P., Sun, Y., Zhang, Y., & Li, T. (2020). COVID-19's Impact on Stock Prices Across Different Sectors—An Event Study Based on the Chinese Stock Market, *Emerging Markets Finance and Trade*, 56:10, 2198-2212, DOI: 10.1080/1540496X.2020.1785865
- Lee, W. Y., C. X. Jiang, and D. C. Indro. (2002). Stock market volatility, excess returns, and the role of investor sentiment. *Journal of Banking & Finance* 26 (12):2277-99.
doi:10.1016/S0378-4266(01)00202-3.
- Liu, Z. (2020). How will the inclusion of an international public health emergency affect China's economy?. *Nanjing Daily*, 5 (04).

- Ma, H. (2020). Research on the impact of Covid-19 epidemic on the real estate industry and countermeasures. *Journal of Hubei University of Economics*, 2020 (6), 23-24.
- Ma, Y., Yang, W., & Jiang, Y. (2020). How does investor sentiment affect a company's stock price?. *Financial Forum*: (5): 57-67.
- MacKinlay, A. C. (1997). Event studies in economics and finance. *Journal of economic literature*, 35(1), 13-39.
- Moskowitz, T. J., and M. Grinblatt. 1999. Do Industries Explain Momentum? *The Journal of Finance* 54 (4):1249–90. doi:10.1111/0022-1082.00146.
- Xu, H., & Pu, H. (2021). The impact of the Covid-19 epidemic on China's stock market: a study based on the event study. *Financial Forum*, 26 (07): 70-80.
DOI:10.16529/j.cnki.11-4613/f.2021.07.008.
- Zhao, D. (2020). The impact of Covid-19 on China's real estate and trend analysis. *China Real Estate*, 2020 (12), 29-31.
- Zhong, Z., & Guo, L. (2020). Research on the impact of the Covid-19 pneumonia epidemic on small and medium banks and countermeasures. *Wuhan Finance*, (03): 37-41.
- Zhou, M., Qu, B., Huang, W., & Liu, Y. (2021). The impact of the Covid-19 pneumonia epidemic on China's industrial development and financial market volatility: an empirical study based on the event study and the EGARCH model. *North China Finance*, 2021 (02): 28-39.