A Comparison of Stock Market Reactions to Dividend Increase Announcements in the US and China Financial Industry

by

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Abstract

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This paper investigates into the effect of dividend increase announcements to US and China financial market by selecting 30 stocks in Shanghai Stock Exchange and 40 stocks in New York Stock Exchange during the period of 2006 to 2013. The purpose of this research is analyzing the effects of events in short-term event window, which are 5-day event window, 11-day event window,21-day event window and 61-day event window. We find out that most firms in both China and US financial markets are positively related to the dividend increase announcement but US financial companies seems to have slower reaction speed and longer reaction period . In conclusion, dividend increase announcements have positive abnormal effects to both US and China financial markets but the two markets react increase differently. Investors can only obtain abnormal returns in 30 days after the dividend announcements in China financial markets and can only obtain abnormal returns 10 days after the dividend announcements in US financial markets.

Chapter 1 Introduction

1.1 Background

This paper compares the effects of the announcements of dividend increases on the US and Chinese stock markets focusing on the financial industry.

Corporations pay dividends to their shareholders as a distribution of profits ("Definition of 'Dividend'" n.d., para.1). Dividend payments are usually paid by cash and stock, which are known as cash dividend and stock dividend respectively. In some cases when there is a small-size stock split, the stock split is also treated as dividend. For example, the NYSE treats stock splits which have share distributions of less than 25% as stock dividends (Mark S. Grinblatt, Ronald W. Masulis, & Sheridan Titman, 1984)

Dividend policies are the rules and guidelines that firms develop and implement as the methods of making dividend payments to shareholders. Dividend policy of a firm give its shareholders an easy way to know their division of the firms total earning .If the policy is well defined and recorded, it is easy for the investors to get a written copy and therefore be informed of how the policy works.

The dividend policy of a firm is affected by various factors such as legal requirements, internal restrictions, contractual requirements, owner's considerations, etc. What's more, dividend policies may be highly related to industries and countries. As noted by Michel and Shaked (1986), because of differences in macro-economic environments, economic developments, regulations, tax systems, market transaction costs, and other institutional factors in different countries, firms may follow different

dividend policies. For example, in china cash dividends are immediately taxed while stock dividends have no tax .Also there is no tax on capital gains. As a result, Chinese stock market favors stock dividends more than cash dividend. Finally, Allen Michel and Shaked (1986) also mentioned that level of dividends is related to classification of industry. The Conference Board (1971) suggests the relation of dividends among firms in the same industry may be caused by comparable investment opportunities.

Market reaction on dividend policy is related to market efficiency.

Efficient-market hypothesis (EMH) states that the financial markets are informational efficient. Therefore, under EMH, stock prices should adjust to market information immediately and accurately. The securities trade at fair value and thus there are no abnormal returns and arbitrage opportunities for profit seeking investors. However, there is no market that is absolute efficient. There are three forms of market efficiency hypothesis, namely, Weak-form EMH, Semi-strong form EMH and Strong form EMH.

I. Weak-form EMH

Under the weak-form EMH, the market is only efficient to reflect all market information such as stock price and trading volume ("Securities Markets," n.d., para.2). In other words, the return rates on the market should have no relationship with the past returns. Given this assumption, there is no chance of making abnormal return by trading a stock in the long run through the technical analysis methods ("Securities Markets," n.d., para.2).

II. Semi-strong form EMH

Under the semi-strong form EMH, the market is efficient to reflect all information that is publicly available. ("Securities Markets,"n.d., para.3).This hypothesis makes an assumption that stocks adjust to reflect new information quickly. The weak-form hypothesis is incorporated in the semi-strong form EMH. In this case, an investor is unable to benefit from trading on new information.

III. Strong-form EMH

Under the strong-form EMH, the market efficiently reflect all public and private information ("Securities Markets," n.d., para.4).The weak-form EMH and the semi-strong form EMH is incorporated in the strong-from EMH. In this case, no investor would be capable of earning abnormal return higher than the average level even if he obtained new information.

Aamir.M and Shahit.S (2011) noted that there are some firms whose abnormal return were negative on the dividend announcement date but immediately roared to positive abnormal returns after the day dividend was announced. The time the market adjusts to the dividend announcement is determined by how much the market is efficient. This paper compares US and Chinese market in financial industry to investigate the answers for questions like which market reacts faster and which market have longer and higher abnormal return effect ,and then discuss and explain these differences.

1.2 Motivation and objective of this study

As discussed above, country and industry influences dividend policy and market reaction on dividend announcement. It is essential for investors to know in which

country they can obtain higher abnormal return and when can they obtain the highest abnormal return.

There are many researches investigating country effect on market reaction. However, seldom of them focus on one industry. This paper will concentrate the investigation on financial market and compare the US and Chinese market reaction using event study method and Stata software.

1.3 Study Organization

This paper is organized into five chapters. The first chapter is introduction which gives the background and identifies the main problem and the purpose of our study. The second chapter is literature review, in which the related knowledge and research about dividend policy and market reaction are explained. The third chapter discusses the methodology and data used in the paper. Then the fourth chapter lists the results of this research and interprets it. Finally, the fifth chapter gives a conclusion of the results and discussions.

Chapter 2 Literature Review

2.1 Market Reaction on Dividend Policy

Fischer Black (1996) claimed that the dividend policy of a company do not just tell investors about the dividend yields but conveys more information. Fischer Black (1996) explained that managers will raise dividend only if they are optimism about the company's prospects, which means the company is profitable enough to maintain the higher dividend for some time, and managers will cut dividend when they think there is poor prospects for a quick recovery.

Then what does this mean? In Fischer's point of view, it means dividend changes will tell more to investors about what is the managers really considering than they can know from other sources. In these cases, a dividend increase announcement always lead to an up-run in the company's stock price and a dividend cut announcement always lead to a drop in the company's stock price. However, Fischer Black(1996) mentioned that company may also want to make dividend changes not due to forecast of the company's prospects and any stock changes due to dividend changes will normally be temporary. Fischer(1996) gave an example that if a company cut dividend for the purpose of saving taxes for its shareholders, the stock price of the company might decrease first but will eventually go back to where it should have been if there had been no announcement of dividend cut.

