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The Path of Least Resistance: How Strict Chinese Stock Market Regulation Incentivizes Chinese Companies to List in Foreign Stock Exchanges

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The Path of Least Resistance**Chenyu Yin****Abstract**

Despite the recent trade dispute, decades of increased trade between the U.S. and China have given Chinese companies more opportunities to list on foreign stock markets, so they can find better financing opportunities in foreign markets. With the rapid development of the Chinese financial industry and the continuous spread of news on various company listings, why is it that many Chinese companies choose to list overseas, especially in the U.S. and Hong Kong, but not in China? In addition, what is the difference between the U.S. and Hong Kong exchanges, and how does that difference affect Chinese companies' choice of listing location? I propose that this is largely because the Chinese government has imposed relatively strict constraints on its stock exchanges, such as strict requirements for the profit ability of listing firms, and requirements that the company have a good background with the government. Thus, it makes a lot of Chinese companies choose to list on foreign exchanges. The weaker restrictions of the U.S. and Hong Kong stock exchanges greatly influence the decisions of Chinese companies to list abroad.

The Hong Kong exchanges provides firms with investors who have an understanding of Chinese companies and easy listing requirements relative to mainland China, while the U.S. exchanges offer a more open market system, which means more investors, faster listing speed and fewer restrictions than in Hong Kong to attract a large number of Chinese companies to go public successfully.

Introduction

The United States, as the financial center of the world, attracts companies from all over the world to seek more financing opportunities. Hong Kong, as the financial center of Asia, also attracts companies from all over the world. In China, there are some famous technology companies that have chosen to list in the United States or Hong Kong. For example, Alibaba listed on the New York Stock Exchange (NYSE) in 2014 and Tencent listed on the Hong Kong Stock Exchange in 2004.

Therefore, I studied why Chinese tech companies choose to list in different places. What is the difference between Hong Kong stock exchange and U.S. exchanges? What factors influence companies' choices? After my research, I found that the following factors influence the companies' choices:

1. The amount of financing available at the IPO
2. The speed of listing
3. The constraints of the government and the listing requirements of the exchanges

In the remainder of the paper, the background section presents recent history of the topic, the analysis section presents a comparison between Alibaba's stock market performance and Tencent stock market performance, as well as other factors that may influence company decisions. In the final section, which is the conclusion section, I argue that the U.S. stock market has surpassed the Hong Kong stock market, but the U.S. also needs to respond to the recent changes in the Hong Kong stock market. At the same time, the Chinese government also needs to learn from the open stock market policies of the U.S and Hong Kong, so as to attract more investment and improve the economy.

Background

Mainland China, Hong Kong and the United States have different restrictions and regulations on the trading of stock markets. First, because of the strict constraints of the Chinese government, companies need above 10% profit margins for three consecutive years for government approval to list on a mainland exchange. As a result, the Chinese mainland's listing process is tedious and time-consuming, often requiring years of waiting. Second, the process in Hong Kong is easier than that in mainland China, because IPOs in Hong Kong do not need to be approved by the government, the listing speed is only one year and Chinese firms do not need to be connected politically (Jia, Pownall, & Zhao, 2017). At the same time, Hong Kong is close to mainland China, so Hong Kong investors will be more familiar with Chinese companies. As a result, many Chinese companies choose to list in Hong Kong. Finally, U.S. stock exchanges are the least restrictive. U.S. stock exchanges have an edge in everything related to regulations, such as there is just one to two months from IPOs to official listing; and there is no profit margin requirement. Companies may even have negative net income. Many tech companies have negative profit margins when they go public, which is why many Chinese tech companies, such as Alibaba, choose to go public in the U.S.

Back 11 years ago, in 2007, the U.S. stock market hit a record high, when the Dow Jones Index reached 14,279 points, and 29 Chinese firms held IPOs in the U.S. In 2008, because of the financial crisis, there were only four Chinese IPOs in the U.S. However, because of the far-reaching impact of the financial crisis, the number of Chinese IPOs in the U.S. remained tepid until 2016, when there were only nine (Yang, Feng, & Su, 2011). However, in 2017, overseas IPOs surged again, with a total of seventy-four IPOs, 50 of them in Hong Kong and 24 in the U.S (JRJ.COM, 2018). It can be seen that the economy has recovered, and where Chinese companies

want to go public to obtain more financing and future opportunities has become a topic that cannot be ignored.

