



MINERVA Investment Management Society

Cutellè Giuseppe
+39 3348570977
giuseppe.cutelle@studbocconi.it
Giuri Maria
+39 3894216646
maria.giuri@studbocconi.it
Metafune Alberto
+39 3347218179
alberto.metafune@libero.it
Rizzo Massimiliano
+39 3276950110
massimiliano.rizzo@studbocconi.it

Milan, 12th March 2018

NETFLIX, Inc.

Equity Research

Key Points:

Business. The Porter five forces analysis allows us to understand the main features of the sector in which the firm operates and the intensity of the potential threats that can influence Netflix's future financial revenues and stability. It can also be used as a starting point to investigate the company's competitive advantages over the numerous competitors of the market segment and understand how much sustainable these advantages are. Finally, the business analysis provides us with the main value drivers of the company business model, critical factors of the prospective analysis.

Valuation. Our analysis is mainly concentrated on the FCFE valuation model. By observing the growth opportunities of Netflix, we chose to use a three-stage model because the current growth rate is quite 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 Netflix that is significantly higher than the current one.

The market multiples methodology is an effective way to control the quality of the analysis developed using the FCFE method. It also lets us to include in our valuation the market perception of the online streaming sector that can have a relevant impact on the final value of the company.

Investment risk. Netflix faces two fundamental risks: the first concerns the unpredictability of the competitive environment, which will probably lead to new and growing challenges in the near future. The second factor refers to the long-term sustainability of the high amount of debt in the balance sheet. However, the significant market share and the last economic results of the company are not consistent with the perspective of critical scenarios. We expect the firm will adjust its current strategy aiming for further development of its services.

Recommendation: STRONG BUY. Given the results of our valuation and the analysis of the economic and financial characteristics of Netflix, we strongly recommend buying shares as they are remarkably undervalued.

Netflix, Inc. (NFLX)

NasdaqGS – P 321.60, Currency in USD

Price Target: 341.75 (↑ 20.15)

WHAT'S INSIDE

- | | |
|---|--|
| <input type="checkbox"/> Business description | <input checked="" type="checkbox"/> FCFE approach |
| <input type="checkbox"/> Financial analysis | <input checked="" type="checkbox"/> Multiples approach |
| <input type="checkbox"/> Valuation | <input type="checkbox"/> Investment risk |



Key Statistics

Sector	Services
Industry	CATV Systems
Full Time Employees	4,800
Volume	20,275,556
Market Cap	139.427B

Earnings History

	2017-06-29	2017-09-29	2017-12-30
EPS Est.	00.15	00.32	00.41
EPS Actual	00.15	00.29	00.41
Difference	0	-0.03	0
Surprise %	0.00%	-9.40%	0.00%

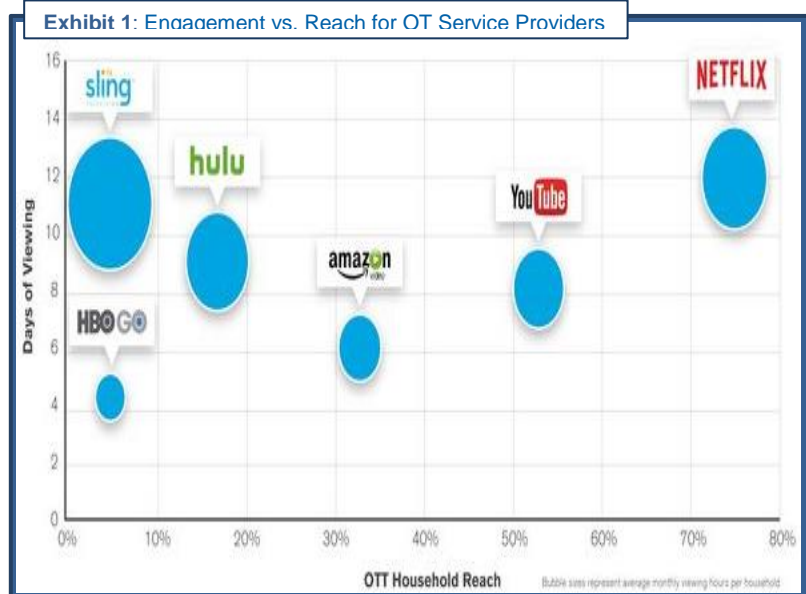
Basic Information

Netflix is the world's biggest provider of online - entertainment services. More than 117 million of members, along over 190 countries can enjoy more than 140 million hours of movies and TV shows every day. The company was founded in 1997 and its offers a great variety of services, including original series, documentaries and films.

During the last decade, Netflix increased its production of both film and television series, enriching its offer with the "Netflix Original" contents. Only in 2016, Netflix released 126 original series or films, more than any other competitor. In less than twenty years the company became a market leader, reaching more than 80% of U.S. Households.