Dasilas and Leventis (2011) examined the dividends announcements and its effects in the Greek stock market. They found that the stock market reacts positively when there is an increase in dividends and will react negatively when there is a cut in dividends, and

their results supported the dividends signaling hypothesis.

Lonie et al. (1996) looked into the effect of dividend announcement on the reaction of the U.K stock market. They noticed that stock markets reacted positively to the increase in dividend announcements and negatively to the cut in dividend announcements. The stock market and the dividend announcements are positively correlated to each other.

Aharony and Swary (1980) investigated the quarterly dividend and earnings announcements and their effects on the U.S stock market. They found that investors can earn normal returns on average during twenty days before and after the announcements of dividend provided that the firms do not change their dividends.

Mark Norton(2008) concluded in his research paper that the market reaction to dividend increase has weakened over the period from 1984-2003. What's more, he also noticed that the market reaction to dividend increases was larger in bull markets than in bear markets and a firm's liquidity is an essential factor to determine how the market reacts to an increase in dividends. Mark Norton(2008) explained that the agency theory of dividends proposes the greater the free cash flows of a firm, the greater the market should react to a dividend increase because this increase would reduce the potential amount of agency conflicts.

2.2 Dividend policy effect on investors and company

There are lots of papers investigating how dividend policy affects investors' decision and value of the company. Miller & Modigliani (1961) believed dividend policy is irrelevant to investors, provided that there is perfect capital market, rational

behavior and same tax rate on capital gains and dividend. Under their first assumption, which claims there are perfect capital markets, all information is costless and equally available to traders about the ruling price and about all the other features of shares. There are no transfer taxes, brokerage fees, or other transaction costs that appear when stocks are sold, bought, or issued, and taxes are the same. Miller & Modigliani's second assumption, rational behavior, means that all investors prefer more wealth to less and do not care whether the increment to their wealth is in the form of cash payment or in the form of the market value increase of the shares they owns. Finally, the third assumption, perfect certainty, implies that every investor is completed assured of the future profits of every corporation and this assurance makes it unnecessary to recognize stocks and bonds as different sources of funds at Miller & Modigliani's analysis or not. And Miller & Modigliani's research run into an conclusion that the dividend policy have no effect on shareholder's wealth an share price under the three assumptions.

However, Fischer Black (1996) found that not rational investors are less willing to hold stocks that pays no dividends, and they believe such stocks should be less expensive than similar stocks which pay dividend. Fischer Black (1996) also mentioned that if we spread these investors to trustees who believe it is not smart to hold stocks which pay no dividends, and to the corporations that prefer dividend-paying stocks for tax reasons and they make a part of the market that have a strong influence on the pricing of company shares. If investors demand dividends, then corporations should not cut all dividends. But it is difficult to tell whether investors require dividend or not. Thus it is hard for firms to decide whether to eliminate dividends or not. On the other hand, according to Fischer Black (1996), investors also seem to be accurately aware of the tax

effects of dividends. Investors in high tax brackets may prefer stocks with low dividend yields and investors in low tax brackets may prefer stocks with high dividend yields.

Allen.J.Michel & Israel Shacked (1986) mentioned that dividend policy is an important concern of most financial managers. They also gave plausible reason for the attention, which would be a relationship between firm's dividend decision and the level of profitability of its investment decisions. Allen.J.Michel & Israel Shacked (1986) investigated into several studies which had addressed this issue, but the evidence to date has been contradictory. Fischer Black (1996) look into the relationship between dividend payment and the company's creditors and shareholders. In Fischer's point of view, when a company has obvious level of debt, an increase of dividend will hurt the creditors but help shareholders. In extreme cases, the dollars paid out as dividend is the dollars that is not available to creditors if troubled develops. On the other hand, a cut of dividend will hurt shareholders but help investor. It seems that we finally see a reason why company pays dividends.

However, the answers to questions why company pays dividend and investors pay attention to dividend remain to be a puzzle. As putted by Fischer Black (1996), "the harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together."

2.3 Country and industry effect on the dividend policy

Industry dividend figures have influences on a particular firm's dividend policy. It would be helpful for the financial manager to know if there exists any systematic relationship within an industry. What's more, country features also affect determination

of a particular firm's dividend policy. This would imply that different institutional structures are likely to result in different dividend policies. There is a need for the study exploring the relationship between the financial markets' structure and corporate dividend policy.

Michel and Shaked(1986) investigated in the country and industry effect of dividend policy in Japan and US. They performed intra-country analyses in USA and Japan to determine if a systematic relationship exists between the dividend policy of a specific firm and its industry or if a systematic relationship exists between the dividend policy of a specific firm and the country in which it operates.

The results of Michel and Shaked 's research indicated that the null hypothesis that cross-industry dividend yields generated from the same population was rejected for both the USA and Japan. Michel and Shaked(1986) believed that similar investment opportunities within an industry may at least partially explain the results. But they claimed further research was needed to find out the specific reasons for the systematic industry influences on dividend yield and payout. Furthermore, in all the inter-country analyses, significant test results were achieved and the payout ratios of the Japanese industries were higher than those of American industries.

Bop Sik Kang（2008）also investigated Country Influences on Corporate Dividend Policy in Australia, France, the U.K. and the U.S.. Both Australia and France had a governance system that was characterized as "relationship-oriented" systems. Ownership was concentrated and capital markets are relatively illiquid in both countries. Managers in those countries were monitored by a union of banks, large corporate

shareholders of large corporate, and other inter-corporate relationships that last over long periods. Both the U.K. and the U.S., in contrast, had a corporate governance system that was characterized as "market-based" systems. Bop Sik Kang（2008）putted that the capital markets in those countries were liquid with relatively dispersed company ownership and that managers were monitored by an external market and by boards of directors consisting of outsiders. The regression results implied that firms in different countries do follow statistically different dividend policies, because each country had different country-specific factors, institutional factors, and firms' financial structures. Bop Sik Kang（2008）concluded that different country specific factors such as economic environments, institutional factors, and financial structures lead firms to make different dividend policies. As a result, investors need to fully understand the country specific factors that influences dividend policies in various countries

Chapter 3 Methodology

3.1 Data selection & Sources

The dataset is prepared separately according to China and US market.