Analysis

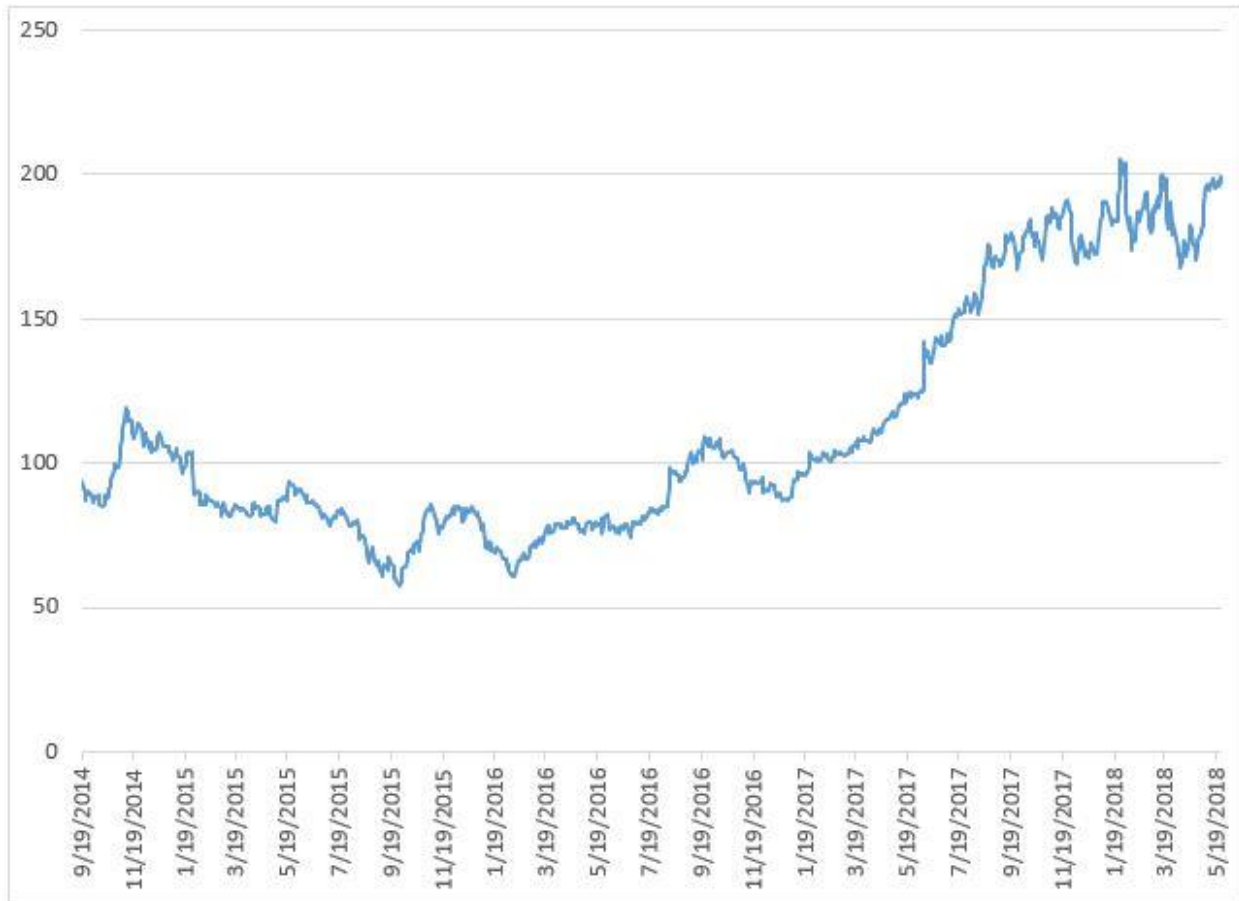
There are two really famous Chinese tech companies in the world, one is Alibaba, and another one is Tencent. For my purpose, Alibaba (BABA) represents Chinese tech companies on the U.S. stock exchanges (NYSE and NASDAQ) and Tencent (TCEHY) represents Chinese tech companies that are listed on the Hong Kong stock exchange. Therefore, by analyzing the historical data of Alibaba and Tencent, we can get their standard deviations, beta, alpha, adjusted R^2 , F-statistics and each company's stock price charts since their listing, which means we can further analyze which market can better provide a stronger support for Chinese technology companies, the U.S. market or the Hong Kong market.