The market size is one of the main value drivers that allow the company to maintain its position among competitors, obtaining higher operating margins when compared to the sector.

Most of the company investments, in fact, are destined to increase the subscribers' number: the company is planning to boost its number of original titles by 700, spending \$8billion on all content. It represents an increase of \$2 billion over the amount spent on programming in 2017¹.



Business description

The sector in which the firm operates is competitive and dynamic and represents a rapidly changing market.

The main forces behind this market dynamic are:

- The technological development, in terms of vehicles that support the business: decoders, broadband networks, transmission protocols;
- Regulatory changes, in terms of privacy and intellectual property rights;
- Technological threat that can undermine the competitiveness of the business model (free-pirate streaming contents);
- Consumer preferences, social trends and effectiveness of advertising.

In this sector, the **bargaining power of buyers** is high. First, the switching costs are very low: Netflix subscribers can cancel their subscriptions at any time without termination fees. Furthermore, the price sensitivity of Netflix clients further increases their bargaining power; in fact, although the low price and high amount of content available represent sources of competitive advantages for Netflix to traditional media economic actors, they also increase customers' expectations.

Netflix clients have a specific standard of both price and content and so they can be considered high price-sensitive. Therefore, one of the main priorities of Netflix is to maintain a cost leadership strategy and customer loyalty. One of the most effective sources of this kind of competitive advantage is represented by Netflix's original contents that are driven by customer preferences and social trends constantly collected among social networks and market analysis. This kind of content represents both a cost saving and a way to strengthen the customer relationship because they are based on the preferences of actual subscribers and modelled on what can fit the new ones. The content both acquired and internally produced by the company combine to build Netflix reputation among customers and strength its competitive position.

¹ <https://www.techradar.com/news/netflix-plans-to-spend-8-billion-on-700-original-tv-series-and-movies-in-2018>

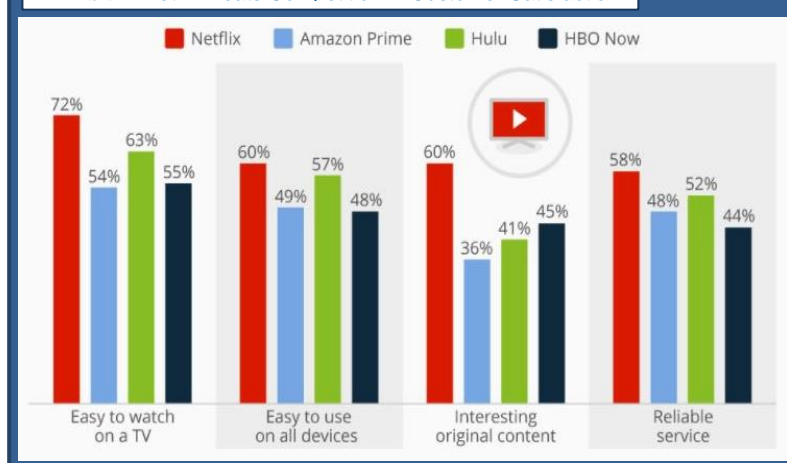
In its business, Netflix has also to deal with high **bargaining power of suppliers**. Since its service is mainly based on licensing agreements with content proprietors, when those contracts expire, Netflix variety of contents is threatened. Furthermore, once expired, the licensing right can be sold to other competitors and damage the firm. For this reason, one of the main priority of the company is to obtain and retain viewership and to defend its intellectual property.

The digital on-demand market segment appears to be full of Netflix **competitors**: actors such as Hulu, Google Play, Amazon have recently increased appeared into the market. However, a collaborative competitive environment is slowly emerging in the digital on-demand sector: in 2014 Amazon introduced the Amazon Fire TV Stick, a USB port which allows clients to access to several streaming contents, including Netflix; in addition, Netflix has just announced a new partnership with the European Sky Italia, which will support Netflix broadcast through its decoders. This trend indicates a recognition of the value added by offering easy access to competitive products: the low cost of these services allows clients to purchase multiple subscriptions and reduce the competition level of the segment. Although Netflix faces many direct competitors, their threat is mellowed out by the competitive environment. However, several studies on the growth opportunities in the sector of movie and television have showed that competition is likely to intensify in the future.

Netflix is strongly subjected to the **threat of new entrants**, especially in the United States, where HBO and CBS, examples of actors with an already-developed competitive advantage in terms of content produced, recently announced the launches of digital streaming services. Finally, although often considered belonging to an industry in decline, several **substitutes** for digital streaming, such as satellite and cable television, DVD and cinemas, remain in the marketplace. The threat is very weak but survives because of a segment of customers that, despite cost savings, are still reluctant to adopt new technologies. Additionally, many of these actors offer additional contents not yet available through Netflix such as live events. However, with the high rate of changes in technology, Netflix will gradually face this threat in the future.