For dataset of China, this research uses SSE Composite Index as market data and collects prices and dividends of all financial institutions listed in Shanghai Stock Exchange (SSE) between 2006 and 2013 as sample. For dataset of US, we choose 40 largest institutions out of 398 financial institutions listed in New York Stock Exchange as our sample and collects there prices and dividends .NYSE composite index is used as a source of market data.

Some of our sample firms have issued multiple share classes. For example, Bank of China has Class A stock listed in SSE and Class H stock listed in Hong Kong Stock Exchange (HKSE). In these cases, we only included shares listed in SSE. It should also be noted that for the companies who came into market after 2007, we only include data from the day they appeared in market to 2013 and we only include financial institutions that has dividend announcement during 2006 to 2013.After collecting the data, we calculate the daily returns based on adjusted daily prices as part of our dataset and we only retain the announcements in which there was an increase in dividend. The dividends are paid quarterly, semi-annually and annually. All the data are from Yahoo Finance.

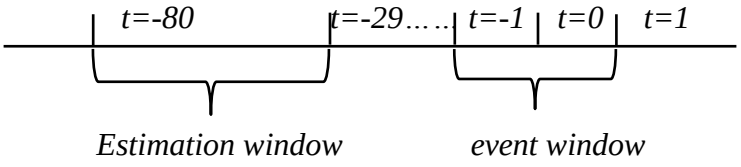
3.2 Methodology

This research uses the event study method to observe the market reaction on the event of dividend announcement. Compared to models such as CAPM and multiple

factors model, the market model is more convenient to predict normal return in event window and better reflect the market reaction in this research. Therefore market model is used to make estimation of stock normal returns. What's more, the reliability of the event study window is related to the length of the event window and usually, long-horizon event studies are less reliable than short-term event studies ("What is an event study?" n.d., para.3).This is because under efficient market theory, prices reflect information very immediately. The longer the horizon, the less the volatility of prices is attributed to the release of information. Therefore, this paper uses a short-term event window of 5 days, and the estimation window is 50 days.

Step 1-prepare the dataset, estimation and event window

Here t=0 is the dividend declaration date. The estimation window is from t=-80 to t=-29, which includes 50 days. And the event window is from t=-2to t=2, which includes 5 days.



Step 2-use the estimation window to predict expected return in the event window using the market model:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} \quad \text{（equation 3.1）}$$

Where R_{it} : rate of return of stock i on day t

R_{mt}: rate of return on the market on day t

α_i: the intercept for regression model of stock i

β_i: the coefficient of market return for regression model of stock i

Step 3-Predict the normal return in the event window as NR_t, and then calculate abnormal returns (AR) and cumulative abnormal return(CAR)

$$AR_{it} = R_{it} - NR_{it} \qquad \text{(equation 3.2)}$$

$$CAR_{it} = \sum AR_{it} \qquad \text{(equation 3.3)}$$

Where,

AR_{it}: abnormal return for stock i on day t

NR_{it}: predicted normal return of stock i on day t

CAR_{it}: cumulated abnormal return of stock i on day t

Step 4, test the significance of abnormal return and plot the graphs of abnormal return.

In order to see whether the abnormal return ,which may be caused by the dividend increase announcement, is significant or not, this research need to conduct a hypothesis testing(t-test).The null hypothesis (H_0)and alternative hypothesis(H_1) are as follows:

H_0: $\mu = 0$. This means the dividend increase announcement is has no effect on the stock performance.

H_1: $\mu \neq 0$.This means the dividend increase announcement have significant abnormal return effect on the stock performance.

T-test: t= CAR/N*SD (equation 3.4)

Where,

N: the number of days in event window.

SD: the standard deviation of AR_{it}

Chapter 4 Results

Our event study results will include both short-term study of 5 days from t=-2 to t=2 and longer term event study of 11 days from t=-5 to t=5, 21 days from t=-10 to t=10,and 61 days from t=-30 to t=30.

In this chapter, we will translate and discuss the results from the model we used in chapter 3. The models are run separately on the US and China markets and so are the results presented. Then we will compare and discuss any differences, in the results and also find out the possible reasons. The differences may include market efficiency, abnormal return significance, etc.

4.1 China market

4.1.1 5-day event window

Figure 4.1

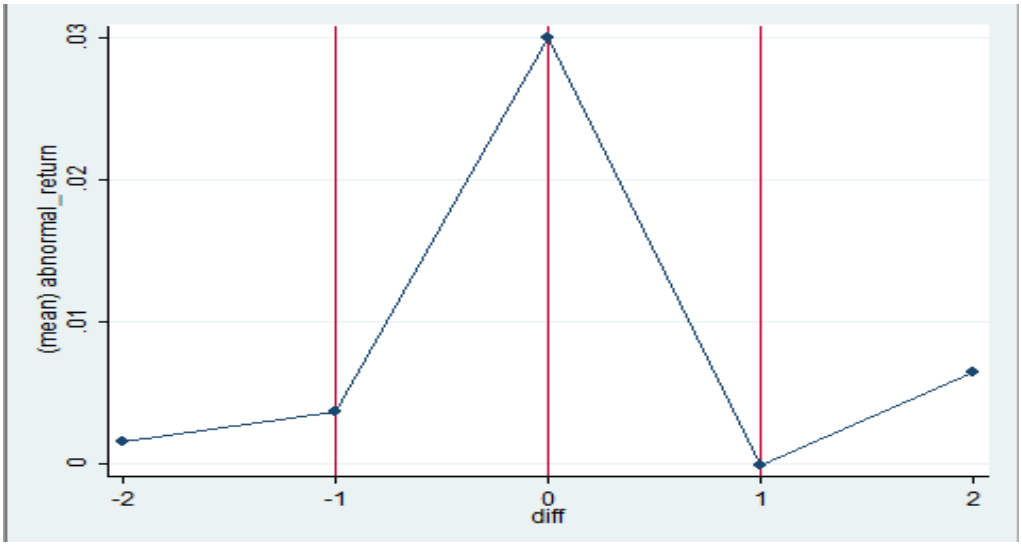


Figure 4.1 is the graph of abnormal return in 5-day event-window.

The horizontal axle is the time line. The middle red line is the dividend increase announcement day, which is t=0, and the left red line is t=-1, which means one day before the announcement day, and finally the right red line is t=1, which means one day after the announcement day. The vertical axle is the average abnormal return through all dividend increase announcements on day t.

