MINERVA
Investment Management
Society

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AMAZON.COM, Inc.

Amazon.com, Inc. (AMZN)
NasdaqGS – P **1527.49**, Currency in USD

Equity Research

Key Points:

Business. Amazon represents one of the most valuable companies that took advantage of the incredible growth in the online retail sector. However, several forces in the market segment continuously threaten its competitive position and the Porter five forces is a useful analysis tool. It can be also used as a reference point to underline the company's competitive advantages and how they can be defended.

Valuation. Our analysis is mainly concentrated on the FCFE valuation model. By observing the growth opportunities of Amazon, we chose to use a two-stage model because the current growth rate is high. We supposed that the growth rate will decrease to the long-term stage growth rate in a few years. Therefore, once taken some assumptions in order to determine the most appropriate costs of equity for those stages, we fixed the provisional balance sheet and income statement. Then, we computed the FCFE for each stage. Finally, we achieved the fair price for Amazon that is higher than the current one.

These results can be effectively controlled using the market multiples methodology. By analyzing the main values of some market multiples of comparable firms, in fact, we can understand the investors' position towards the online-retail market. Applying the data to Amazon's fundamentals, we can easily obtain a range of values that includes the company's Fair Value.

Investment risk. As a natural consequence of a rapidly evolving business model, the trading price shows a tendency to fluctuate as the latest news showed. The geographical expansion of the firm overexposes the firm to exchange rate fluctuations. Both factors together determines investors' behavior with respect to Amazon in terms of asset allocation.

Because of geographical expansion, the firm may have limited experience in newer market segments leading to a greater complexity and significant strains in terms of technical performances and financial stress. However, the significant market share of the firm as well as the success of its business model are not consistent with the perspective of critical scenarios.

Price Target: 1614.32 (↑ 86.83)

WHAT'S INSIDE	
☐ Business description	☑ FCFE approach
☐ Financial analysis	☑ Multiples approach
☐ Valuation	☐ Investment risk

Key Statistics

Sector Consumer Cyclical
Industry Specialty Retail
Full Time Employees 566,000
Volume (30day avg) 6.5Mil
Market Cap 728.0Bil

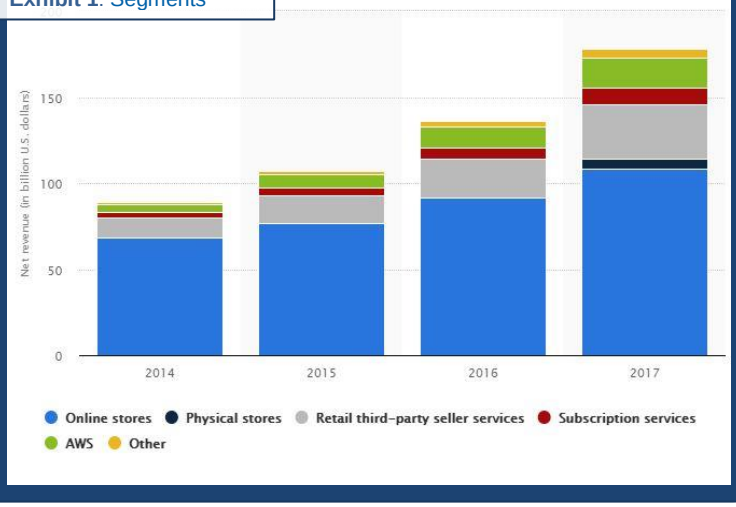
Earnings History

	3/30/2017	6/29/2017	9/29/2017	12/30/2017
EPS Est.	01.09	01.42	00.03	0,101
EPS Actual	01.48	00.04	00.52	02.16
Difference	00.39	-1.02	00.49	00.31
Surprise %	**35.80%**	**-71.80%**	**1,633.30%**	**16.80%**

Recommendation: BUY. Given the results of our valuation and the analysis of the economic and financial characteristics of Amazon, **we recommend buying shares, as they are undervalued**. The stock price volatility as well as the peculiar firm's exposure to currency fluctuations suggest a more cautious investment if compared to a strong buy recommendation.

Basic Information

Exhibit 1: Segments



Amazon is an American company founded in 1994. It operates through three **segments**: International and Amazon Web Services (AWS) and North America. The company offers a wide range of products that involves video, audiobook and MP3 downloads/streaming software, videogames, electronics, toys, food, furniture, apparel.

It also entered the business of consumer electronics (Kindle e-readers, Fire tablets, Fire TV and Echo) and cloud infrastructures services (IaaS and PaaS).

Exhibit 2: Market value (as of Dec 30, 2016)

In terms of **revenue and market capitalization**, Amazon is the largest internet retailer in the word and the second largest after Alibaba groups for sales amount.

The company is the fourth most valuable company in the world and the eight largest employer in the USA[1]. In 2017, Amazon acquired for $13.4 billion Whole Foods Market, which represented a turning point in the company's business model increasing Amazon's presence as a brick-and-mortar retailer overtaking most of its competitors.

Business description and Competitive advantages

Exhibit 3: Online sales growth of the retail industry

Amazon has been one of the pioneer of the **online retail sector**, starting with the sale of books online in 1995. Since then, it has been observed an impressing decrease in store-based retailers, whose business has been threatened by several online-retail actors. In fact, although retail sales performance appears to be quite strong overall, during the last year online channels drove most of retailer revenues, reaching growth rates near to 7% higher than the whole retail sector growth.
While, simultaneously, in-stores retailers are facing flat or declining revenues and higher costs than their online competitors.

[1]Cheng, Evelyn (September 23, 2016). "Amazon climbs into top 5 biggest US companies by market cap"

The sector in which the firms operates is, consequently, dynamic and full of growing opportunities, but also dynamic and competitive. Some of the forces behind this market sector dynamic are:

- The technological development, that drives the evolution of e-commerce companies' services effectiveness;
- Consumer preferences, social trends and effectiveness of advertising;
- Changes in the company's reputation and reliability among customers;
- External macroeconomic factors that can have an impact on consumer purchasing power.