The **five forces Porter analysis** described above leads us to an important conclusion: the most valuable key to maintain Netflix competitive advantage is its customer's relationship. This is due not only to the economic environment and the increasing number of competitors, but also to the cost structure of the company, mainly formed by fixed costs deriving from infrastructure and, mostly, marketing expenses. Therefore, the only way Netflix can develop a sustainable business is obtaining enough subscribers and a high amount of sales to face its costs and sustain long-term debts.

Exhibit 2: Netflix Beats Competition in Customer Satisfaction



For this reason, among the company critical success factors, the most important is represented by the ability to satisfy the existing clients through high quality contents and fair competitive prices and attract new subscribers using marketing power. With an in-house approach, in fact, Netflix is increasing its marketing spend from approximately \$1.3 billion to \$2 billion this year, as the company plans to spend in 2018 around \$8 billion on content, including 80 new original films². This approach will let the company both becoming a cost leader in the market, due to consistent economies of scale and experience, and a point of reference for customers, beating its competitors.

² <https://digiday.com/marketing/data-everything-netflix-pouring-money-marketing-benefit-programmatic/>

Financial statements

Balance Sheet	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Current assets										
Cash and cash equivalents	508.053	290.291	604.965	1.113.608	1.809.330	1.467.576	2.822.795	3.980.122	5.620.435	7.909.261
Short-term investments	289.758	457.787	595.440	494.888	501.385	266.206	0	0	0	0
Current content assets, net	919.709	1.368.162	1.706.421	2.125.702	2.905.998	3.726.307	4.310.934	6.078.387	8.583.452	12.078.915
Other current assets	113.337	124.551	151.937	206.271	215.127	260.202	536.245	756.102	1.067.711	1.502.518
Total current assets	1.830.857	2.240.791	3.058.763	3.940.469	5.431.840	5.720.291	7.669.974	10.814.611	15.271.599	21.490.695
Non current assets										
Non-current content assets, net	1.046.934	1.506.008	2.091.071	2.773.326	4.312.817	7.274.501	10.371.055	14.623.116	20.649.691	29.058.922
Property and equipment, net	136.353	131.681	133.605	149.875	173.412	250.395	319.404	450.357	635.962	894.946
Other non-current assets	55.052	89.410	129.124	192.981	284.802	341.423	652.309	919.751	1.298.805	1.827.721
Total non current assets	1.238.339	1.727.099	2.353.800	3.116.182	4.771.031	7.866.319	11.342.768	15.993.225	22.584.457	31.781.590
Total assets	3.069.196	3.967.890	5.412.563	7.056.651	10.202.871	13.586.610	19.012.742	26.807.836	37.856.056	53.272.284
Stockholders' equity										
Common stock	219.174	301.672	777.501	1.042.870	1.324.809	1.599.762	1.871.396	2.638.656	3.726.115	5.243.512
Accumulated other comprehensive loss	706	2.919	3.575	-4.446	-43.308	-48.565	-20.557	-28.985	-40.931	-57.599
Retained earnings	422.930	440.082	552.485	819.284	941.925	1.128.603	1.731.117	2.440.863	3.446.808	4.850.461
Total Stockholders' equity	642.810	744.673	1.333.561	1.857.708	2.223.426	2.679.800	3.581.956	5.050.533	7.131.992	10.036.373
Current liabilities										
Current content liabilities	935.036	1.366.847	1.775.983	2.117.241	2.789.023	3.632.711	4.173.041	5.883.959	8.308.895	11.692.549
Accounts payable	86.992	86.468	108.435	201.581	253.491	312.842	359.555	506.970	715.906	1.007.446
Accrued expenses	54.231	53.139	54.018	69.746	140.389	197.632	315.094	444.280	627.380	882.870
Deferred revenue	148.796	169.472	215.767	274.586	346.721	443.472	618.622	872.253	1.231.731	1.733.333
Total current liabilities	1.225.055	1.675.926	2.154.203	2.663.154	3.529.624	4.586.657	5.466.312	7.707.462	10.883.912	15.316.198
Non-current liabilities										
Non-current content liabilities	739.628	1.076.622	1.345.590	1.575.832	2.026.360	2.894.654	3.329.796	4.694.990	6.629.919	9.329.840
Long-term debt	400.000	400.000	500.000	900.000	2.371.362	3.364.311	6.499.432	9.164.155	12.940.946	18.210.923
Other non-current liabilities	61.703	70.669	79.209	59.957	52.099	61.188	135.246	190.696	269.289	378.949
Total non-current content liabilities	1.201.331	1.547.291	1.924.799	2.535.789	4.449.821	6.320.153	9.964.474	14.049.840	19.840.152	27.919.913
Total liabilities and stockholders' equity	3.069.196	3.967.890	5.412.563	7.056.651	10.202.871	13.586.610	19.012.742	26.807.836	37.856.056	53.272.284