Figure 4.1 shows that the abnormal return ranges from 0 to 0.03 during t=-2 to t=2 and reaches its highest level on the announcement day.

Figure 4.2

Linear regression

Number of obs	= 54
F(0, 53)	= 0.00
Prob > F	= .
R-squared	= 0.0000
Root MSE	= .13042

CAR	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
_cons	.0415379	.0177475	2.34	0.023	.005941	.0771348

According to Fgure 4.2 , we can see that the p-value (0.023) is lower than 0.05 and t-value(2.34) do not lies in its 95% confidence interval, which means the cumulative abnormal return for 5-day event window is significantly different from zero.

4.1.2 11-days event window

Figure 4.3

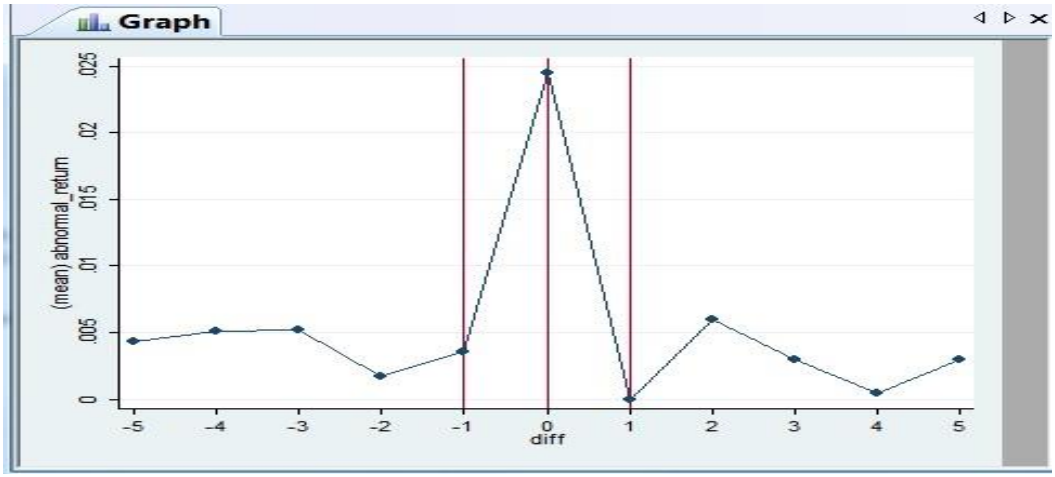


Figure 4.3 is the graph of abnormal return in 11-day event-window.

It shows that the abnormal return ranges from 0 to 0.025 during t=-5 to t=5 and reaches its highest level on the announcement day. The abnormal returns on other days waves around 0.005. And we can see that there is no significant change in abnormal return in days after t=0 compared with days before t=0. And there is a sharp decrease on day t=1 and then the abnormal return roars on day t=2 .

Figure 4.4

```
. reg CAR if dif==0, robust

Linear regression                               Number of obs =      52
                                                F(  0,    51) =    0.00
                                                Prob > F      =       .
                                                R-squared     =  0.0000
                                                Root MSE      =  .14373
```

CAR	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
_cons	.056544	.0199322	2.84	0.007	.0165284	.0965596

According to figure 4.4, we can see that the p-value (0.007) is lower than 0.05 and t-value(2.84) do not lies in its 95% confidence interval, which means the cumulative abnormal return for 11-day event window is significantly different from zero. What's more , the p-value (0.007) here is much smaller than the p-value (0.023) in 5-day event window, which implies that the abnormal return achieved in 11-day event window is more significant than that in 5-day event window.

4.1.3 21-days event window

Figure 4.5

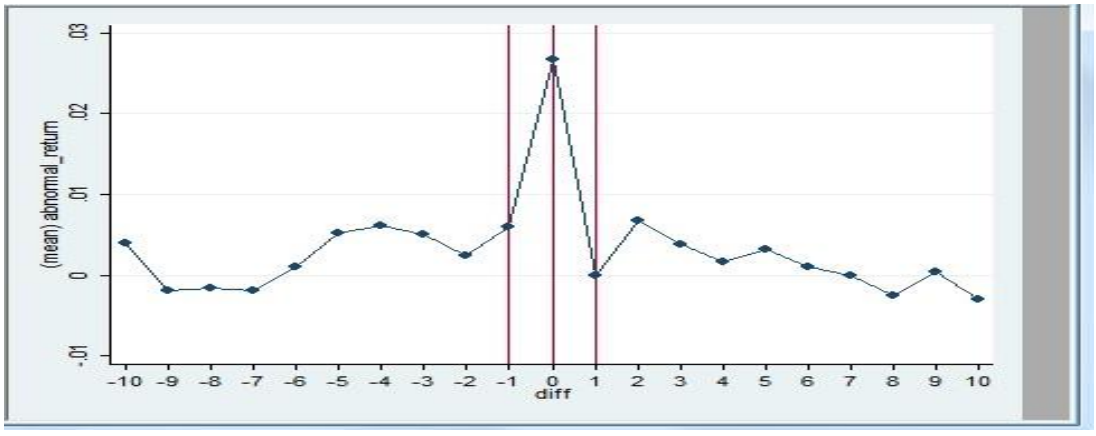


Figure 4.5 is the graph of abnormal return in 21-day event-window.

It shows that the abnormal return ranges from -0.002 to 0.027 during t=-10 to t=10 and reaches its highest level on the announcement day. The abnormal returns on other days waves between -0.002 to 0.01. And we can see that there is no obvious change in abnormal return in days after t=0 compared with days before t=0.

Figure 4.6

Linear regression

Number of obs	= 49
F(0, 48)	= 0.00
Prob > F	= .
R-squared	= 0.0000
Root MSE	= .16568

CAR	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
_cons	.0617257	.0236691	2.61	0.012	.0141357	.1093157

According to figure 4.2 , we can see that the p-value (0.012) is lower than 0.05 and t-value(2.61) do not lies in its 95% confidence interval, which means the cumulative abnormal return for 21-day event window is significantly different from zero. However the p-value is higher than that in the 11-day event window.