Most of the forces that have a big impact on Amazon's sales appear to be external to the firm. In fact, many external factors define the conditions of the e-commerce industry environment, more than in traditional retail services business. The company reached and defend his position as the biggest player in its market, but it should continuously monitor the external factors in its industry and a useful tool can be the **Five forces analysis model**.

One of the strongest forces that the company has to face in its business is the high level of **competition** that characterize the market segment of online retail industry. Very low switching cost and high availability of substitutes means a significant number of competitors. Because of its size and competitive position in the market, Amazon directly competes against big companies such as Walmart and Netflix (as regard the entertainment services). However, thanks to the continued development of e-commerce technology, many smaller firms (such as Ebay, Alibaba, etc.) can have a considerable impact on Amazon's market position, in the first place, and then on the company's revenues.
In addition, since this force is mainly driven by external factors, competition represents a strategic priority for Amazon's long-term profitability.

The low amount of switching costs and substitutes make also the **threat of substitutes** a very strong force in the company's business segment, especially because the company largely sells traditional products, that can be easily bought from physical stores or other specialized websites. For example, lots of electronic products can be bought using www.newegg.com, music can be easily found on emusic.com and Barne and Noble can be considered Amazon's direct substitute as regards literature products. Amazon's critical success factors represent the way through which the company can properly manage this kind of dynamic: it has to defend its brand forces and its reputation, the efficiency that characterizes its operation process and the variety of its value proposition.

The **threat of new entrants** can be considered a weaker force. Because of some entry barrier that characterize the market, such as the high costs of brand development and the need of economies of scale to face the competition, Amazon is not too much influenced by this type of force. Despite the low switching costs, in fact, the influence of new entrants is weakened by the high costs of brand development: it would take years and millions of dollars to create a brand strong enough to compete with Amazon's one. Moreover, Amazon's economy of scales make its business very strong.

The company's vision and mission statement strongly underline the importance of clients in Amazon's business approach. This aspect lead us to understand the great intensity of the **bargaining power of clients** in this business. This is due to some external factors that includes not only the low switching costs and the high price sensitivity of customers, but also the high quality of information about the products and the services of online retailers that the clients can obtain from the website. This aspect increases the possibility for customers to find substitute. In addition, the customer loyalty represents the main driver of Amazon's business sustainability.

Finally, the **bargaining power of Amazon's suppliers** can be considered a moderate force. Suppliers are essential because they control the availability of materials and supplies and Amazon involved a small number of suppliers in its business model. Consequently, changes in prices of suppliers can have a direct impact on the company's operational costs. However, this effect is limited by the moderate forward integration and the moderate size of suppliers.

The five forces Porter analysis lead us to understand that one of the most valuable key driver of Amazon competitive position in the market is represented by customer relationship. Both the cost structure of the company, characterized by high amount of fixed costs, and the strong competition force that affect the market segment, require the company to invest consistently in customer care and marketing promotions. **This approach will allow Amazon to increase its economies of scale, reinforce the entry barrier to new competitors and maintain its position as leader in the market**.

Financial statements

1. Reclassified Annual Statements

Balance Sheet	2008	2009	2010	2011	2012	2013	2014	2015	2016
Current Asset									
Cash & Equivalents	2.769.000	3.444.000	3.777.000	5.269.000	8.084.000	8.658.000	14.557.000	15.890.000	19.334.000
Short-term Investments	958.000	2.922.000	4.985.000	4.307.000	3.364.000	3.789.000	2.859.000	3.918.000	6.647.000
Accounts Receivable, net	827.000	988.000	1.587.000	2.571.000	3.817.000	4.767.000	5.612.000	5.654.000	8.339.000
Inventory	1.399.000	2.171.000	3.202.000	4.992.000	6.031.000	7.411.000	8.299.000	10.243.000	11.461.000
Other Current Assets	204.000	272.000	196.000	351.000	0	0	0	0	0
Total Current Assets	**6.157.000**	**9.797.000**	**13.747.000**	**17.490.000**	**21.296.000**	**24.625.000**	**31.327.000**	**35.705.000**	**45.781.000**
Non-Current Asset									
Plant, Property, & Equipment, net	854.000	1.290.000	2.414.000	4.417.000	7.060.000	10.949.000	16.967.000	21.838.000	29.114.000
Goodwill & Intangibles	438.000	1.234.000	1.349.000	1.955.000	2.552.000	2.655.000	3.319.000	3.759.000	3.784.000
Other Long-term Assets	865.000	1.492.000	1.287.000	1.416.000	1.647.000	1.930.000	2.892.000	3.445.000	4.723.000
Total Non-Current Assets	**2.157.000**	**4.016.000**	**5.050.000**	**7.788.000**	**11.259.000**	**15.534.000**	**23.178.000**	**29.042.000**	**37.621.000**
Total Assets	**8.314.000**	**13.813.000**	**18.797.000**	**25.278.000**	**32.555.000**	**40.159.000**	**54.505.000**	**64.747.000**	**83.402.000**
Stockholders' equity									
Common Stock	4.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
Additional Paid-in Capital	4.121.000	5.736.000	6.325.000	6.990.000	8.347.000	9.573.000	11.135.000	13.394.000	17.186.000
Retained Earnings	(730.000)	172.000	1.324.000	1.955.000	1.916.000	2.190.000	1.949.000	2.545.000	4.916.000
Treasury Stock & Other	(723.000)	(656.000)	(790.000)	(1.193.000)	(2.076.000)	(2.022.000)	(2.348.000)	(2.560.000)	(2.822.000)
Total Stockholders' equity	**2.672.000**	**5.257.000**	**6.864.000**	**7.757.000**	**8.192.000**	**9.746.000**	**10.741.000**	**13.384.000**	**19.285.000**
Current Liabilities									
Accounts Payable	3.594.000	5.605.000	8.051.000	11.145.000	13.318.000	15.133.000	16.459.000	20.397.000	25.309.000
Accrued Expenses and Other	1.152.000	1.759.000	2.321.000	3.751.000	4.892.000	6.688.000	9.807.000	10.372.000	13.739.000
Other Payables	0	0	0	0	792.000	1.159.000	1.823.000	3.118.000	4.768.000
Total Current Liabilities	**4.746.000**	**7.364.000**	**10.372.000**	**14.896.000**	**19.002.000**	**22.980.000**	**28.089.000**	**33.887.000**	**43.816.000**
Non-Current Liabilities									
Long-term Debt	409.000	0	1.561.000	255.000	3.084.000	3.191.000	8.265.000	8.227.000	7.694.000
Other Non-current Liabilities	487.000	1.192.000	0	2.370.000	2.277.000	4.242.000	7.410.000	9.249.000	12.607.000
Total Non-current Liabilities	**896.000**	**1.192.000**	**1.561.000**	**2.625.000**	**5.361.000**	**7.433.000**	**15.675.000**	**17.476.000**	**20.301.000**
Total liabilities and equity	**8.314.000**	**13.813.000**	**18.797.000**	**25.278.000**	**32.555.000**	**40.159.000**	**54.505.000**	**64.747.000**	**83.402.000**