Income Statement	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revenues	3.204.577	3.609.282	4.374.562	5.504.656	6.779.511	8.830.669	11.692.713	16,486,645	23,281,229	32,762,109
North America								9.565.392	13.278.775	18.300.946
Western Europe								3.846.559	5.444.704	7.730.345
Latin America								2.115.221	3.025.541	4.340.783
Asia Pacific								959.474	1.532.209	2.390.035
Cost of goods	1.996.154	2.580.397	3.034.882	3.698.732	4.529.193	5.972.373	7.587.755	9,862,075	12,812,226	16,631,199
North America								5.723.456	7.302.660	9.304.625
Western Europe								2.317.432	3.020.787	3.941.858
Latin America								1.250.983	1.651.035	2.181.342
Asia Pacific								570.204	837.744	1.203.374
Marketing	381.269	465.400	503.889	607.186	824.092	991.078	1.278.022	1,802,002	2,544,655	3,580,922
Technology and development	259.033	329.008	378.769	472.321	650.788	852.098	1,052.778	1,484,410	2,096,174	2,949,805
General and administrative	148.306	139.016	180.301	269.741	407.329	577.799	863.568	1,217,625	1,719,440	2,419,653
EBITDA	419.815	95.461	276.721	456.676	368.109	437.321	910.590	2,120,533	4,108,733	7,180,530
Depreciation, amort.	43.747	45.469	48.374	54.028	62.283	57.528	71.911	101,394	143,181	201,489
Operating income	376.068	49.992	228.347	402.648	305.826	379.793	838.679	2,019,139	3,965,552	6,979,040
Interest expense	-20.025	-19.986	-29.142	-50.219	-132.716	-150.114	-238.204	-335,866	-474,285	-667,430
Interest and other income (expense)	3.479	474	-28.131	-3.060	-31.225	30.828	-115.154	-162,366	-229,282	-322,653
Income before income taxes	359.522	30.480	171.074	349.369	141.885	260.507	485.321	1,520,907	3,261,985	5,988,958
Provision for (benefit from) income taxes	133.396	13.328	58.671	82.570	19.244	73.829	-73.608	-34,432	4,743	43,919
Net income	226.126	17.152	112.403	266.799	122.641	186.678	558.929	1,555,339	3,257,242	5,945,039

Financial ratios

Development Ratios	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revenue growth rate	12,63%	21,20%	25,83%	23,16%	30,26%	32,41%	41,00%	41,35%	40,83%
Cost of goods growth rate	29,27%	17,61%	21,87%	22,45%	31,86%	27,05%	37,34%	28,23%	27,88%
Operating income growth rate	-86,7%	356,8%	76,3%	-24,0%	24,2%	120,8%	140,8%	96,2%	75,9%
Net income growth rate	-92,41%	555,33%	137,36%	-54,03%	52,22%	199,41%	178,27%	109,14%	82,41%
Total assets growth rate	29,28%	36,41%	30,38%	44,59%	33,16%	39,94%	41,00%	41,35%	40,83%
Debt growth rate	28,80%	24,40%	31,74%	75,48%	42,03%	57,66%	41,00%	41,35%	40,83%
Interest expense growth rate	0,19%	45,81%	72,33%	164,27%	13,11%	58,68%	41,00%	41,35%	40,83%

As Netflix is still in the early stages of its growth cycle, its high **development ratios** are not a surprise: especially in terms of revenues, the advance has increased significantly from 2012 (+12,63% in respect to the previous year) to 2017 (32,41% in respect to the previous year). We believe that, even if the American market is almost saturated, this rate will keep being high for the next years but at a slightly decreasing rate in our forecast timeline.

The same applies to both the Operating Income and the Net Income, even though they are both decreasing in 2012 and 2015 due to the relevant amount of investments. The latter were mostly financed by issuing Debt, which is also increasing over time as Netflix declared that it would be needed to support the future developments and expand the net over new markets with additional equipment and staff. As Netflix is also trying to produce more original contents, which will indeed be a relevant expense compared to just licensing shows, the same trend will continue in the future. Furthermore, it should be noticed that increasing time interest expenses (\$20.025 in 2011, \$238.204 in 2017) will compress the income over time.

Going more into detail Netflix is investing in its global expansion and, as a subscribers-based company, revenues depend on monthly membership fees for its contents: estimates are thus given by projections on the number of subscribers. Costs are of course increasing as well, but at a lower rate than revenues (excluding year 2016). The most relevant item is the cost of goods (64.89% of total revenues in 2017), which includes licensing for the right to stream its content, the amortization of the existing streaming library and the acquisition/production of new content. Among other costs the second in relevance is the marketing one (10.93% in the same year), but both R&D and administrative costs are close to that percentage.

