ISSN: 2692-7608 DOI: 10.6981/FEM.202102_2(2).0013

The Analysis for Whether American Alibaba Group is Worth Investing

Qianxi Feng[1], Jiaxuan He[2], Rongkang Liao[3], Panjian Lyu[4]

[1]University of Delaware, Newark, Delaware 19716, United States;

[2]Vanke Meisha Academy, Shenzhen, Guangdong 518000, China;

[3]Changjun high school-Changsha, Changsha 410023, China;

[4]New York University, New York, NY 10003, United States.

Abstract

Corporation valuation is extremely critical when individuals decide whether to buy the stock of a certain company. This paper is aimed to analyze the value of Alibaba via different valuation models utilizing the most accurate data we can find and give the most suggestions for people who consider buying this stock. In addition, the research will move forward to forecast the future development of Alibaba by our reasonable conjectures and explanations. Discounted Free Cash Flow Model and P/E ratio model were used in this research in order to unfold the most comprehensive analysis within our power for Alibaba. This paper chiefly calculated the P0 value of American Alibaba Group which is 217.53 USD by the forecasted future cash flow of American Alibaba Group in five years, DCF Model and P/E ratio model will be utilized in the discussion between American Alibaba Group and Amazon, which yields the fact that the company has a great potential to invest.

Keywords

Corporation Valuation; Alibaba Group; DCF Model; P/E Ratio.

1. Introduction

American Alibaba Group is literally a great company to invest at least according to the macroanalysis. Alibaba Group was founded in 1999 in Hangzhou, Zhejiang province in China by a group of 18 people led by the former English teacher Jack Ma. This company operates a number of business and also obtains business ecosystem support from affiliated companies' businesses and services. Businesses and affiliated companies include Taobao, Tmall, Juhuasuan and so on. On september19, 2014, Alibaba Group was officially listed on the New York Stock Exchange, creating the largest IPO record in history, with the stock symbol “BABA” and the founder of Jack Ma. On November 26, 2019, Alibaba went public in Hong Kong, with a total market value of more than 4 trillion yuan and became the “king of new shares” in Hong Kong. On September1, 2019, Alibaba announced a $2 billion wholly owned acquisition of NetEase koala, leading $700 million investment in NetEase cloud music. On September 1, 2019, the list of China's top 500 service Companies was released in Jinan, and Alibaba Group Holding Co., Ltd. ranked 24th. In October 2019, Forbes' list of the top 100 Global Digital Economies ranked 10th. On October 23, 2019, the 2019 Fortune Top 50 list was released, and Alibaba Group ranked 11th. "One Belt and One Road" ranks the 5th in the list of top 100 Chinese enterprises. On November 16, Hurun Research Institute released the 2019 Hurun List of the Top 100 Global Unicorns Active Investment Institutions, and Alibaba ranked 7th. In December 2019, Alibaba Group was selected as the Model 100 brand in the 2019 Chinese Brand Power Grand Ceremony. On January 11, 2020, the first day of the Spring Festival Gala of the Year of the Rat, Alibaba

ISSN: 2692-7608 DOI: 10.6981/FEM.202102_2(2).0013

announced that it had become the exclusive e-commerce partner and offered subsidies to power suppliers.

At present, the epidemic situation of new crown pneumonia has spread in the world, which has brought more uncertainty to the world economy. "Alibaba, in April 202, announced that after 11 years to launch a special action to help small and medium-sized enterprises -spring thunder program, which aimed to give full play to the digital capabilities of Alibaba, help small and medium-sized enterprises through the immediate danger, and find a future-oriented machine" [1].

In such circumstances, however, some people still feel worried about buying the stock of BABA. This paper will eliminate your question by analyzing different valuation methods, mainly focusing on forecasting the future cash flow of Alibaba and giving reasonable suggestions for people who need it.