Firm managers prefer smaller swings in stock prices, so I take a look at the standard deviations of each firm's stock returns. The standard deviations of returns on BABA is 1.99%, and the standard deviation of returns on TCEHY is 2.727%. Thus, we can see that Alibaba has a lower standard deviation than Tencent, which means Alibaba has less volatile stock prices. Thus, we can make a preliminary guess: U.S. can better provide a stronger support for Chinese technology companies

Next, let's take a look on Alibaba's stock. Alibaba is a famous technology company in China. Alibaba has a market value of up to \$500 billion, and its Ant financial service provides an incredibly convenient way to manage money. Thus, it is enough to prove that Alibaba is a valuable technology company to explore. In terms of historical data, Alibaba's stock price after

its IPO in 2014, but since the beginning of 2017, has increased significantly from \$90 per share to \$200 per share, up 122 percent(Figure 1). Table 1 presents summary statistics on Alibaba’s stock returns.

Figure1: Alibaba Historical Stock Trend from 2014



Source: Yahoo Finance

Table 1: Alibaba summary statistics:

Variable	Mean (1)	Std. Dev. (2)	Minimum (3)	Maximum (4)
BABA return	0.10%	1.99%	-8.78%	13.29%
MKT	0.042	0.84	-4.03	3.68
SMB	0.002	0.51	-1.65	2.50
HML	-0.009	0.51	-1.68	2.37

Source: Yahoo Finance

This statistics table presents data on Alibaba's stock returns. There are four variables: BABA stock returns, market beta, SMB beta and HML beta. The first column (1) presents the mean, the second column (2) presents the standard deviation, the third column (3) presents the minimum, and the fourth column (4) presents the maximum of four variables.

Second, I estimated a single-regression model and a multiple-regression model through Excel data analysis because I can get a company's beta, alpha and R^2 through this equation. Then, I can compare these data for Alibaba and Tencent to draw a preliminary conclusion. There are two equations:

The first equation is for the single-regression model:

$$R_{i,t} = \alpha_i + \beta_i - MKT_t + \varepsilon_{i,t}$$

The second equation is for the multiple-regression model:

$$R_{i,t} = \alpha + MKT_t + \beta \times SMB + \beta \times HML$$

Because the data of the multiple-regression model is more accurate and precise than the single-regression model, I will focus on the results of the multiple-regression model for analysis.

The results are as follows:

Alibaba's single and multiple-regression model results

	Single (1)	Multiple (2)
Alpha	(-0.107)**	(-0.114)**
	(-1.795)	(-1.957)
Market Beta	1.114***	1.110***
	(15.766)	(15.947)
SMB beta		0.210*
		(1.837)
HML beta		(-0.697)***
		(-6.133)
R^2	0.219	
Adjusted R^2		0.253
Standard Error	1.766	1.727
F	248.567	101.025
Significance F	1.53341E-49	3.172E-56

This results table presents some important data that can explain Alibaba's stock information. The first column (1) presents the results from the single-regression model, and the second column (2) presents the results from the multiple-regression model. The values in parentheses mean the T-Test values.

* represents the significance of 10%.

** represents the significance of 5%.

*** represents the significance of 1%.

The beta in the single-regression model is 1.114, shows that Alibaba has a kind of high volatility compared to the market. In the multiple-regression model, the three betas are 1.110, 0.210 and -0.697, and one of them is negative, which means Alibaba has a medium expected return. The market beta is 1.110, so Alibaba's stock has a risk that is above the average market risk. Then, the SMB beta is 0.210, which means investors required high returns for Alibaba, like other small-cap companies. The negative HML beta indicates that investors trading Alibaba's stock like a low-book to market ratio. The alpha is negative, so it means compare to the benchmark index, Alibaba performed worse than the market. Also, the adjusted R^2 is around 25%, which is higher than the single-regression model because the multiple-regression model

has more variables. It indicates the security does not act much like the index. Next, let's take a look at the cost of capital.