Income Statement	2008	2009	2010	2011	2012	2013	2014	2015	2016
Revenues	**19.166.000**	**24.509.000**	**34.204.000**	**48.077.000**	**61.093.000**	**74.452.000**	**88.988.000**	**107.006.000**	**135.987.000**
North America									
Western Europe									
Latin America									
Asia Pacific									
Costs of goods sold	**14.556.000**	**18.546.000**	**25.904.000**	**36.139.000**	**44.108.000**	**51.681.000**	**59.152.000**	**66.751.000**	**81.865.000**
North America									
Western Europe									
Latin America									
Asia Pacific									
Other operating expenses	3.428.000	4.402.000	6.237.000	9.927.000	14.446.000	18.773.000	24.912.000	31.741.000	41.820.000
EBITDA	**1.182.000**	**1.561.000**	**2.063.000**	**2.011.000**	**2.539.000**	**3.998.000**	**4.924.000**	**8.514.000**	**12.302.000**
Depreciation, amort.	340.000	432.000	657.000	1.149.000	1.863.000	3.253.000	4.746.000	6.281.000	8.116.000
EBIT	**842.000**	**1.129.000**	**1.406.000**	**862.000**	**676.000**	**745.000**	**178.000**	**2.233.000**	**4.186.000**
Financial revenue	83.000	37.000	51.000	61.000	40.000	38.000	39.000	50.000	100.000
Financial expenses	24.000	5.000	-40.000	-11.000	172.000	277.000	328.000	715.000	394.000
Income before income taxes	**901.000**	**1.161.000**	**1.497.000**	**934.000**	**544.000**	**506.000**	**-111.000**	**1.568.000**	**3.892.000**
Taxation	247.000	253.000	352.000	291.000	428.000	161.000	167.000	950.000	1.425.000
Income after income taxes	**654.000**	**908.000**	**1.145.000**	**643.000**	**116.000**	**345.000**	**-278.000**	**618.000**	**2.467.000**
Extr. and other P/L	-9.000	-6.000	7.000	-12.000	-155.000	-71.000	37.000	-22.000	-96.000
Net Income	**645.000**	**902.000**	**1.152.000**	**631.000**	**-39.000**	**274.000**	**-241.000**	**596.000**	**2.371.000**

2. Forecasts

Balance Sheet	2017		2018	2019	2020
Current Asset					
Cash & Equivalents	20.522.000	15,63%	27.097.267	35.341.602	45.229.239
Short-term Investments	10.464.000	7,97%	13.816.675	18.020.394	23.062.019
Accounts Receivable, net	13.164.000	10,03%	17.381.758	22.670.152	29.012.655
Inventory	16.047.000	12,22%	21.188.473	27.635.060	35.366.612
Other Current Assets	0	0,00%	0	0	0
Total Current Assets	**60.197.000**	45,84%	**79.484.174**	**103.667.208**	**132.670.525**
Non-Current Asset					
Plant, Property, & Equipment, net	48.866.000	37,21%	64.522.711	84.153.725	107.697.691
Goodwill & Intangibles	13.350.000	10,17%	17.627.352	22.990.468	29.422.588
Other Long-term Assets	8.897.000	6,78%	11.747.607	15.321.813	19.608.447
Total Non-Current Assets	**71.113.000**	54,16%	**93.897.670**	**122.466.006**	**156.728.725**
Total Assets	**131.310.000**	**100%**	**173.381.843**	**226.133.214**	**289.399.250**
Stockholders' equity					
Common Stock	5.000	0,00%	6.602	8.611	11.020
Additional Paid-in Capital	21.389.000	16,29%	28.242.055	36.834.691	47.140.055
Retained Earnings	8.636.000	6,58%	11.402.982	14.872.336	19.033.219
Treasury Stock & Other	(2.321.000)	-1,77%	-3.064.651	-3.997.069	-5.115.343
Total Stockholders' equity	**27.709.000**	21,10%	**36.586.989**	**47.718.568**	**61.068.950**
Current Liabilities					
Accounts Payable	34.616.000	26,36%	45.706.998	59.613.337	76.291.558
Accrued Expenses and Other	18.170.000	13,84%	23.991.685	31.291.147	40.045.574
Other Payables	5.097.000	3,88%	6.730.083	8.777.709	11.233.478
Total Current Liabilities	**57.883.000**	44,08%	**76.428.766**	**99.682.193**	**127.570.610**
Non Current Liabilities					
Long-term Debt	24.743.000	18,84%	32.670.680	42.610.724	54.532.066
Other Non-current Liabilities	20.975.000	15,97%	27.695.409	36.121.728	46.227.624
Total Non current Liabilities	**45.718.000**	34,82%	**60.366.089**	**78.732.452**	**100.759.690**
Total liabilities and equity	**131.310.000**	**100%**	**173.381.843**	**226.133.214**	**289.399.250**