Liquidity Ratios	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Quick Ratio	1,49	1,34	1,42	1,48	1,54	1,25	1,40	1,40	1,40	1,40
Current Ratio	1,49	1,34	1,42	1,48	1,54	1,25	1,40	1,40	1,40	1,40
Net Working Capital	605.802	564.865	904.560	1.277.315	1.902.216	1.133.634	2.203.662	3.107.148	4.392.099	6.185.255

Liquidity ratios are useful to assess the cash levels of a company and its ability to turn assets into cash to pay off liabilities.

The measures commonly used are the quick ratio and current ratio, but in the case of Netflix they convey the same results because of the absence of the inventory.

As the net working capital is positive (current assets are greater than current liabilities), both ratios show values bigger than one for the whole period of analysis. This is indeed a good index for the company. However, considering that the rule of the thumb is a ratio close to 2 and the values found range from 1.25 to 2.54, we might question the actual ability of Netflix to repay its debtors. Fortunately, cash represents a good portion (36.80% in 2017) of current assets, but produced and licensed contents are also relevant and are definitely harder to turn into liquidity.

Solvency Ratios	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Leverage	3,77	4,33	3,06	2,80	3,59	4,07	4,31	4,31	4,31	4,31
Equity Ratio	0,21	0,19	0,25	0,26	0,22	0,20	0,19	0,19	0,19	0,19
Net Debt to Equity	0,93	1,32	0,77	0,68	1,15	1,94	2,17	2,17	2,17	2,17
Asset Coverage Ratio	0,52	0,43	0,57	0,60	0,47	0,34	0,32	0,32	0,32	0,32

Solvency ratios differ from the ones just analyzed because they focus on the long-term sustainability of a company: better solvency ratios indicate a more financially sound firm. Stability can be assessed with the leverage ratio because it is an index that compares the amount of total debt to the amount of equity and can therefore be interpreted as a measure of riskiness. A lower debt to equity ratio usually implies a stable business, as high-leverage companies may not be able to repay their debts in the future. This is just the case of Netflix, which shows a leverage ranging from 2.80 to 4.31 in the last year.

More specifically, short term debt was higher than long term terms for the first four years of analysis; following the announcement of greater investments starting from 2014, the trend has inverted and currently the long-term part corresponds to 64,57% of total debt. However, in the case of Netflix, the large amount of debt should not worry investors because the index will most likely decrease over time once the maturity phase is reached. Moreover, the index shows much more contained values if calculated using the Net Debt, flowing around 1 in the first years and increasing only in the final ones.

The equity ratio and asset coverage ratio are just the other side of the same coin. The first one considers total assets and the latter focuses on permanent assets only, but both are very low confirming that Netflix is undercapitalized with respect to its assets. This reflects the riskiness of the high leverage.

Profitability Ratios	2011	2012	2013	2014	2015	2016	2017	2018
Return on Investments	12,25%	1,26%	4,22%	5,71%	3,00%	2,80%	4,41%	7,53%
Operating Income/Sales	0,12	0,01	0,05	0,07	0,05	0,04	0,07	0,12
Sales/Assets	1,04	0,91	0,81	0,78	0,66	0,65	0,61	0,61
Return on Equity	35,18%	2,30%	8,43%	14,36%	5,52%	6,97%	15,60%	30,80%
ROI	0,12	0,01	0,04	0,06	0,03	0,03	0,04	0,08
Interest Expenses/Debt	0,01	0,01	0,01	0,01	0,02	0,01	0,02	0,02
Debt/Equity	3,77	4,33	3,06	2,80	3,59	4,07	4,31	4,31
Net Income/Income bef income taxes	0,63	0,56	0,66	0,76	0,86	0,72	1,15	1,02

Profitability ratios show a company's ability to generate profits from its operations and thus are useful to evaluate the remuneration of shareholders. ROI and ROE are considerably higher in 2011 (respectively 12,25% and 35,18%) and experience an evident fall in 2012: as previously noticed, this is due to the growing amount of investments that causes a rise on both the total assets and the equity. We assume that in the next years those indexes will grow and revolve around a more stable pattern once the growth period is over. Considering the return on investments decomposition, we can see that it is mostly determined by the turnover ratio (sales/assets) while the return on sales (operating income/sales) is very low. On the other hand, the return on equity is driven by the high leverage of the firm, which can be exploited thanks to the positive spread between the ROI and the cost of debt that will most likely increase over time as the ROI grows.

2017	Current Ratio	Leverage	ROE
Netflix	1,40	4,31	15,60%
Walt Disney	0,81	0,46	21,23%
21th Century Fox	2,25	3,23	20,09%
Time Warner	1,08	0,64	19,91%
Amazon	1,04	4,74	12,91%
Mean	1,32	2,68	17,95%

A quick look at the competitor ratios shows that Netflix actually exploits at much higher leverage (only Amazon's ratio is higher), but has similar results in terms of current ratio. The ROE is below average set by those players already established in the market, confirming that we may expect a rise in the next years.

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 Netflix 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 Netflix is currently distributing no dividends for incentivizing the recent large growth and it planned to pay dividends once the company will be mature.