2. Methodology

2.1. Assumptions

2.1.1. Beta and market rate of return:

Beta (β) of Alibaba Group Holding Limited measurement of its volatility of returns relative to the entire market. "The beta (β) of 1.6 is obtained in the website of Yahoo Finance" [2]. For Market rate of Return, we obtain statistics from S&P 500 indexes from Yahoo Finance, since Alibaba went public in the United States. In order to be consistent with previous assumptions, the past 5 years' average S&P 500 return is assumed as the expected market rate of return, which is around 8%. We suppose that the past 5-year horizon can best reflect the current financial market conditions. We finally determine 9% instead of 8% when we consider the effect of coronavirus. The COVID-19 largely puts negative impacts on large enterprises which suffer substantial financial loss. "Meanwhile, most central banks take actions to ease the panic, so it is reasonable to increase the market return by 1%, which is 9%" [3].

2.1.2. Risk-free Rate of Return (Rf):

The risk-free rate of return represents the interest on an investor's money that would be expected from an absolutely risk-free investment over a specified period of time. This ERP recommendation is to be used in conjunction with a normalized risk-free rate of 3.0% on March 30, 2020

2.1.3. Market Risk Premium (E[Rm]-Rf):

The market risk premium is defined as the spread between the market rate of return and the stock rate of return. Under our assumptions, the market risk premium is calculated to be 6%.

2.1.4. Capital Asset Pricing Model (CAPM):

The Capital Asset Pricing Model (CAPM) describes the relationship between systematic risk and expected return for assets, particularly stocks. CAPM is widely used throughout finance for pricing risky securities and generating expected returns for assets given the risk of those assets and cost of capital.

The Beta is 1.6 while the risk-free rate is 3.0%

So we could calculate the return of stock is (3%+1.6*6%) =12.6%

2.1.5. Growth Rate:

After analyzing the results from free cash flows from past 5 years, we could see that the cash flow of Alibaba is growing at the approximate rate of 20.62% annually. However, it would be overestimated to say the cash flow of Alibaba could grow at 20.62% forever. Either the company would saturate the market and have almost 100% market share and would have no place to

ISSN: 2692-7608 DOI: 10.6981/FEM.202102_2(2).0013

grow soon, or competitor come in and force to lower the price of products in Alibaba by taking its market share. So there is no scenario we would believe Alibaba could grow over 20% forever. On the other hand, we could use the formula (GDP growth rate-inflation rate) to obtain approximate annual growth rate. For example, if a nation's gross GDP was calculated to be 8% higher than the past year, and inflation is obtained increasing by 2% last year, we could say that GDP growth is increased by 4% synchronously. Although Alibaba goes public twice (the United States and Hong Kong), considering its 98% customer's base is in mainland China, we use both China's GDP growth rate and inflation rate. After reading through the website of CNBC and Macrotrends, we obtain the growth rate of GDP and inflation rate in China is 6.1% and 2.9% separately. Thus, we finalize the result and determine 3.2% (6.1%-2.9%) as Alibaba's growth rate. [4][5]

2.1.6. The Discounted Free Cash Flow Model

Initially, we use the discount free cash flow model to calculate Alibaba’s current enterprise value. The discount FCF model is to predict the company's future cash flow and calculate the company's present value according to a certain discount rate, thereby determining the pricing method of the stock issue price. This valuation tool helps us determine whether a corporation is undervalued or overvalued by comparing the current enterprise value and the one we calculated. The formula of the discounted cash flow model is V0=FCF1/(1+rwacc) +FCF2/(1+rwacc)^2+FCF3/(1+rwacc)^3+FCF4/(1+rwacc)^4+FCF5/(1+rwacc)^5+Vn/(1+rwacc)^n