4.1.4 61-days event window

Figure 4.7

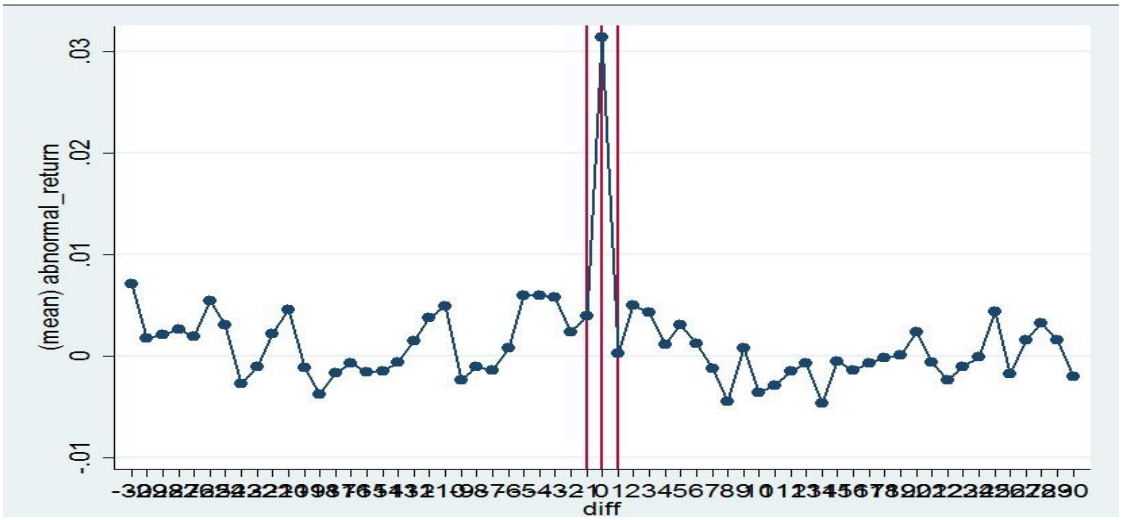


Figure 4.7 is the graph of abnormal return in 61-day event-window.

It shows that the abnormal return ranges from about -0.05 to 0.031 during t=-30 to t=30 and reaches its highest level on the announcement day. The abnormal returns on other days waves around 0.And we can see that there is no obvious change in abnormal return in days after t=0 compared with days before t=0.

Figure 4.8

```
. reg CAR if dif==0, robust

Linear regression                               Number of obs =      42
                                                F(  0,    41) =    0.00
                                                Prob > F      =       .
                                                R-squared     =  0.0000
                                                Root MSE      =  .25206

------------------------------------------------------------------------------
             |               Robust
         CAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       _cons |   .0774355   .0388936     1.99   0.053    -.0011116    .1559826
------------------------------------------------------------------------------
```

According to figure 4.8, we can see that the p-value (0.053) is higher than 0.05, which means the cumulative abnormal return for 61-day event window is not significantly different from zero. Although the 95% confidence interval contains t-value, the p-value is more reliable and we judge this result as no significant abnormal return in 61-day event window.

4.1.5 Other Figure Analysis

If we scatter the p-values against event days we can obtain the following chart. The p-value is lowest in 11-day event window and increases with the increase of days in event window

Figure 4.9

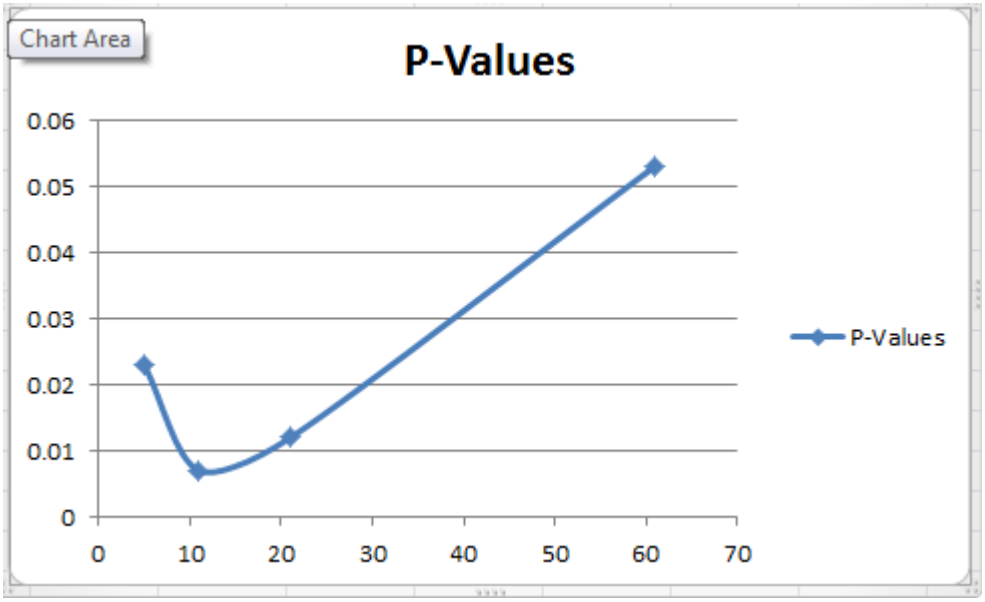


Figure 4.10

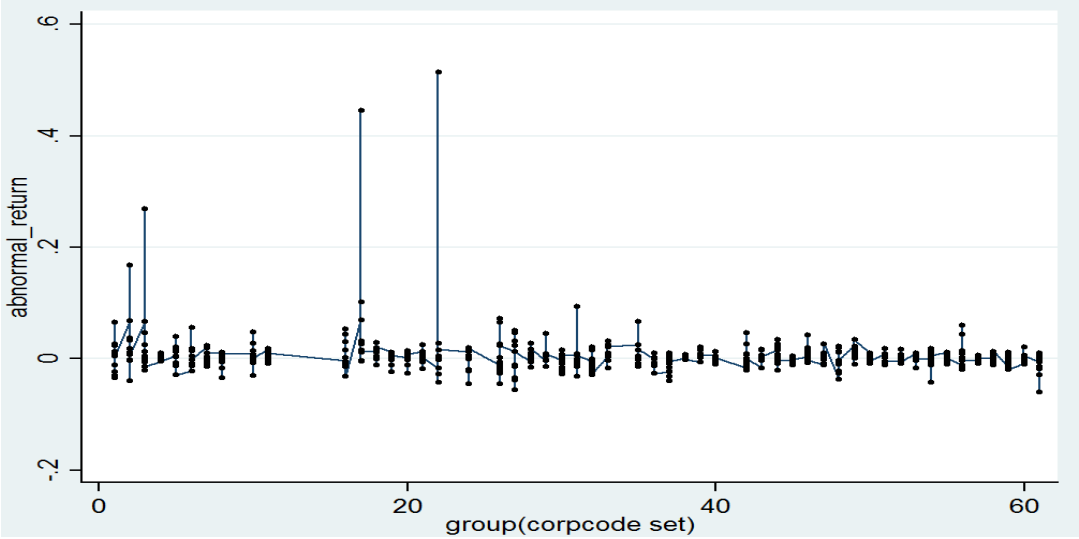


Figure 4.10 is the average abnormal return through all events based on 11-day event window in which the most significant cumulative abnormal return exists.