The **three-stage FCFE model** works well for Netflix because it shows a gradual decline from current very 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 for 3 years due to the fact that nowadays Netflix is rising substantially.

In addition, we assumed a 2-year second stage in which the growth rate decreases linearly to the long-term one. In order to compute the stable growth rate, we firstly took into consideration the forecast on the number of subscribers in different geographic areas reported by Digital TV Research. Since the research showed the estimates for the 2018 and 2022, we determined those values for the years between 2018 and 2022, keeping the value of 2022 constant for the future years, by increasing linearly the number of subscribers from 2018 to 2022 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 2022 we computed the ratios between the number of subscribers per each geographic area and the total of that year as reported in *table 3*.

Once determined the share of subscribers 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 2022 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:

High growth period				
Beta	Risk free	CRP	ERP	Cost of equity
1,332	2,78%	1,03%	5,08%	10,92%

Where:

- 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 Netflix's exposure to country risk is similar to its exposure to other market risk. Unfortunately, Netflix provides just US and International split. Therefore, in order to find out the geographic area in which Netflix invests more, we have looked where are most of the subscribers 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 subscribers in each country in 2017 as reported in *table 5*.

The **beta** has been calculated with the Bottom-up approach. We started with the beta of the business in which Netflix 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 Netflix that are Time Warner, Walt Disney and Twenty-century Fox in the Entertainment industry sector, and Amazon in the Retail Online 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 Amazon is negative (because of negative net debt), we used another formula for that:

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

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 Netflix using the market debt to equity ratio for Netflix.

The tax rate has been computed by taking the annual effective tax rate (taxes due/taxable income) for each company over the recent 7 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 10.92% that is quite high but consistent with the high beta.

Stable growth period				
Beta	Risk free	CRP	ERP	Cost of equity
1,100	3,60%	1,03%	5,08%	10,32%

The **stable growth period** cost of equity is reported above, and it depends especially on the assumptions on beta because the beta is equal to an arithmetic average of the betas for the industries of the comparables that are entertainment and retail online according to the table computed by NYU Stern and upgraded on January 2018. Since the former is 1.02 and the latter 1.18, the final beta is 1.10. In addition, the risk-free rate is given by the forecast for the 2022 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 10.32% that is lower than the previous one, but consistent with the higher risk free and lower beta.

In the **medium period**, the cost of equity and the growth of the firm are measured as linearly decreasing towards the final long-term value starting from year 2020. In fact, until 2020, during the first period, the cost of equity is constant and equal to the value already measured. Instead, during the second period it decreases linearly to the value of the long period. In addition, the growth rate is equal to the growth measured using the provisional balance sheet, while during the second period it decreases linearly towards the growth 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 Netflix operates in, with the shares of the subscribers 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. Since Netflix splits revenues just in International and US, we used the share of subscribers per each geographic area in order to compute the revenues per each area. Thus, we multiplied the total international revenues for each share of subscribers in Western Europe, Asia and Pacific, Latin America. We saw that Netflix's investments are rising significantly in Asia. So, the first item to be considered as a multiplier of the 2017 revenues is the shares of each country subscribers. In addition, we included the inflation rate for each region that we found on the International Monetary Fund internet site for each year until 2022 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 8*.

Finally, the fourth multiplier is growth of real revenues from 2016 to 2017 that we kept constant over time. 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 subscribers per each geographic area and the average of the growth of the cost of goods sold in the most recent 7 years 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 taxes are negative for the 2017 and positive in the other years, we computed the linear change in taxes from the value of 2017 to the value in 2020 that is equal to the average of the taxes of the last years as reported in *table 8*.

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 9*. Therefore, once computed the values of the FCFE until 2020, for the values of the second stage, we made the FCFE of 2020 possible to growth at the growth rate already discussed, that is decreasing from the 2020 growth rate to the long-term growth rate in each year. 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 six FCFE to the cost of capital.

The value obtained is the **Equity value**. If we divide the equity value for the basis number of shares outstanding, we get a Fair price of Netflix equal to 341.75, that is higher than the current price equal to 321.60, meaning that the stock is highly undervalued, and the recommendation is strong 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 as shown in *table 9*.

3 stage	2017	2018	2019	2020	2021	2022	TV	
							$FCFE_{2022} * (1 + g_N)$	14.926.434
FCFE	3.161.285	3.550.417	6.089.177	9.882.903	12.646.645	14.569.755	189.570.752	
Discounted FCFE		3.200.841	4.949.121	7.241.671	8.414.857	8.835.154	114.956.418	
Equity Value	147.598.063							
Enterprise Value	151.274.700	FIRST			SECOND		TV	
12/03/2018	Fair Price							
Current mkt price	321.60							
Basis Shares	341.75							
Recommendation:	STRONG BUY							

2. Market multiples approach

Although we based our analysis on the FCFE methodology, we also used the market multiple methodology as control method. We conducted this method by selecting, among Netflix competitors, four companies that, in terms of operational and financial risk, size, expected earnings growth could be considered comparables. The selected companies have been Walt Disney, 21th century Fox, Time Warner and Amazon. In particular, we chose Amazon for the high growth rate shown in the last year that is similar to that observed in Netflix. Using a time horizon of three years, we calculated the arithmetic mean and the median of data and obtained two asset side multiples (EV/SALES and EV/EBITDA) and two equity side multiples (P/E and P/BV).