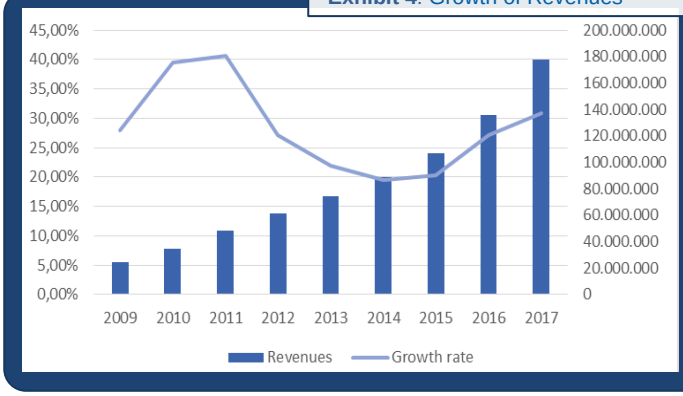
Income Statement		2017		2018	2019	2020
Revenues		**177.866.000**	**100%**	**234.854.428**	**306.308.812**	**392.005.841**
	North America			178.798.685	230.354.415	291.400.044
	Western Europe			37.820.085	48.791.378	62.427.552
	Latin America			2.266.929	4.746.722	7.864.454
	Asia Pacific			15.968.729	22.416.297	30.313.791
Costs of goods sold		**103.134.000**	57,98%	**133.057.692**	**169.123.941**	**211.672.412**
	North America			101.244.931	127.077.110	157.428.848
	Western Europe			21.563.064	27.154.171	33.825.772
	Latin America			1.268.782	2.598.332	4.199.462
	Asia Pacific			8.980.916	12.294.328	16.218.331
Other operating expenses		59.148.000	33,25%	78.099.073	101.860.691	130.358.593
EBITDA		**15.584.000**	8,76%	**23.697.663**	**35.324.181**	**49.974.836**
Depreciation, amort.		11.478.000	6,45%	15.155.562	19.766.636	25.296.814
EBIT		**4.106.000**	2,31%	**8.542.101**	**15.557.544**	**24.678.022**
Financial revenue		202.000	0,11%	266.721	347.871	445.196
Financial expenses		502.000	0,28%	662.841	864.510	1.106.377
Income before income taxes		**3.806.000**	2,14%	**8.145.981**	**15.040.904**	**24.016.840**
Taxation		1.558.000	0,88%	2.057.185	2.683.082	3.433.737
Income after income taxes		**2.248.000**	1,26%	**6.088.796**	**12.357.822**	**20.583.103**
Extr. and other P/L		785.000	0,44%	45.800	45.800	45.800
Net Income		**3.033.000**	1,71%	**6.134.596**	**12.403.622**	**20.628.903**

Financial ratios

Development Ratios	2009	2010	2011	2012	2013	2014	2015	2016	2017
Revenue growth rate	27,88%	39,56%	40,56%	27,07%	21,87%	19,52%	20,25%	27,08%	30,80%
Cost of goods growth rate	27,41%	39,67%	39,51%	22,05%	17,17%	14,46%	12,85%	22,64%	25,98%
EBITDA growth rate	32,06%	32,16%	-2,52%	26,26%	57,46%	23,16%	72,91%	44,49%	26,68%
EBIT growth rate	34,09%	24,53%	-38,69%	-21,58%	10,21%	-76,11%	1154,49%	87,46%	-1,91%
Net income growth rate	39,84%	27,72%	-45,23%	-106,18%	802,56%	-187,96%	347,30%	297,82%	27,92%
Total assets growth rate	66,14%	36,08%	34,48%	28,79%	23,36%	35,72%	18,79%	28,81%	57,44%
Debt growth rate	51,65%	39,47%	46,83%	39,05%	24,83%	43,90%	17,36%	24,83%	61,58%

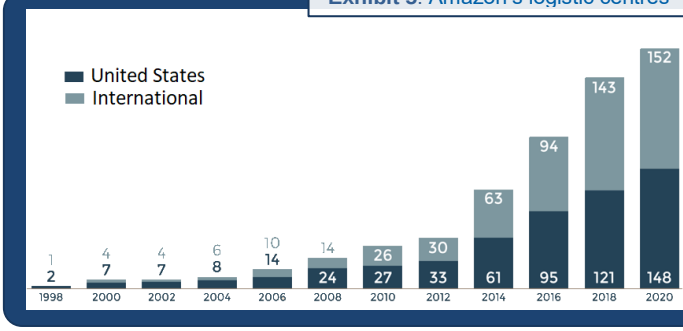
Being one of the most important players in the sector, Amazon shows relevant **growth margins** in all the key areas of the financial statements and we believe that its growth will settle around similar rates in the future as well. The firm's revenue has been steadily growing on an average of 28,29% in the years 2009-2017 while the cost of goods sold average growth was of 24,64% in the same period, thus generating a positive growth of the EBITDA over time. Given the growing number of subscribers to services like Amazon Prime and of clients in general, those numbers will most likely increase in the following years.

Exhibit 4: Growth of Revenues



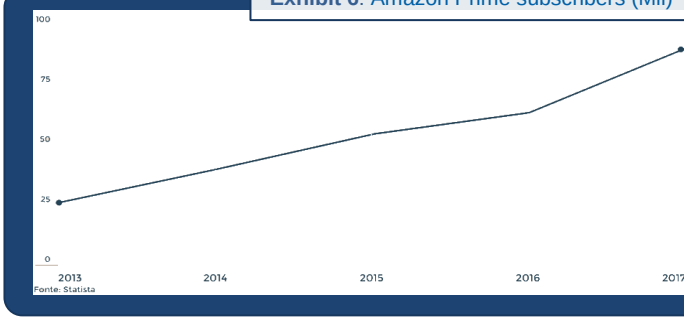
EBIT growth rates are much more volatile: this is due to the large amount of **investments** and their impact on the total depreciation. The same applies to the net income, which shows fluctuating values especially in the period between 2011 and 2015. However, the negative values are mostly due to extraordinary and non-recurrent events. For example, the losses of 2011 and 2012 were caused by the impairment change of LivingSocial, for which Amazon had to write-down most of the goodwill[2].

Exhibit 5: Amazon's logistic centres



There is no doubt that Amazon is becoming more and more a **global company**, with logistic centres increasing all over the world. This of course requires a significant amount of investments: both the total assets and the debt through which the latter are financed are growing. The company is exploiting its economies of scale to get into new markets and sectors, recently focusing its attention to the healthcare and pharmaceutical industries[3].