We know the equation is:

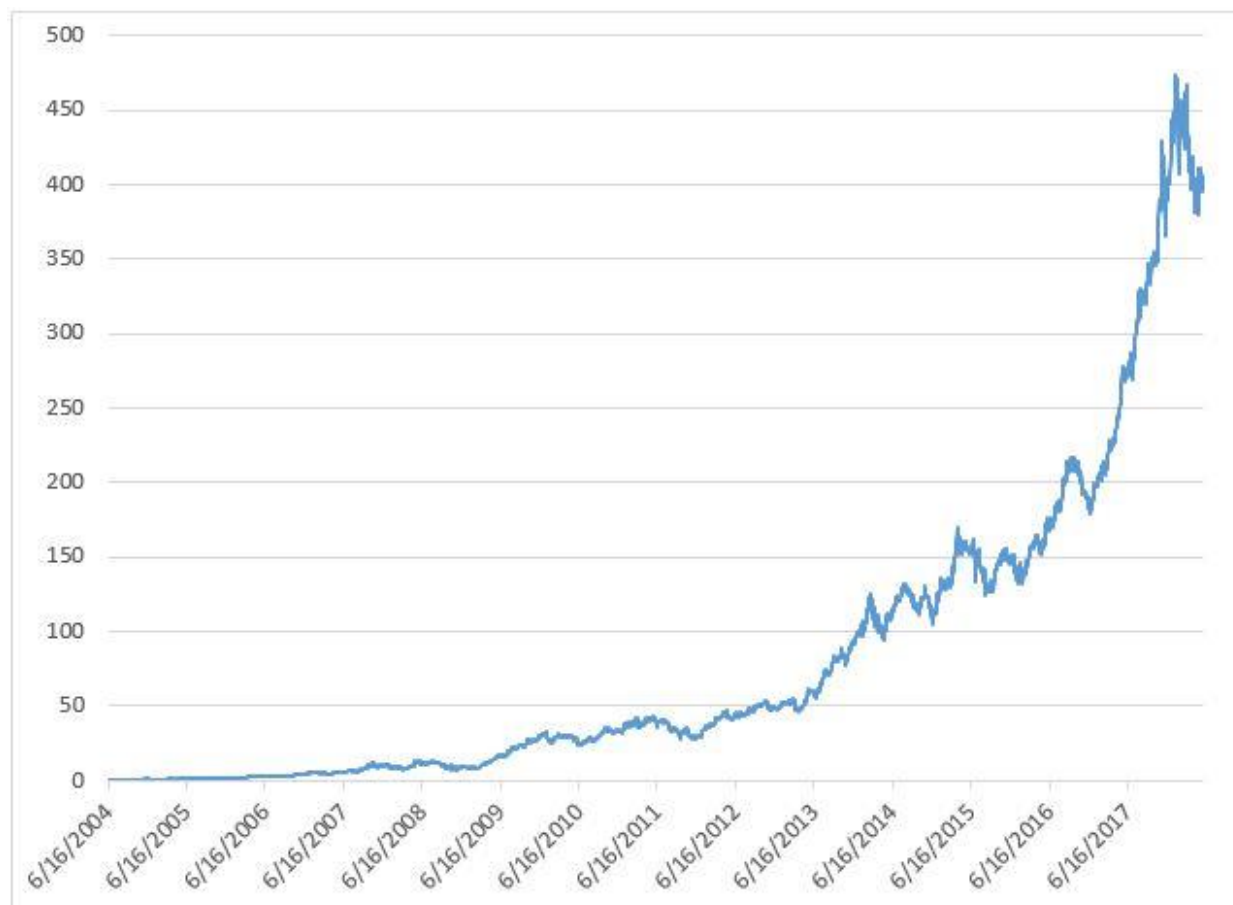
$$R_{i,t} = \beta_i MKT_t$$

Since $\beta_i = 1.114$, average $MKT = 0.042$ and $\varepsilon_{i,t} = 0$

Thus, by substituting the coefficient estimates into the regression model and substituting average values of the variables into the model, the cost of capital is:

$$\text{Cost of capital} = (1.114) \times 0.042 = 0.048$$

Next, Tencent is a good example of a Chinese tech company that listed on the Hong Kong exchange. Tencent has remained steady in the first two years after listing, but the stock price increased sharply from the second half of 2017 to early 2018. It has risen from HK \$270 per share to HK \$470 per share, up 74% (Figure 2). Table 2 presents summary statistics on Tencent's stock returns.