2.1.7. The Weighted Average Cost of Capital (WACC):

The weighted average cost of capital is a financial ratio that calculates the company's financing costs and asset acquisition costs by comparing the company's debt and equity structure. All sources of capital, including common stock, preferred stock, bonds, and any other long-term debt, are included in a WACC calculation. WACC is commonly used as the discount rate for future cash flows. When calculating WACC, we first need to find the value of total debt, total equity, cost of debt, cost of equity and corporate tax rate. According to the result of CAPM, we know the cost of equity (Re) is approximately 12.6%. Total debt represents the market value of the company’s debt, it is the sum of long-term debt and short-term debt. Total equity represents market value of the equity, equity refers to the remaining part of the company's total assets minus total liabilities. The total debt (D) and total equity (E) are 125,430 million RMB and 870,548 million RMB by March 31, 2020 from Alibaba's annual balance sheet. For the cost of debt (Rd), we use the yield to maturity for 10-year bonds of Alibaba's bond, it is approximately 3.7% [6]. Since Alibaba is an enterprise from China, the standard corporate income tax rate (Tc) for domestic and foreign-funded enterprises is 25% according to the Chinese Corporate Income Tax Law. As mentioned above, we can use the WACC formula WACC=[E/(E+D)]*Re +[D/(E+D)]*Rd*(1-Tc) to calculate that the discounted rate is approximately 8.6%. [7][8][9]

3. Results

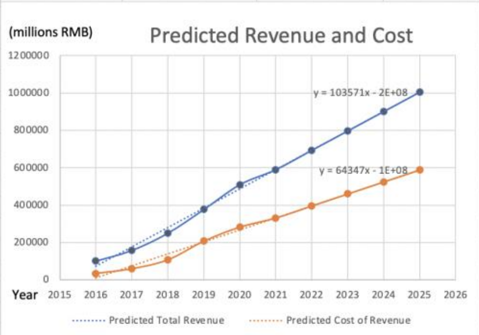
After obtaining the data of WACC, we calculated the free cash flow of Alibaba in the next five years from 2021 to 2025. We first predicted that the growth rate will be approximately 3.2% (6.1%-2.9%). According to the Alibaba annual report, the free cash flow of 2020 is approximately 130,914million RMB. Therefore, the FCF of 2021 is approximately 135,103.25 million RMB, that of 2022 is approximately 139,426.55 million RMB, that of 2023 is 143,888.20 million RMB, that of 2024 is approximately 148,492.62 million RMB, that of 2025 is approximately 153,244.39 million RMB. V5 is also calculated, and the result is roughly 2,928,670.56 million RMB. Then, we use the formula V0=FCF1/(1+rwacc) +FCF2/(1+rwacc)^2 +FCF3/(1+rwacc)^3+FCF4/(1+rwacc)^4+FCF5/(1+rwacc)^5+V5/(1+rwacc)^5 to calculate

Frontiers in Economics and Management **Volume 2 Issue 2, 2021**
ISSN: 2692-7608 **DOI: 10.6981/FEM.202102_2(2).0013**

the enterprise value. The result turns out to be 2,501,912.02 million RMB, approximately 375,286.802 million USD.

Next, we obtained share price of from the enterprise value by using the formula P0=(V0+Cash-Debt)/ Share Outstanding. We obtained the value of cash, debt, and Share Outstanding from yahoo finance's Alibaba balance sheet and income statement, the Cash is 330,503million USD, the debt is 125,430 million USD, while the share outstanding is 2668. By using the formula, we obtained the share price of Alibaba 217.53 USD.

	Year ended March 31,									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
	(in millions)									
Total Revenue	101143	158273	250266	376844	509711	589959.5	693530.2	797100.9	900671.6	1004242.3
Cost of Revenue	34355	59483	107044	206929	282367	331076.6	395423.6	459770.6	524117.6	588464.6
Gross Profit	66788	98790	143222	169915	227344	258882.9	298106.6	337330.3	376554	415777.7
Net Income	71460	43675	64093	87886	149433					
FCF	51,279	71,318.00	99,996.00	104,478.00	130,914.00	135,103.25	139,426.55	143,888.20	148,492.62	153,244.39
Growth Rate						3.20%	3.20%	3.20%	3.20%	3.20%