Exhibit 6: Amazon Prime subscribers (Mil)



[2] https://www.forbes.com/sites/kellyclay/2012/10/26/amazon-loses-169-million-on-livingsocial/

[3] https://www.cnbc.com/2018/02/03/bezos-health-investments-reveal-strategy.html

Liquidity Ratios	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Quick Ratio	1,00	1,04	1,02	0,84	0,80	0,75	0,82	0,75	0,78	0,76
Current Ratio	1,30	1,33	1,33	1,17	1,12	1,07	1,12	1,05	1,04	1,04
Net Working Capital	1411	2433	3375	2594	2294	1645	3238	1818	1965	2314
Days Sales Outstanding	15,75	14,71	16,94	19,52	22,80	23,37	23,02	19,29	22,38	27,01
Days Payable Outstanding	90,12	110,31	113,44	112,56	110,21	106,88	101,56	111,53	112,84	122,51

Liquidity ratios are useful to assess the cash levels of a company and its ability to turn assets into cash to pay off liabilities. Even though the cash weights the most among the current assets in 2017 (15,63% of total assets), Amazon shows a quick ratio that has been below one for the last seven years, meaning that they might incur in liquidity problems. However, we believe that this risk is very low, considering that:

- the liquidity is being productively used for additional services (like Amazon Lending);
- the current ratio, which does not exclude the inventory, has always been above one, even if slightly;
- the net working capital is positive, and the cash conversion cycle is well managed: in 2017, Amazon gets paid by its clients after 27 days but achieves to pay its suppliers after 123 days, showing strong bargaining power.

Solvency Ratios	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Liabilities/Equity	2,11	1,63	1,74	2,26	2,97	3,12	4,07	3,84	3,32	3,74
Debt/Equity	0,15	0,00	0,23	0,03	0,38	0,33	0,77	0,61	0,40	0,89
Equity Ratio	0,32	0,38	0,37	0,31	0,25	0,24	0,20	0,21	0,23	0,21
Net Debt to Equity	-0,19	-0,24	-0,26	0,00	0,37	0,59	1,16	1,17	0,95	1,57
Asset Coverage Ratio	1,24	1,31	1,36	1,00	0,73	0,63	0,46	0,46	0,51	0,39

Solvency ratios focus on the long-term sustainability of a company: better solvency ratios indicate a more financially sound firm. Both the equity ratio and the asset coverage ratio are small, implying that Amazon may be undercapitalized with respect to its assets.

Moreover, short and long term liabilities are considerably more than the equity; however, financial debt accounts only for the 18,84% of the total liabilities in 2017. The leverage is as a consequence much lower if we only consider the total debt. The most relevant entries are in fact current liabilities, especially the account payables (26,36% in 2017). We get to the same conclusion by subtracting liquidity from the numerator: the net debt to equity ratio confirms that the company is not as risky as it seems.

Profitability Ratios	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Return on Investments	**10,13%**	**8,17%**	**7,48%**	**3,41%**	**2,08%**	**1,86%**	**0,33%**	**3,45%**	**5,02%**	**3,13%**
Operating Income/Sales	0,04	0,05	0,04	0,02	0,01	0,01	0,00	0,02	0,03	0,02
Sales/Assets	2,31	1,77	1,82	1,90	1,88	1,85	1,63	1,65	1,63	1,35
Return on Equity	**24,14%**	**17,16%**	**16,78%**	**8,13%**	**-0,48%**	**2,81%**	**-2,24%**	**4,45%**	**12,29%**	**10,95%**

Profitability ratios show a company's ability to generate profits from its operations and thus are useful to evaluate the remuneration of shareholders. As underlined before, Amazon has been alternating years with high net income and periods with small net income, including the years 2012 and 2014 when losses were observed.

Consequently, the period 2012-1014 displays the lowest value for the return on investments. Those small values generated a negative spread between the ROI and the cost of debt, leading to negative values for the return on equity as well. Since then the ROI started increasing again, but it declined again in the last year and it is still far from the high values observed in the period 2008-2010. In addition, we can see that the ROI is pushed by high turnover ratios (sales/assets) while the return on sales (operating income/sales) is small.

2017	Current Ratio	Debt/Equity	ROE	Revenue growth
Alibaba	1,97	0,28	17,62%	56,48%
Ebay	2,19	1,15	-10,92%	6,55%
Walmart	0,76	0,47	17,23%	2,98%
Amazon	1,04	0,89	10,95%	30,80%
Mean	**1,49**	**0,70**	**8,72%**	**24,20%**

The main comparables are all experiencing a positive period over the last quarters, the only exception being Ebay, which is the only one that closed the year with a loss and thus a negative ROE. The remaining three companies are all big multinational with high profitability and similar characteristics. Considering Walmart's profit model and focus on the American market, **Alibaba appears to be the main competitor for Amazon, showing the highest ROE of the group while at the same time being the one with the lowest leverage.**

Valuation

1. Free Cash Flow to Equity approach

Our analysis is mainly concentrated on the **FCFE model** and so on the **equity side valuation**. Thus, in order to measure how much cash is available to be paid out to stockholders after meeting reinvestment needs, we preferred FCFE to DDM since Amazon is a firm that keeps the excess cash to finance future investment needs rather than distribute dividends. In addition, in the FCFE model we discount potential dividends rather than actual dividends and this is consistent with the fact that Amazon is currently distributing no dividends for incentivizing the recent large growth.
The **two-stage FCFE model** works well for Amazon because it shows a reduction from current high to lower stable growth rates that can be seen in *table 1*.

Especially, by examining the current growth rate in the sales, we decided to use a significant growth as a forecast of the future growth rates due to the fact that nowadays Amazon is rising substantially. In addition, the first stage consists of 3 years during which the growth rate slightly decreases, while the second stage represents the long-term stable growth. In order to compute the stable growth rate, we firstly took into consideration the forecast on the number of users in different geographic areas reported by Digital TV Research. Since the research showed the estimates for the 2017 and 2020, we determined the values for the years between 2018 and 2019 by increasing linearly the number of users from 2018 to 2019, keeping the value of 2020 constant for the future years as reported in *table 2*.