Figure 2: Tencent Historical Stock Trend from 2004

Source: Yahoo Finance

Table 2: Tencent relevant statistics data:

Variable	Mean(1)	Std. Dev.(2)	Minimum(3)	Maximum(4)
TCEHY return	-0.240%	2.727%	-15.418%	19.993%
MKT	0.037	1.183	-8.95	11.35
SMB	0.005	0.566	-3.75	3.83
HML	0.002	0.632	-4.22	-4.83

Source: Yahoo Finance

This statistics table presents data on Tencent stock information. There are four variables: TCEHY stock returns, market beta, SMB beta and HML beta. The first column (1) presents the mean, the second column (2) presents the standard deviation, the third column (3) presents the minimum, and the fourth column (4) presents the maximum of four variables.

From the table, we can see that Tencent's overall performance is fairly stable because its standard deviation is only 2.73%. However, it is still higher than Alibaba's 1.99%. In addition, Tencent's biggest drop and biggest gain were both higher than Alibaba's. Therefore, we can

preliminarily judge that the Hong Kong stock market has a higher volatility than the U.S. stock market.

I analyzed the stock trend of Tencent since its listing through the single-regression model and multiple-regression model. The data are as follows:

Tencent's single and multiple-regression model data

	Single	Multiple
Alpha	-0.255***	-0.256***
	(-5.440)	(-5.456)
Market Beta	0.343***	0.379***
	(8.642)	(8.681)
SMB beta		-0.048
		(-0.563)
HML beta		-0.166**
		(-2.066)
R^2	0.022	
Adjusted R^2		0.022
Standard Error	0.027	2.707
F	74.685	26.354
Significance F	8.436E-18	7.658E-17

Source: Yahoo Finance

This results table presents some important data that can explain Tencent's stock information. The first column (1) presents the results from the single-regression model, and the second column (2) presents the results from the multiple-regression model. The values in parentheses mean the T-Test values.

* represents the significance of 10%.

** represents the significance of 5%.

*** represents the significance of 1%.

The beta in the single-regression model is 0.343, and the market beta is equal to 0.379, so Tencent has a lower than average market risk. The SMB beta is -0.048, which means Tencent contributes a lower cost of capital. Then, the HML beta is -0.166, investors trading Tencent's stock like a low-book to market ratio. The alpha is negative, so it means compare to the benchmark index, Tencent is underperforming. Also, the Adjusted R^2 is around 2.2%, it

indicates the security act not much like the index. Thus, since the stock price of Tencent in the second half of 2017 has significantly improved, overall, the stock price of Tencent is performed better than the Hong Kong market as a whole.

Similarly to Alibaba, we use the same equation for Tencent:

$$R_{i,t} = \beta_i MKT_t$$

Since $\beta_i = 0.343$, average $MKT = 0.037$ and $\varepsilon_{i,t} = 0$

Thus, the cost of capital is:

$$\text{Cost of capital} = (0.343) \times 0.037 = 0.013$$

By integrating the above data, I found that Alibaba beat Tencent on the data analysis because it has a lower beta, which means Alibaba can attract more investors. Also, compare their cost of capital, we can see that $0.048 < 0.013$, so Alibaba has a lower risk than Tencent. Thus, from here, I will say this is some evidence that Hong Kong stock market is better for companies because Tencent has a lower cost of capital.

However, only two companies' data is not persuasive. Therefore, I also found more reliable companies' information through NASDAQ and a Chinese media website called SINA, including Baidu (BIDU), Bilibili (BILI), Fang Holdings (SFUN) and so on, including 25 Chinese companies listed in the U.S. and 11 Chinese companies listed in Hong Kong. After understanding and analyzing the information of these 36 companies, I can make a more comprehensive analysis of which exchange is more suitable for Chinese companies, U.S. exchanges or Hong Kong exchange. Then, I can provide better advice for Chinese technology

companies that are preparing to go public. Also, I can better promote the economic development of China.