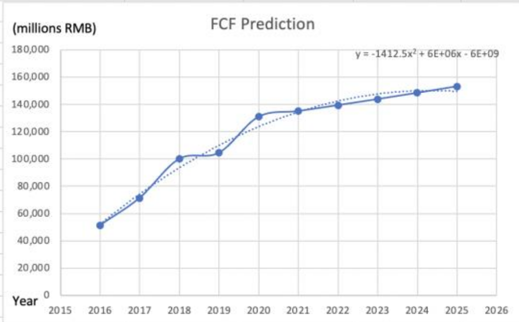


Figure 1. Financial ratios of Alibaba

4. Discussion

We used the discounted FCF model to calculate Alibaba's enterprise value of 375,286.802 million USD, and then obtained the current price of 217.526USD per share through the enterprise value. From this data, we can know that Alibaba is overvalued. However, we cannot judge that Alibaba is not worth investing in merely through this data. More data or factors can help us evaluate the company in various ways. Thus, we will compare some data and factors between Alibaba and its competitors in next content.

Amazon has a similar market position as Alibaba. By comparing e-commerce industry between Alibaba and Amazon, we seek to discover which company is more suitable for investors to invest in. To do this, we need to analyze which company is undervalued relative to the other.

We look at P/E ratio to determine which company presents a better investment target. The P/E ratio is equal to the price of stock/earnings per share. It can be used to confirm whether the market is optimistic about the stock, and it can also be used to measure the degree of investment risk. **Amazon's P/E ratio of 134.39 is much higher than Alibaba's P/E ratio of 85.22.** From this financial ratio, we can see that people pay higher prices for each unit of earnings in Amazon's stock, which also shows that they think Amazon has a greater potential for growth. However, a higher P/E ratio also represents a greater investment risk because it implies the company's stock is more expensive relative to its historical earning power. However, stocks with high P/E ratios are not necessarily better or worse than stocks with low P/E ratios. We need to look at a company with a comprehensive consideration of P/E ratio and growth. The two most important considerations are:

1. Is the company in an emerging industry or a matured industry?

ISSN: 2692-7608 DOI: 10.6981/FEM.202102_2(2).0013

2. What is the future profitability or growth potential of the company?

Amazon and Alibaba are all in the emerging industries of cloud computing and IoT. We can evaluate and compare their future growth potential. From the linear graph below, we can see that Alibaba's growth rate is higher than that of Amazon and the gap increases year over year. Alibaba's stock should be more attractive to investors because of a higher growth rate and a lower P/E ratio, signaling Alibaba's stock is underpriced relative to that of Amazon. However, the decision to invest ultimately comes down to the personal risk tolerance of investors to invest in a company whose operations are predominantly based in China. Regardless, should we focus purely on growth potential and valuation, then Alibaba is a better investment choice. [10] [11]