4.2 US market

4.2.1 5-days

Figure 4.11

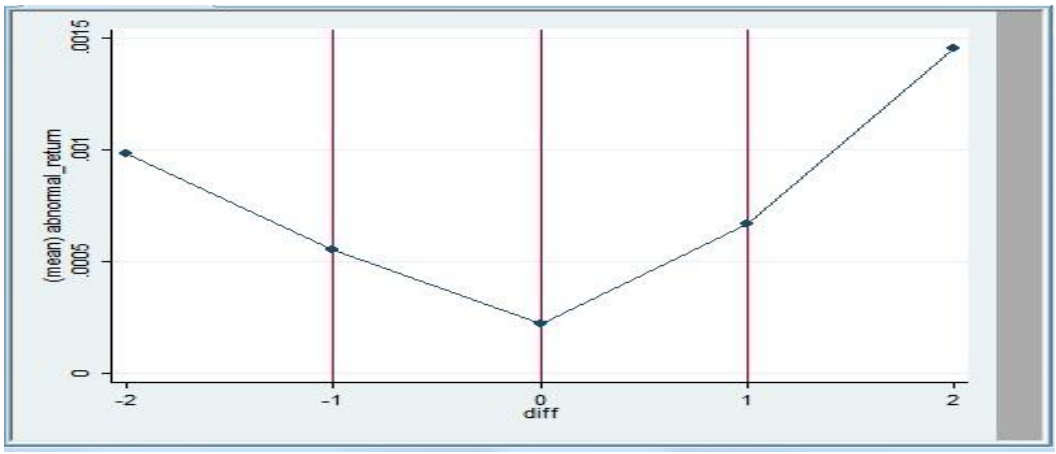


Figure 4.11 shows that the abnormal return ranges from 0 to 0.0015 during t=-2 to t=2 .And we can see that there is a sharp increase after day t=0.

Figure 4.12

```
. reg CAR if dif==0, robust

Linear regression                               Number of obs =     148
                                                F(  0,   147) =    0.00
                                                Prob > F      =       .
                                                R-squared     =  0.0000
                                                Root MSE      =  .02752
```

CAR	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
_cons	.0038858	.0022624	1.72	0.088	-.0005852	.0083569

According to figure 4.13, we can see that the p-value (0.088) is higher than 0.05, which means the cumulative abnormal return for 5-day event window is not significantly different from zero. Here we regard p-value as a more reliable measure of significance than t-value.

4.2.2 11-day event window

Figure 4.13

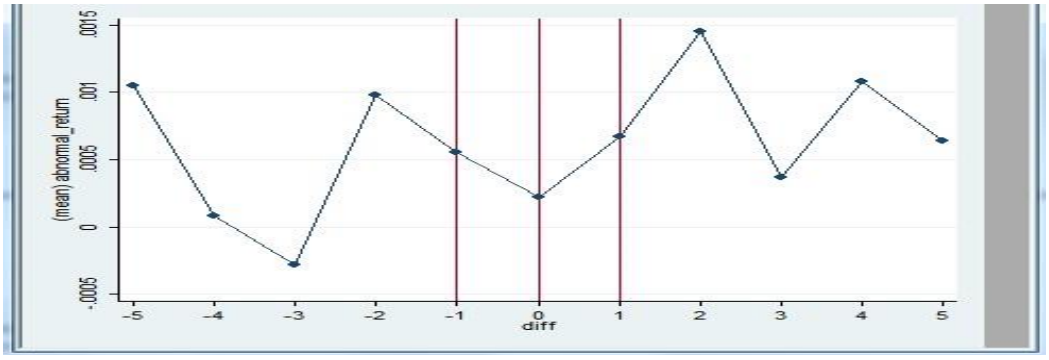


Figure 4.13 shows that the abnormal return ranges from- 0.00025 to 0.0015 during t=-5 to t=5 .And it reaches its highest level on day t=2.

Figure 4.14

Linear regression

Number of obs	148
F(0, 147)	0.00
Prob > F	.
R-squared	0.0000
Root MSE	.0474

CAR	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
_cons	.0068278	.0038961	1.75	0.082	-.0008718	.0145274

According to figure 4.14, we can see that the p-value (0.082) is higher than 0.05 ,which means the cumulative abnormal return for 11-day event window is not significantly different from zero.

4.2.3 21-day event window

Figure 4.15

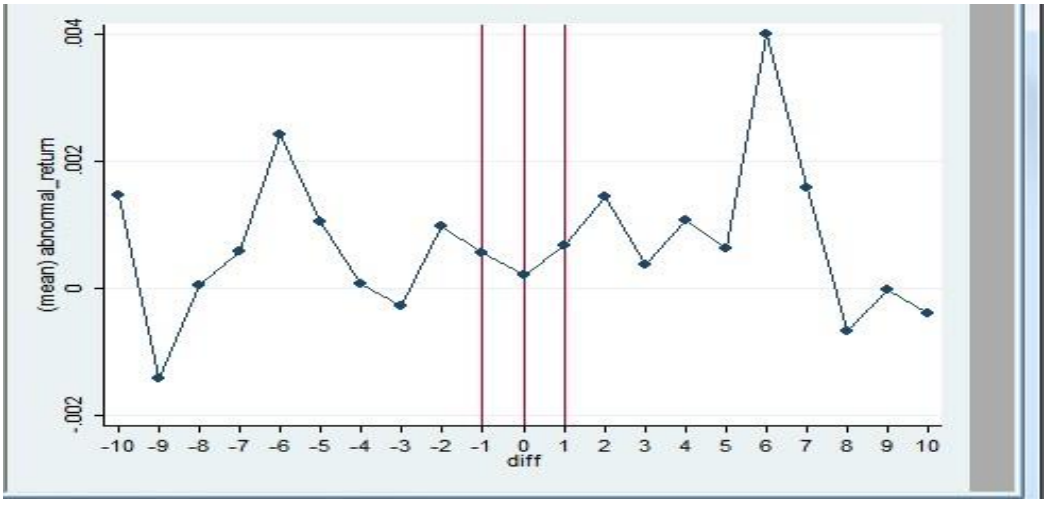


Figure 4.15 shows that the abnormal return ranges from- 0.0018 to 0.004 during t=-10 to t=10 .And it reaches its highest level on day t=6.