In addition, more concrete analysis is needed: what other factors would make some Chinese companies choose U.S. exchanges instead of the Hong Kong exchange? I proposed four hypotheses and drew relevant conclusions.

- The U.S. has more investors with more wealth (Chinese firms can raise more money, have more visibility in the U.S.)

More investors with more wealth mean more money can be raised when raising funds, so I judge whether this is the case in the U.S. by studying how much money those companies can raise in the IPO. Through a service called Sharadar, I got the data from Jan.1, 2001 to the present. Among them, I collected some data about how much money the company raised by issuing stock over the previous year based on reported net cash flow to common stockholders on cash flow statements. Also, I used the date the report was filed with the SEC. Thus, if we look for those two data together, then it will tell us how much it raised at IPO. According to the average value calculation by Excel, the average IPO amount for firms in the sample that listed in the U.S. is \$4,089,031,846.

Hong Kong is different. I can't find a source for Hong Kong like Sharadar. As a result, I got the IPO amount by subtracting the total assets of the year after listing from the total asset of the listing year from those companies' 10-K reports every year. Similarly, by calculating the average value, the average IPO amount in Hong Kong is \$642,223,253.

By contrast, \$4,089,031,846 is far higher than \$642,223,253. Therefore, this is evidence that the U.S. exchanges can bring more financing for Chinese technology companies, which means they can provide more financial support for their future development.

- U.S. listing process is faster

The speed of going public determines how fast a company can raise capital. Therefore, by comparing the speed of listing in the U.S. and Hong Kong, we can judge which exchange is more advantageous in providing financial support to the company. I can't find online data on the speed of U.S. listings for Chinese companies, so I changed the idea: by looking for every companies' announcing date and listing date, and calculating the difference between them, we can obtain how many days that each company spend from prepare listed to get listed. I got the announcement date from each company's F-1 form, which can be got by EDGAR search from the SEC website. Listing date is obtained through SINA. By calculating the average values, the average time it takes a company to list in the U.S. is about 38 days, or we can say one to two months.

At the same time, I tried to find information about the listing speed of Hong Kong online, but found nothing. However, it typically takes a year for Chinese companies to list in Hong Kong, according to Zhiming Feng, who is the general manager of one of Hong Kong's leading investment banks (Xun, 2017). Thus, the average speed for a Chinese company to list in Hong Kong is a year.

Clearly, if Chinese companies choose to list in the U.S., they will be able to raise capital much faster than in Hong Kong. Therefore, it also proves that the speed of listing is also an important factor in determining where Chinese companies decide to list.

- Government regulations are different (U.S. allows them to have multiple share classes, U.S. allows them to have negative profits)

According to the preliminary investigation, I think there are two additional important factors that may lead Chinese companies to go to the U.S. instead of Hong Kong: U.S. exchanges allow Chinese companies to have multiple share classes and the U.S. allows Chinese companies to have negative profits.

First, the U.S. has for many years allowed publicly-traded companies to have multiple share classes. Before April 30, 2018, Hong Kong did not allow the use of multiple share classes because Hong Kong exchanges leaders believed that all shareholders should be equal. However, many founders of Chinese companies use multiple share classes in order to keep the decision-making power of the company. That means these Chinese companies had to go to the U.S. to list, rather than Hong Kong, even though Hong Kong investor may know more about them.

Second, according to Ernst&Young, the U.S. does not require firms to have positive net income and requires lower minimum cash flows (Ernst&Young, 2013) because the U.S. market is more focused on firms' future development. This has been important for some of China's technology giants, such as JD, and some other relatively smaller companies, such as BILI, BITA, etc. As with multiple share classes, until April 30, 2018, Hong Kong never allowed a company has a negative net income when it listed. As can be seen from the table below (Table 3), NYSE has no requirement on the company's profitability, while Hong Kong needs at least HK\$50 million a year in the last 3 financial years.