The geographic areas covered by the research are mainly four: Western Europe, Asia and Pacific, North America and Latin America. Afterwards, per each year from 2017 to 2020, we computed the ratios between the number of users per each geographic area and the total of that year as reported in *table 3*. Once determined the share of users per each geographic area and year forecasted, we calculated the stable growth rate as the average of the GDP's forecast per each considered geographic area in 2020 as reported by the International Monetary Fund as reported in *table 4*.

The cost of equity for the first stage is given by estimating the following values, where:

High growth period	
Beta	1,698
Risk free	2,78%
CRP	1,03%
ERP	5,08%
Cost of equity	13,16%

- The risk-free rate for the next 3 years is given by the 10Y US Treasury Bond since it is a risk-free rate long-term investment;
- The ERP is the premium that a well-diversified investor requires to hold the market portfolio rather than a risk-free asset and it is equal to the Damodaran US ERP estimation of January 2018;
- The CRP is taken in consideration due to the fact that we have assumed that Amazon's exposure to country risk is similar to its exposure to other market risk. Unfortunately, Amazon provides just US and International split. Therefore, in order to find out the geographic area in which Amazon invests more, we have looked where are most of the users as already reported.

As a consequence, we had to consider the country risk of each of these areas. Thus, we chose to use the CRPs estimation proposed by the NYU Stern for each considered geographic area. Finally, we computed the CRP as a weighted average of the country risk premium for each geographic area in 2017 and as weights the share of users in each country in 2017 as reported in *table 5*.

We calculated the **beta** with the Bottom-up approach. We started with the beta of the business in which Amazon operates. Then, we adjusted the business beta for the operating leverage of the firm to reach the unlevered beta for the firm. Finally, we used the financial leverage of the firm to estimate the levered (equity) beta for the firm (Hamada's equation). First of all, we found the comparables of Amazon: Alibaba Pictures Group Limited in the Entertainment industry, eBay Inc. in the Software (internet) industry, and Wal-Mart in the General Retail sector.
As reported in *table 6*, per each company we computed the Net Debt/Equity Ratio and then we computed the adjusted beta by adjusting the raw beta. However, since the net Debt/Equity of Alibaba Pictures Group Limited is negative (because of negative net debt), we used another formula for that:

$$\boldsymbol{\beta_{Levered}} = \frac{\beta_{Raw}}{\frac{(Market\ Cap - Cash)}{Market\ Cap}}$$

Once we found the adjusted beta for each firm, we unlevered each one of these betas on the basis of their current net debt-to-equity ratio. Then, we computed the arithmetic average across these unlevered betas to reach an average (unlevered) beta for these publicly traded firms. We computed a levered beta for Amazon using the market debt to equity ratio for Amazon. The tax rate has been computed by taking the annual effective tax rate (taxes due/taxable income) for each company over the recent years. Thus, we took the historical average for each company as reported in *table 7*. Finally, we computed the first period cost of equity of 13.16% that is quite high but consistent with the high beta.

Stable growth period	
Beta	1,153
Risk free	3,60%
CRP	1,03%
ERP	5,08%
Cost of equity	10,64%

The **stable growth period** cost of equity is reported on the left, and it depends especially on the assumptions on beta. The beta is equal to an arithmetic average of the betas for the industries of the comparables that are entertainment, retail online, General Retail, Software (Internet) according to the table computed by NYU Stern and updated on January 2018. In addition, the risk-free rate is given by the forecast for the 2020 and equal to 3.6%. Furthermore, we assumed that the ERP and CRP are constant over time. We came up with a value of the cost of equity that is equal to 10.64% that is lower than the previous one, but consistent with the higher risk free and lower beta.

Especially, the first stage cost of equity is constant and equal to the value already measured. While, the second stage cost of equity is equal to the value of the long period. In addition, during the first stage, the growth rate equals the growth measured using the provisional balance sheet and shows a slightly decreasing trend, while during the second period it is equal to the growth rate of the economy in the long run. In particular, this value has been measured taking the weighted average of the long-term growth of the economy of each geographic area in which Amazon operates in, with the shares of the users per each area used as weights.

Once analysed the Cost of equity and the growth, we turned on the provisional income statement. We took into consideration the **growth in revenues** as the main determinant of the growth of the other values. In fact, Digital TV Research reported information about the retail e-commerce sales worldwide per each year until 2021. Due to the fact that we assumed 3 years of first stage, we kept the value of 2021 constant for the terminal value as you can see in *table 8*. Since Amazon splits revenues just in International and US, we used the share of users per each geographic area in order to compute the revenues per each area. Thus, we multiplied the total international revenues for each share of users in Western Europe, Asia and Pacific, Latin America. So, the first item to be considered as a multiplier of the 2017 revenues is the shares of each country users.
In addition, we included the inflation rate for each region that we found on the International Monetary Fund internet site for each year until 2020 and then keeping the value constant in next years as reported in table 9. We did the same for the GDP of each area as reported in *table 9*.

Finally, the fourth multiplier is the growth rates estimated by the Digital TV Research in the retail e-commerce sales worldwide per each year until 2022. So, we computed all the revenues for the first stage in this way. In addition, we computed the cost of goods sold in the same way, by taking into consideration just the inflation, the share of users per each geographic area and the growth rates in the retail e-commerce sales worldwide already reported previously as multipliers. Finally, all the other items of the balance sheet and income statement are computed by calculating the intensity that is equal to the ratio of the item and the revenue in 2017 and then we multiplied the revenues for each year of the first stage times the value of the intensity. However, since the Other P/L are too variable, we assumed the forecast of this value constant and equal to the average Other P/L of the last 10 years. Furthermore, due to the high volatility of historical results, we also assumed constant: Bond, Gross Capital Expenditure and Divestitures.