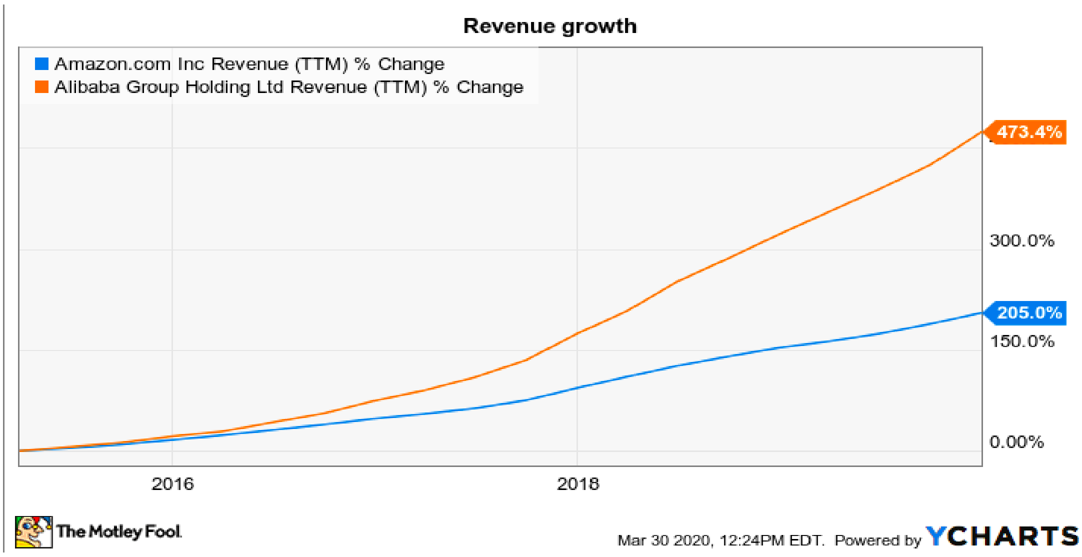


Figure 2. Amazon&Alibaba revenue growth

Amazon Annual Revenue VS Alibaba Annual Revenue
(Millions of US $)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Alibaba	978	1,777	3,136	5,553	8,463	12,293	15,686	22,994	39,898	56,152
Amazon	34,204	48,077	61,093	74,452	88,988	107,006	135,987	177,866	232,887	280,522

Figure 3. Amazon Annual Revenue VS Alibaba Annual Revenue

5. Conclusion

After finishing all the analysis by valuation models and discussion, we are able to draw a conclusion that the current market value of Alibaba is overvalued according to the value of its P0 we calculated and the current market price of BABA, which is 281 USD, and this illustrates

ISSN: 2692-7608 DOI: 10.6981/FEM.202102_2(2).0013

that people who now buy its stock are not most likely to obtain profits. Nevertheless, Alibaba's future profits and growth rate are still relatively high when compared to Amazon. As a result, if you are able to sustain the risk, buying the stock of Alibaba may help you to acquire certain number of profits. In contrast, if you are quite apprehensive of bearing the risk, you'd better consider buying other stocks.

References

[1] "Alibaba Group." Alibabagroup.Com, 2019, www.alibabagroup.com/en/about/history. Accessed. 22 Sept. 2020.

[2] "Alibaba Group Holding Limited (BABA) Balance Sheet - Yahoo Finance." Finance.Yahoo.Com, finance. yahoo.com/quote/BABA/balance-sheet? p=BABA. Accessed 22 Sept. 2020.

[3] "BABA : Summary for Alibaba Group Holding Limited - Yahoo Finance." @YahooFinance, 2019, finance. yahoo.com/quote/BABA/. Accessed 22 Sept. 2020.

[4] Ballard, John. "Better Buy: Alibaba vs. Amazon." The Motley Fool, 2 Apr. 2020, www.fool.com/investing/2020/04/02/better-buy-alibaba-vs-amazon.aspx. Accessed 22 Sept. 2020.

[5] "China Inflation Rate 1987-2020." Www.Macrotrends.Net, www.macrotrends.net/countries/CHN/china/inflation-rate-cpi. Accessed 22 Sept. 2020.

[6] Harrington, Carla Nunes; James. "U.S. Equity Risk Premium Increased from 5.0% to 6.0% | Cost of Capital." Duff & Phelps, www.duffandphelps.com/insights/publications/cost-of-capital/us-equity-risk-premium-increased-march-25-2020. Accessed 22 Sept. 2020.

[7] Hayes, Adam. "What the Price-to-Earnings Ratio Tells Us." Investopedia, 2019, www. investopedia. com/terms/p/price-earningsratio.asp. Accessed 22 Sept. 2020.

[8] Huileng Tan. "China's Says Its Economy Grew 6.1% in 2019, in Line with Expectations." CNBC, CNBC, 17 Jan. 2020, www.cnbc.com/2020/01/17/china-gdp-for-full-year-and-q4-2019.html. Accessed 22 Sept. 2020.

[9] Linnane, Ciara. "Alibaba Sells $7 Billion of Bonds, Including 40-Year Maturity." MarketWatch, www. marketwatch. com/ story/ alibaba -is -planning -to -sell -up -to -7 -billion -of -bonds -2017-11-29. Accessed 22 Sept. 2020.

[10] "The Complete Toolbox for Investors | Finbox. Com." Finbox. Com, finbox. com/ NYSE:BABA/ explorer/ cost6_debt_aftax. Accessed 22 Sept. 2020.

[11] "Weighted Average Cost of Capital (WACC) Formula | Example | Definition." My Accounting Course, 2019, www.myaccountingcourse.com/financial-ratios/wacc. Accessed 22 Sept. 2020.