Equity side		P/E			P/BV		
	2017	2016	2015	2017	2016	2015	
Walt Disney	17,69	17,08	23,90	3,85	3,71	4,50	
21th Century	18,10	18,13	7,44	3,39	3,66	3,59	
Time Warner	13,44	19,14	14,98	2,49	3,09	2,43	
Amazon	228,27	166,99	469,39	24,99	20,54	20,91	
Mean	69,38	55,34	128,93	8,68	7,75	7,86	
Median	17,90	18,64	19,44	3,62	3,68	4,04	

Asset side		EV/SALES			EV/EBITDA		
	2017	2016	2015	2017	2016	2015	
Walt Disney	21,50	18,64	28,95	10,74	10,22	11,33	
21th Century	27,99	32,62	48,27	9,45	10,00	6,22	
Time Warner	14,48	16,63	13,23	11,67	13,51	9,90	
Amazon	3,97	2,86	2,56	45,27	31,64	32,20	
Mean	16,98	17,69	23,25	19,28	16,34	14,91	
Median	17,99	17,64	21,09	11,21	11,86	10,61	

In order to choose the most suitable multiples for company's valuation, we conducted several analyses. Firstly, considering the great amount of goodwill and amortized intangible assets in the comparables' balance sheets, we had to select multiples not too influenced by accounting policies, making the sample more homogeneous. As a result, we considered the asset side multiples based on Sales (EV/SALES) or on operating income (EV/EBITDA) the most representative. In particular, in order to compute an appropriate number of revenues per each comparable, we managed to extract the revenues that derive from the internet services sector per each company. Therefore, the sales of each company are highly comparable to that of Netflix.

Thereafter, looking both at the data and the characteristic of the sector, in which companies' value is sustained by their sales, we focused on EV/SALES multiple. Using Netflix's 2017 sales we derived the Enterprise value of the company and, by subtracting the market value of Net Debt, we obtained the firm's equity value. Finally, in order to take into consideration the size differences among comparables and the target company, we considered appropriate to apply a final adjustment of 30% to the original value.

The final Equity value obtained is included in the range \$ 130.955.812 – 172.643.657. Considering the number of shares outstanding, we derived a Fair price above 300\$, consistent with the main methodology (FCFE) results, that suggests a market undervaluation.

Investment Risk

There have been identified two significant fundamental risks facing Netflix: the first concerns the recent developments in Subscription Video on Demand (SVOD) services as foreseeable threat. As a second point, it is relevant the financial overextension of the firm and, consequently, potential problems which may arise from the repayment of debt.

Latest developments in Subscription Video on Demand (SVOD) services as threat. Considering Internet television as an emerging business and growth area in the entertainment industry, competition is becoming increasingly strong and it is likely that the firm will face new and growing challenges from other service providers.

In the European market, the expansion of Amazon Prime Video as a stand-alone service, the penetration of international services such as HBO and Showmax as well as the influence of local media providers (Sky Now TV, Maxdome, etc.) contribute to tighten up and widen competition in this region.

The Netflix template has been adapted by Hulu, Amazon and others potential competitors seeking to develop successful Internet TV networks. Among the latter, HBO (American television network owned by Time Warner) has launched on April 2015 its video on demand service which takes advantage of a large library of content provided by the cable channel's partners (20th Century Fox, Universal Pictures, Warner Bros. Pictures).

On the other hand, Amazon Prime Video leads in Germany, as a consequence of the earlier success of Amazon Prime in this country, although Netflix has been investing heavily in local content in the majority of the European markets where it operates (Kagan, 2018).

CBS has planned to add more contents to its All Access streaming service in 2018 in a bid to compete with Netflix and it has recently introduced the free, ad-supported CBS Sports HQ streaming channel while other competing services, such as Sling TV and Popcorn Time, aims at a fast-paced development in this emerging industry.

21st Century Fox and Walt Disney Co. have been holding talks to shift significant TV properties to Disney, remaking Fox into a global news and sport power so as to prepare the launch of a streaming service fully capable of taking on Netflix in 2019 (CNBC, 2017).

Roku, among the most significant American entities in streaming services, has seen a recent exploit in its stock price, as a result of 26 percent increase in its price after reporting earnings for the first time as a publicly traded company. Investors appreciate Roku as a fast-growing platform with revenue sharing from numerous SVOD service and a valuable advertising space.