Table 3: The different requirements between Hong Kong and NYSE

	Profit	Revenue	Cash Flow
Hong Kong	At least HK\$50 million a year in the last 3 financial years (with profits of HK\$30 million in the 2 years before that)	At least HK\$4 billion at the time of listing	At least HK\$2 billion at the time of listing
NYSE	N/A	\$100 million in the most recent 12-month	Over \$100 million for the last 3 fiscal years

Source: Ernst&Young

Thus, it can be seen that the U.S. has lower requirements for companies to go public, which means the U.S. can attract more Chinese companies to get listed. However, after the reform of the Hong Kong stock exchange, multiple share classes are not only allowed, but also the profitability requirement for technology companies is eliminated. As a result, the U.S. now needs to find ways to keep the Chinese tech giants listed and further boost the U.S. economy.

- Chinese technology companies want exposure to the U.S. and the Western world

Chinese companies choose to list in the United States for another reason, I think, which is that they want to get more exposure in western countries. The U.S. is the undisputed leader in the west, which means that listing in the U.S. will attract more attention from western countries. Therefore, I tried to find out each company's sales in western countries every year, so as to verify my idea. However, the companies' annual reports do not break down sales. Thus, I changed my approach again: if Chinese companies want to open up western markets, they have to build English-language websites because English is the lingua franca of most western countries. Then, if I can find out which companies have established English websites, I can verify my conjecture. After that, I visited the websites of all the relevant companies, but only two companies have relatively perfect English websites: JD and SFUN. Therefore, it can be concluded that the expansion of western markets is not an important factor that affects the decision of Chinese companies to list in the U.S.

Conclusion

From the above data, no matter from the financing ability, speed of listing, or even the government regulation, the U.S. have surpassed Hong Kong, attracting a variety of technology giants to list. As a result, U.S. exchanges are arguably the best option for Chinese companies. Nevertheless, with the reform of the Hong Kong stock exchange, the U.S. will face pressure from Hong Kong. More and more Asian companies, especially Chinese companies, are looking to list on the Hong Kong exchange where they know them better, rather than the U.S. In addition, the U.S. needs to think about ways to keep the Chinese tech giants delisting from U.S. exchanges and heading to Hong Kong.

At the same time, the Chinese government should think how it could regulate Chinese stock exchanges to attract more Chinese firms too. In my opinion, the most important thing is if the Chinese government can no longer put too many constraints on exchanges, like the United States and the Hong Kong government, then it can not only encourage more companies to meet the exchanges' requirements and the listing speed will increase substantially, but also can attract more foreign investors come to China, in order to promote the further development of China's economy. In the long run, more and more well-known companies will gradually return from overseas to China, then China will have the capital to compete with the U.S. and Hong Kong stock exchanges. Then, China will become the real superpower

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Appendix

Chinese companies listed in the U.S.:

1. Alibaba (BABA)
2. Baidu (BIDU)
3. JingDong (JD)
4. Net Ease (NTES)
5. XieCheng (CTRP)
6. WeiBo (WB)
7. 21 Vianet (VNET)
8. Changyou (CYOU)
9. Xunlei (XNET)
10. Bitauto Holdings Limited (BITA)
11. Fang Holdings (SFUN)
12. GDS Holdings (GDS)
13. Momo (MOMO)
14. Semiconductor Manufacturing International Corporation (SMI)
15. 51 Job (Jobs)
16. Bilibili Inc. (BILI)
17. YY Inc. (YY)
18. ChinaCache (CCIH)
19. Gridsum (GSUM)
20. Sogou (SOGO)
21. The9 (NCTY)
22. Zhaopin LTD (ZPIN)
23. Cheetah Mobile (CMCM)
24. China Finance Online (JRJC)
25. China Online Education (COE)

Chinese companies listed in Hong Kong:

1. Tencent (00700)
2. Alibaba Pictures Group Limited (01060)
3. HC International, Inc. (02280)
4. NetDragon Websoft Holdings Limited (00777)
5. Cogobuy Group (00400)
6. CAR Inc. (00699)
7. Tian Ge Interactive Holdings Limited (01980)
8. Yixin Group Limited (02858)
9. ZhongAn Online P & C Insurance Co., Ltd. (06060)
10. China Literature Limited (00772)
11. Razer Inc. (01337)