After the above described analysis, we computed the FCFE.
For the Change in Financial Debt, we took the change in the value of the bonds. For the change in Working Capital we computed "inventory + receivables - payables" as reported in *table 10*.
Therefore, we computed the values of the FCFE until 2020 following the standard formula and the provisional values already forecasted. Finally, in order to obtain the Terminal Value, once we took the growth of the TV FCFE for the long-term growth rate, we discounted that value at the difference between the cost of equity in the long run and the long-term growth rate. In conclusion, we discounted all of those four FCFE to the appropriate cost of capital.

The value obtained is the **Equity value**. If we divide the equity value for the number of diluted shares outstanding, **we get a Fair price of Amazon equal to 1,614.32, that is higher than the current price equal to 1527.49, meaning that the stock is undervalued, and the recommendation is buy!** For the Enterprise value, we just add to the equity value the market value of debt and so we add bonds and subtract cash.

		3 stage	2017	2018	2019	2020	TV	
							FCFE(2022)*(1+gn)	78.137.474
		FCFE	59.275.000	50.840.925	62.160.617	76.348.882	941.410.097	
		Discounted FCFE		44.928.717	48.544.102	52.690.754	649.696.584	
23/04/2018	Fair Price							
Basis Shares	1614,32	Equity Value	795.860.157					
CURRENT MARKET PRICE	1527,49	Enterprise Value	789.617.157	FIRST			TV	
Recommendation:	BUY							

2. Market multiples approach

The results deriving from the main valuation model of FCFE have been compared with the ones obtained using the **market multiples methodology**. We studied the main Amazon competitors and chose four companies that could be considered comparables to the company in terms of operational and financial risk, size and expected earnings growth. We decided to add to the companies selected as comparables in the FCFE valuation (Ebay, Alibaba and Walmart) also Netflix, whose size and growth rate can be considered comparables to Amazon's one.

Equity side	P/E			P/BV			Asset side	EV/SALES			EV/EBITDA		
	2017	2016	2015	2017	2016	2015		2017	2016	2015	2017	2016	2015
Ebay	42,21	4,79	16,36	4,89	3,15	5,02	Ebay	7,71	6,00	4,48	1,60	1,22	0,98
Alibaba	47,80	46,90	21,90	9,00	6,20	6,90	Alibaba	2,38	1,78	2,08	4,78	3,97	4,54
Walmart	26,37	15,10	13,80	3,86	2,75	2,47	Walmart	0,89	0,56	1,05	7,93	4,79	8,43
Netflix	191,9600	334,5900	303,2800	25,00	21,05	22,58	Netflix	7,4211	6,2043	7,2239	95,29	125,28	133,04
Mean	77,08	100,35	88,83	10,69	8,29	9,24	Mean	4,60	3,63	3,71	27,40	33,81	36,75
Median	45,00	31,00	19,13	6,95	4,68	5,96	Median	4,90	3,89	3,28	6,35	4,38	6,48
Standard dev.	77,12	157,19	143,00	9,80	8,65	9,08	Standard dev.	3,48	2,89	2,75	45,34	61,00	64,27
Coef. of variation	1,71	5,07	7,48	1,41	1,85	1,52	Coef. of variation	0,71	0,74	0,84	7,14	13,93	9,91

Using a time horizon of three years, we calculated the arithmetic mean and median of the e-commerce part of comparables' data and obtained two multiples asset side (EV/SALES and EV/EBITDA), and two multiples equity side (P/E and P/BV). Several analysis have been conducted in order to choose the most suitable multiples.
Firstly, we calculated the standard deviation of every market multiple and used it to obtain the coefficient of variation, by dividing the standard deviation by the median value. This coefficient is a statistical measure of dispersion of the values that can be used as an indicator of the effectiveness of the multiple for the valuation.
Then, taking into account considerations about the different accounting policies that can be tracked in the comparables' balance sheet, we decided to choose among asset side multiples. Since the EV/SALES multiples' coefficient of variation was lower than the EV/EBITDA one, we decided to use it for our valuation.

Thereafter, using Amazon's 2017 sales we calculated the Enterprise value of the company and, by subtracting the market value of Net Debt, we obtained a range of the firm's **equity value**.

Net debt	Equity value (range) in th $		Share price	
110.788	645.542.792	818.072.812	1.309	1.659
	426.890.812	572.601.212	866	1.161
			# shares outst.	493.000

Investment Risk

Rapidly evolving business model and stock price volatility. As a natural consequence of a rapidly evolving business model, the trading price of its common stock fluctuates significantly in response to changes in interest rates, trends in the industry segments, variations in operating results, general fluctuations in the stock market and in market prices for Internet-related companies, changes in financial estimates by securities analysts or in capital structure, including issuance of additional debt or equity to the public. In addition, given the geographical expansion of the firm, its exposure to exchange rate fluctuations is significantly higher.

Specific regulations and future laws concerning the Internet, e-commerce, electronic devices, and other services may impede the growth in the coming years. Adverse regulations and restrictions could diminish the demand for, or availability of, products and services increasing the cost of the business.
President Trump has recently escalated his attack on the firm, saying that it does not pay enough taxes. The President has menacingly suggested that he may use his power to rein the e-commerce business of the firm in the United States. Donald Trump accused Amazon of putting thousands of local retailers out of business saying that the company was using the U.S. Postal Service as its "Delivery boy".

Exhibit 7: Historical stock price

According to UBS estimates, in fact, for every 100 bp. increase in e-commerce penetration, nine thousand retail stores would need to close in order to maintain its current levels of sales. Assuming a scenario in which retail sales rise by 3% per year, for example, UBS estimates that 27.000 store closures would be needed to grow sales per store at 2%. As a result, it is unavoidable that the negative attention toward Amazon has put pressure on its stock price within the last 30 days. The graph on the left allows to compare how in terms of percentage change Amazon historical stock price moves very differently from S&P 500 (assuming the latter as a potential market benchmark).

Development in Retail industry as potential threat. Considering a fast-changing competitive environment, it is likely that the market will become more aggressive in the near future, especially in retail, e-commerce services, digital content and electronic devices, and web and infrastructure computing services.
The future evolution of either firm-specific drivers, including the availability of manufacturing resources and technology, search, web and infrastructure computing services, digital content, or macroeconomic indicators (such as CPI, propensity to consume, a weakening of the U.S. or global economies which may result in lower revenue or growth) drive investment risk in terms of industry development, particularly the effect of newly-launched products and services and in newer geographic regions.