Finally, it cannot be undervalued the eventual entrance of Apple in subscription movie and on demand service which is being taken for granted from the experts in the field. According to Macworld (the website of Mac Publishing headquartered in California), Apple is gearing up to take on Netflix, Amazon and UK services such as Now TV, with TV shows and movies which will be available to watch on the Apple TV, iPhone and iPad.

Potential problems arising from debt. Looking at the firm's leverage ratios, we can not avoid underlining the considerable risk supported by the company deriving from a high amount of long-term debt in its balance sheet.

The massive and increasing amount of debt comes from the intent to fund the international expansion and the original content programming of the firm (i.e. quality movies and TV shows) which has been crucial for its business success and clearly contributes to differentiate the firm from its main competitors.

The main issue refers to the sustainability of this winning strategy, especially considering the more dynamic competitive environment and the growing number of competitors. Without any doubt, the industry is going through a growth stage and the sole strategy focusing on original content programming may not be sufficient to contain competitors' efforts. In line with the success of its business, we expect the firm will adjust its current strategy aiming for further development of its services in the next years.

The significant market share and the last economic results of the company are not consistent with the perspective of critical scenarios. It is expected that the firm will intend to continue to use long-term debt to finance its growth in the near future in order to promote its presence in emerging markets (especially in the Asia-Pacific region). 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.

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	2021	2022	TV
Cost of Equity	0.1092	0.1092	0.1092	0.1072	0.1052	0.1032
Growth	0.4100	0.4121	0.4072	0.2796	0.1521	0.0245

Table 2	Subscribers (Digital TV Research)						
	2017	2018	2019	2020	2021	2022	TV
North America	57.66	59.39	60.35	61.31	62.26	63.22	63.22
Western Europe	22.68	24.80	25.85	26.89	27.94	28.98	28.98
Latin America	12.26	13.44	14.17	14.90	15.62	16.35	16.35
Asia Pacific	4.85	6.12	7.13	8.15	9.16	10.17	10.17

Table 3	w						TV
	2017	2018	2019	2020	2021	2022	TV
	59%	57%	56%	55%	54%	53%	53%
	23%	24%	24%	24%	24%	24%	24%
	13%	13%	13%	13%	14%	14%	14%
	5%	6%	7%	7%	8%	9%	9%

Table 4	TV
North America	0,0122
Western Europe	0,0046
Latin America	0,0047
Asia Pacific	0,0029
Growth long term	0,0245

Table 5	CRP	w	
North America	0	0,59169	0
Western Europe	0,0136	0,2327	0,0032
Latin America	0,0448	0,1258	0,0056
Asia Pacific	0,0303	0,0498	0,0015
			0,0103

Table 6	D/E	Adjusted beta	β unlevered
Amazon			1,001
Walt-Disney	49,47%	1,039	0,777
Twenty-First Century	76,06%	1,041	0,656
Time Warner	74,94%	0,819	0,524
Netflix	102,64%		
	Risk free	2,78%	β unlevered medio
	Average ERP	5,08%	β relevered
			1,332

Table 7	2011	2012	2013	2014	2015	2016	2017	Average tax
Walt-Disney	0,322	0,326	0,310	0,329	0,322	0,303	0,303	0,316
Twenty-First Century	0,217	0,245	0,197	0,245	0,126	0,272	0,303	0,229
Time Warner	0,344	0,325	0,034	0,325	0,168	0,303	0,247	0,249
Netflix	0,369	0,433	0,345	0,123	0,134	0,284	-0,153	0,219

Table 8

Real GDP growth (IMF)							
	2017	2018	2019	2020	2021	2022	TV
North America	0,022	0,024	0,027	0,022	0,023	0,023	0,023
Western Europe	0,014	0,017	0,018	0,019	0,019	0,019	0,019
Latin America	0,042	0,036	0,035	0,034	0,034	0,034	0,034
Asia Pacific	0,030	0,031	0,033	0,032	0,033	0,034	0,034
Inflation rate (IMF)							
	2017	2018	2019	2020	2021	2022	TV
North America	0,055	0,054	0,055	0,054	0,055	0,054	0,054
Western Europe	0,022	0,022	0,019	0,018	0,018	0,018	0,018
Latin America	0,020	0,018	0,016	0,017	0,016	0,015	0,015
Asia Pacific	0,012	0,019	0,024	0,026	0,027	0,027	0,027

Table 9

	2015	2016	2017	2018	2019	2020
Non cash working capital	-253,491	-312,842	-359,555	-506,970	-715,906	-1,007,446
Change in nwc		-59,351	-46,713	-147,415	-208,936	-291,540
Financial debt	2,371,362	3,364,311	6,499,432	9,164,155	12,940,946	18,210,923
Change in financial debt		992,949	3,135,121	2,664,723	3,776,791	5,269,978

