

Valuation of JD.com

Mingzhong Dai

Valuation Summary

Company Name: JD.com

Industry: E-commerce

Date: 5.17.2018

Traded Price:

\$41.42 (12/29/2017)

\$40.49 (3/29/2018)

\$35.96 (5/17/2018)

Target Price:

Dividend Discount Valuation Model: \$41.25

Relative Valuation Model: \$5.45

P/E Ratio: 253 (2018 Q1)

Business Summary of JD.com

JD.com is a Chinese e-commerce company headquartered in Beijing. It is one of the two largest B2C online retailers in China by transaction volume and revenue. As of March 2018, the platform has 301.8 million active users.

The company was founded by Liu Qiangdong in July 1998, and its B2C platform went online in 2004. It started as an online magneto-optical store, but soon diversified, selling electronics, mobile phones, computers and similar items.

JD.com is the world's leading company in high tech and AI delivery through drones, autonomous technology and robots, and possesses the largest drone delivery system, infrastructure and capability in the world. It has recently started testing robotic delivery services and building drone delivery airports, as well as operating driverless delivery by unveiling its first autonomous truck.[1]

Dividend Discount Valuation Model

Discounted Dividend Model(DDM) values the price of a stock by using predicted dividends and discounting them back to present value.

The CAPM model was used for computing the cost of equity. The formula is as follows:

Cost of Equity = Risk free Rate + beta * (Expected Market Return - Risk Free Rate)

- The Long Term Composite rate (from U.S. Department of Treasury website[2]) was used as a proxy for risk free rate.
- The value of Beta was taken from Nasdaq[3].
- The expected market return was calculated by taking the average of over past 10 years from S&P[4]. The following table shows the values used to calculate the cost of equity.

Risk Free Rate	3.17%
Beta	1.12
Return on Market	9.37%
Cost of Equity	6.37%

$$\text{cost of equity} = 3.17 \% + 1.12 * (9.37\% - 6.51\%) = 6.37\%$$

We make the hypothesis that, the period from 2018 to 2023 is relatively high growth phase, where growth rate is 35%, and will gradually decreased to 10% in 2028. JD will have a steady growth rate after 2023. WACC is 12.10%.

Value of Stock	\$49,627.74
Outstanding shares	1203
Predicted Share Price	\$41.25
Actual Share Price	\$37.77

According to DDM model, the predicted share price is \$41.25, where the actual price is \$37.77, so the share price is underestimated.

Relative Valuation Model

The relative valuation model assumed that comparable companies provide a highly relevant reference point for valuing a given target. They share key business and financial characteristics, performance drivers, and risks, thus will have similar P/E ratio.

Step 1: Select comparable companies

We select the comparable companies as follows:

- Alibaba
- Amazon
- Baidu

Step 2: calculate P/E ratio

The P/E ratio of comparable companies are:

Company Name	P/E Ratio
Baidu	27.09
Alibaba	51.00
Facebook	26.94
Google	28.71

Step 3: Average P/E ratio

The average P/E ratio of comparable companies is:

P/E Valuation Industry Average	33.44
--------------------------------	-------

Step 4: Valuation

The EPS(earning per share) of JD.com in 2017 is 0.01, where the value of per share is \$37.45, so $P/E \text{ ratio} = 3745$. JD.com went to IPO in 2014, but it is still growing very fast. P/E ratio model does not work well.

In the 2018 Q1, JD.com has net revenue \$16.0 billion, and net income \$243.1 million. The diluted EPS is \$0.17. Adding the previous three quarter, EPS is \$0.16. In this case, $P/E = 40.49/0.16 = 253$. We will use the latest P/E ratio in the next step.

JD.com Valuation	
EPS	\$0.16
Actual Share Price	\$40.49 (5/17/2018)

Estimated Price per share = $p/e * eps = 0.16 * 33.44 = 5.35$

The price of JD.com is over estimated.

Discussion

We noticed that, even though, JD achieved high revenue in 2018 Q1, the stock price of JD has decreased 30%.



There are two reasons, and we believe the second one counts more.

1. US 10-year Treasury jumps to highest level since 2011 above 3% in May 2018, which raises the cost of equity.
2. The growth rate of JD slowed down, which was 30%-33% in Q1 2018 and 39% in 2017 Q4. We used 35% in our DDM model, which is too optimistic.

Conclusion

We used two models to predict the price of the stock, the Discounted Dividend Model and Comparable companies.

In the first model, we made some hypothesis. For example, the growth rate is 35%, and 2.5% at last. The valuation varies a lot based on different hypothesis, and the growing speed is the key reason for price went down after Q1 2018.

The relative model does not work very well, since JD is a growing company. Investors are more interested in the growing speed rather than revenue.

References:

1. JD.com wikipedia <https://en.wikipedia.org/wiki/JD.com>
 2. Long Term Composite rate
<https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=longtermrate>
 3. Beta of JD.com <https://www.nasdaq.com/symbol/jd>
 4. https://ycharts.com/indicators/sandp_500_total_return_annual
 5. Annual report of JD.com
http://media.corporate-ir.net/media_files/IROL/25/253315/2017/2017_Annual_Report.PDF
- book value per share
<https://www.gurufocus.com/term/Book+Value+Per+Share/JD/Book-Value-per-Share/JD.com%20Inc>