Theoretically, a potential competitor may secure better terms from vendors and adopt more aggressive pricing or devote more resources to technology, infrastructure and marketing. Competition may intensify, including with the development of new business models and the entry of new and well-funded competitors.
The case of Walmart may be considered in this pattern. Over the last two years this retail giant acquired e-commerce platforms and brands including Bonobos, high-end men's apparel online retailer, ModCloth, indie and vintage online retailer, and Hayneedle.com, an online furniture retailer. It is likely that these acquisitions will give Walmart a presence in niche product lines that consequently allows better margins.
However, Walmart has just about 3% of the market share in the online market. Amazon remains a significant player in the e-commerce market, with a capability to deliver to 100 countries across the globe. The company recently bought Souq.com, the Middle East's largest e-commerce player, for over half a million dollars. In contrast, Walmart does not generate significant online sales outside the U.S. although they have a global presence in 11 countries.

Business expansion requires more and more strains. The firm is rapidly and significantly expanding its global operations, including increasing product and service offerings and reshaping its infrastructures to support retail and services businesses. This strategy may lead to a greater complexity and significant strains especially on management in terms of technical performances and financial stress.
Moreover, because of geographical expansion, the firm may have limited experience in newer market segments, customers may not adopt the new offerings which could be subjected to claims by customers (for example, quality issues). The firm may not be able to manage its growth effectively and this could damage its reputation, limit its growth as well as negatively affect operating results.
Latest news would show signs of further expansion. Amazon has recently launched an initiative aiming at favour the international shopping. This feature has allowed users to purchase more than 45 million products outside their home markets. Users can shop in 25 currencies, with more languages and currencies expected in 2018, and the items will be shipped to their country from the United States.

The significant market share of the firm as well as the success of its business model are not consistent with the perspective of critical scenarios. The reliability and far-sightedness which the management view revealed over the years will allow the firm to preserve its market share (and possibly to further enlarge its presence in non-core segments. The company could possibly end up facing this problem just as strongly increased market competition begins to chip away at its market share or profit margin or in case of unforeseeable events. However, this vision is not congruent with the actual scenario and the immediate (and foreseeable) future.
Merely the historical stock price trend to fluctuate as well as the considerable exposition to currency fluctuations may be considered a remarkable feature which determines investors behaviour with respect to Amazon in terms of asset allocation.

Analyst Certification

All of the views expressed in this report accurately reflect the personal views of the responsible analysts.

Appendix

Table 1

	2018	2019	2020	TV
Cost of Equity	0,1316	0,1316	0,1316	0,1064
Growth	0,3204	0,3042	0,2798	0,0234

Table 2

Users (Digital TV Research)					
	2017	2018	2019	2020	TV
North America	30,80	35,97	41,13	46,30	46,30
Western Europe	6,70	7,90	9,10	10,30	10,30
Latin America	0,06	0,47	0,87	1,28	1,28
Asia Pacific	2,50	3,30	4,10	4,90	4,90

*Linear growth

Table 3

w					
	2017	2018	2019	2020	TV
North America	77%	76%	75%	74%	74%
Western Europe	17%	17%	16%	16%	16%
Latin America	0%	1%	2%	2%	2%
Asia Pacific	6%	7%	7%	8%	8%

Table 4

	TV
North America	0,0170
Western Europe	0,0031
Latin America	0,0007
Asia Pacific	0,0027
Growth long term	**0,0234**

Table 5

	CRP	w	
North America	0	0,768847	0
Western Europe	0,0136	0,1672	0,0023
Latin America	0,0448	0,0015	0,0001
Asia Pacific	0,0303	0,0624	0,0019
			0,004232

Table 6

	D/E	Adjusted beta	β unlevered	β levered industry	β unlevered industry
Alibaba			1,267	1,190	1,02
Ebay	51,36%	0,969	1,385	1,24	1,25
Walmart	44,27%	0,799	1,040	1,180	0,92
Amazon	**47,14%**			1,240	1,18
Risk free	2,78%	β unl. Medio	1,231		
Average ERP	5,08%	**β relevered**	***1,698***		

Table 7

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average tax
Ebay	0,185	0,170	0,142	0,174	0,154	0,196	1,344	0,191	-0,995	0,083	0,164
Alibaba						0,144	0,119	0,198	0,104	0,229	0,159
Walmart			0,324	0,322	0,326	0,310	0,329	0,322	0,303	0,303	0,317
Amazon		**0,218**	**0,235**	**0,312**	**0,787**	**0,318**	**-1,505**	**0,606**	**0,366**	**0,409**	**0,194**

Table 8

Retail e-commerce sales worldwide (in billion U.s. dollars)- (Digital TV Research)				
2017	**2018**	**2019**	**2020**	**TV**
2.304	2.842	3.453	4.135	4.878
	23,35%	21,50%	19,75%	17,97%

Table 9

Real GDP growth (IMF)					
	2017	**2018**	**2019**	**2020**	**TV**
North America	0,022	0,024	0,027	0,022	0,023
Western Europe	0,014	0,017	0,018	0,019	0,019
Latin America	0,042	0,036	0,035	0,034	0,034
Asia Pacific	0,030	0,031	0,033	0,032	0,034
Inflation rate (IMF)					
	2017	**2018**	**2019**	**2020**	**TV**
North America	0,055	0,054	0,055	0,054	0,054
Western Europe	0,022	0,022	0,019	0,018	0,018
Latin America	0,020	0,018	0,016	0,017	0,015
Asia Pacific	0,012	0,019	0,024	0,026	0,027

Table 10

			2017	2018	2019	2020
Non cash working capital	-4.500.000	-5.509.000	-5.405.000	-7.136.767	-9.308.126	-11.912.291
Change in nwc		-1.009.000	104.000	-1.731.767	-2.171.359	-2.604.165
Financial debt	8.227.000	7.694.000	24.743.000	24.743.000	24.743.000	24.743.000
Change in financial debt		-533.000	17.049.000	0	0	0

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