Figure 4.16

Linear regression

Number of obs	= 148
F(0, 147)	= 0.00
Prob > F	= .
R-squared	= 0.0000
Root MSE	= .0812

CAR	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
_cons	.0144702	.0066743	2.17	0.032	.0012802	.0276601

According to figure 4.16 , we can see that the p-value (0.032) is lower than 0.05 and t-value(2.17) do not lies in its 95% confidence interval, which means the cumulative abnormal return for 21-day event window is significantly different from zero.

4.2.4 61-day event window

Figure 4.17

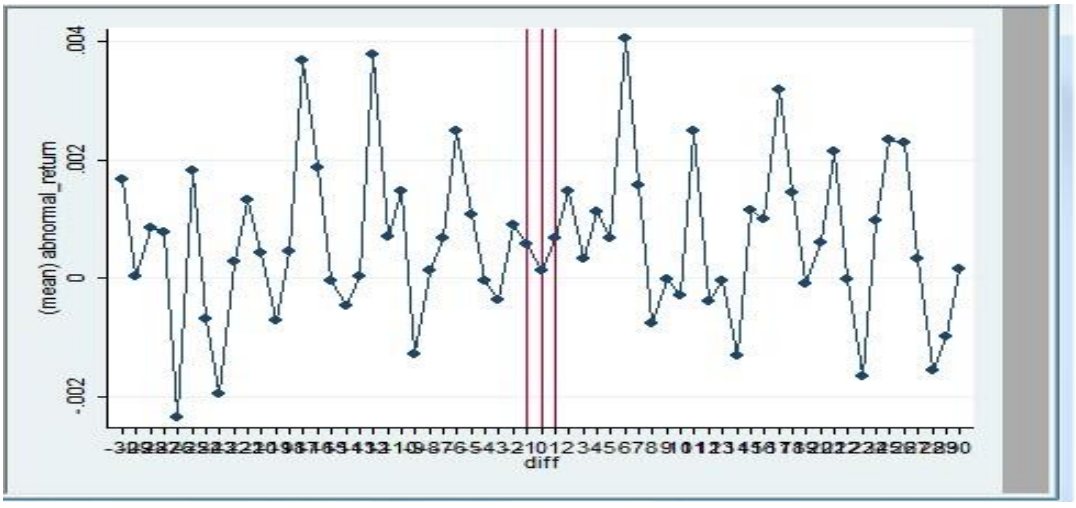


Figure 4.17 shows that the abnormal return ranges from about- 0.0022 to 0.0041 during t=-30 to t=30 .It reaches its highest level on day t=6 and then it waves around 0.

Figure 4.18

Linear regression

Number of obs	146
F(0, 145)	0.00
Prob > F	.
R-squared	0.0000
Root MSE	.18137

CAR	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
_cons	.0379568	.0150101	2.53	0.013	.00829	.0676236

According to figure 4.18 , we can see that the p-value (0.013) is lower than 0.05 and t-value(2.53) do not lies in its 95% confidence interval, which means the cumulative abnormal return for 61-day event window is significantly different from zero

4.2.5 Other Figure Analysis

If we scatter the p-value against the days in event window, we can obtain the following chart. It tells us that p-value declines along with the increase in event days and the sharpest decrease happened right after 11 –day event window. According to figure 4.16, we can see that this is caused by the sharp increase in cumulative abnormal return on day t=6.

Figure 4.19

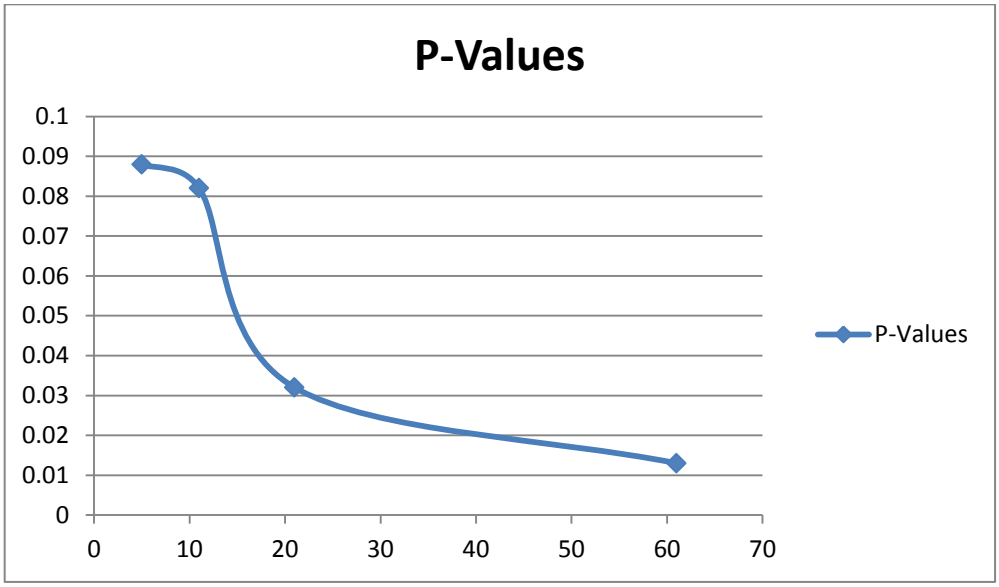


Figure 4.20

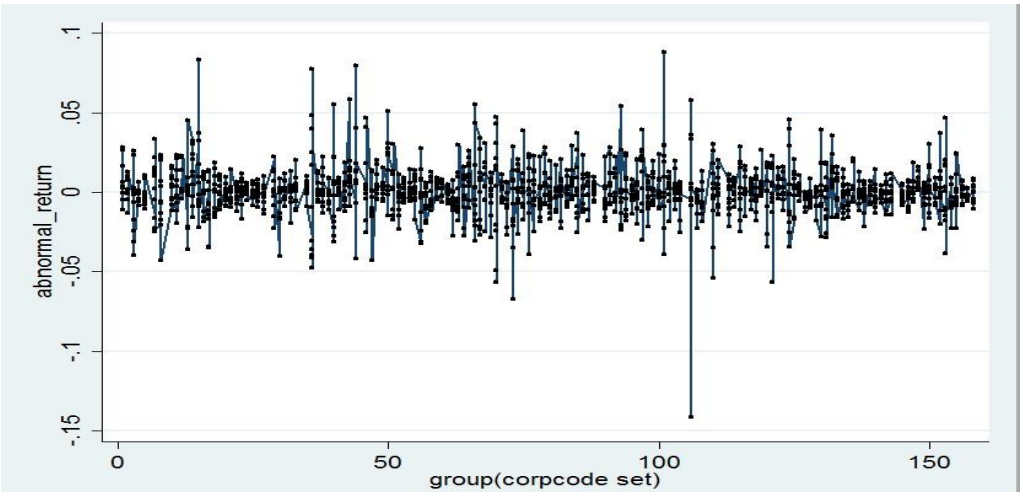


Figure 4.20 is the average abnormal return through all events based on 61-day event window in which the most significant cumulative abnormal return exists.

Chapter 5 Conclusion

This paper studies the market reaction of dividend increase announcement in China and US financial industry. The sample data consists of stock prices and dividend announcements of 30 companies in China and 40 companies in US. The event-window method is used to obtain abnormal returns due to the dividend increase announcement and market model is used to predict normal returns in event-window. Then we tested the significance of abnormal returns andof each event the cumulative abnormal returns through all events.

According to our results in China market, there are significant cumulative abnormal returns in all event-windows except 61-day event-window, which means the market reaction may have ended before 30 days after the announcement and investors can only make abnormal return in 30 days after the announcement. The average abnormal return is most significant on the dividend increase announcement day. The cumulative abnormal return becomes less significant as the days in the event window grow.

According to our results in US market, there is only significant abnormal return in the 21-day event window and the 61-day event-window in US market, which means US market may respond to dividend increase in a longer period and investors can only make abnormal returns 10 days after the announcement. The most significant average abnormal return happens on the 6th day after the dividend increase announcement day. The cumulative abnormal return becomes more and more significant as the days in the event window grow.

These results from event-window study indicate that both China and US financial market reflect dividend announcement data, which is public information. And therefore both China and US financial market are likely to be semi-strong form market or strong - form market .Further research is needed to distinguish which form of market are they. What's more, the US financial market reacts to dividend increase announcement slower than the China financial market with longer reaction period. Victor J. Defeo (1986) performed an research which investigated into the speed of the market reaction to the earnings announcements, and found out that the response period is longer for larger firms provided that the market response is known as a change in the average of the distribution of returns. This inspires us that the longer reaction period in US financial market may also be a result of the sample we selected in US, which are 40 largest companies in US. However, the difference may also be caused by the large environment difference between US and China. Further research is needed to decide the exact reasons of different market reactions to dividend increase announcements in US and China financial industry.

Appendix A

Companies selected in China(SSE)

Company id	Company name	Company id	Company name
600000	PUDONG DEV BANK	601166	INDUSTRIAL BANK
600015	HUAXIA BANK	601169	BANK OF BEIJING
600016	CHINA MINSHENG BAN	601288	AGRICULTURAL BANK OF CHINA
600030	CITIC SECURITIES	601328	BANK OF COMMUNICAT
600036	CHINA MERCHANTS BK	601336	NEW CHINA LIFE INSURANCE
600109	SINOLINK SECURITIE 'A'CNY1	601377	INDUSTRIAL SECURITIES
600369	SOUTHWEST SECURITI 'A'CNY1	601398	IND & COM BK CHINA
600705	VIC INVESTMENT HOLDINGS CO	601555	SOOCHOW SECURITIES
600816	ANXIN TRUST & INV	601601	CHINA PACIFIC INSU
600837	HAITONG SECRITIES	601628	CHINA LIFE INSURAN
600999	CHINA MERCHANTS SE	601688	HUATAI SECURITIES CO
601009	BANK OF NANJING	601788	EVERBRIGHT SECURIT
601099	THE PACIFIC SECURI	601818	CHINA EVERBRIGHT BANK
601988	BANK OF CHINA	601901	FOUNDER SECURITIES
601998	CHINA CITIC BK	601939	CHINA CONST BK

Appendix B

Companies selected in US (NYSE)

Company id	Company name	Company id	Company name
1	Astoria Financial Corp.	21	Flagstar Bancorp Inc.
2	Bancorpsouth, Inc.	22	HSBC Holdings
3	Bank of America(BAC)	23	International Bankshares Corp
4	Bank of Hawaii	22	JPM
5	Bank of Montreal	25	KeyCorp
6	Bank of New York Mellon	26	MetLife
7	BankUnited, Inc. (BKU)	27	New York Community Bancorp Inc.
8	BB&T Corporation	28	Old National Bancorp
9	Capital One Financial Corp. (COF)	29	PNC Financial Services Group
10	Central Pacific Financial Corp	30	Provident Financial Services Inc.
11	Charles Schwab Corp.	31	Raymond James Financial Inc.
12	Citigroup	32	Regions Bank
13	Comerica	34	Royal Bank of Scotland
14	Cullen_Frost Bankers Inc.	35	State Street Corporation (STT)
15	Deutsche Bank	36	SunTrust Bank
16	EverBank Financial Corp.	37	TCF Financial
17	F.N.B. Corp	38	The Toronto-Dominion Bank (TD)
18	First Bancorp	39	U.S. Bancorp (USB)
19	First Commonwealth Financial Corporation	40	Valley National Bank
20	First Horizon National Bancorp	41	Wells Fargo Bank

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