NETFLIX

COMPANY REPORT

ENTERTAINMENT SERVICES

MAY 2018

STUDENT: MARIANA MARQUES ALVES

22044@novasbe.pt

"The Crown" of entertainment

From a DVD rental company to Leader of Entertainment Services…

- The **international streaming** segment of Netflix continues to increase its profitability, with its revenues representing approximately **45% of total revenue in 2017**, compared to only 36% in 2016.
- The number of Domestic Streaming **memberships increased 1.96 million in the first quarter of 2018, surpassing company estimates** of 1.45 million.
- The number of International Streaming **memberships increased 5.46 million in the first quarter of 2018, surpassing company estimates** of 4.90 million.
- Netflix is planning on investing **approximately $8 Billion in original content** in 2018, compared to last year investment of $6Billion.
- The prospect of launching its streaming service in **China** has such potential for success that raises the price target to **$430.64**, yielding an expected return of 29.82%.
- A discounted cash flow valuation yields a price target of **$404.39 for FY18**, which implies a total expected return of 21.9% and results in a recommendation of a **BUY** position.

Company description

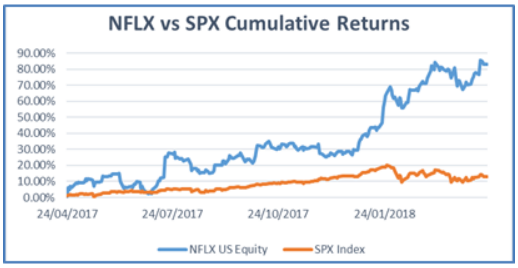
Netflix was founded by Reed Hastings and Marc Randolph in August 1997 as a DVD-rental-by-mail firm operating in the US. After entering the streaming business in 2007, the company has thrived and currently it is the leading internet television network. The company has approximately 125 million members in over 190 countries, and it provides movies, TV series and documentaries for an unlimited viewing time, commercial-free for a flat affordable monthly fee.

Recommendation:	**BUY**
Price Target FY18:	**404.39 $**
Price (as of 24-May-18)	**331.74 $**

Reuters: NFLX.OQ, Bloomberg: NFLX US

52-week range ($)	338.82-144.25
Market Cap ($m)	139 141
Outstanding Shares (m)	434 690

Source: Bloomberg



Source: Bloomberg, Analyst graph

(Values in $ millions)	2017	2018E	2019F
Revenues	11 692	14 374	18 011
Rev. Growth	32.4%	22.9%	25.3%
EBIT	816	691	820
Net Profit	586	549	652
EPS	1.35	1.26	1.5
Total Subscribers (Millions)	113	129	150

Source: Company data, Analyst forecasts

THIS REPORT WAS PREPARED EXCLUSIVELY FOR ACADEMIC PURPOSES BY MARIANA MARQUES ALVES, A MASTERS IN FINANCE STUDENT OF THE NOVA SCHOOL OF BUSINESS AND ECONOMICS. THE REPORT WAS SUPERVISED BY A NOVA SBE FACULTY MEMBER, ACTING IN A MERE ACADEMIC CAPACITY, WHO REVIEWED THE VALUATION METHODOLOGY AND THE FINANCIAL MODEL. (PLEASE REFER TO THE DISCLOSURES AND DISCLAIMERS AT END OF THE DOCUMENT)

Table of Contents

Executive summary

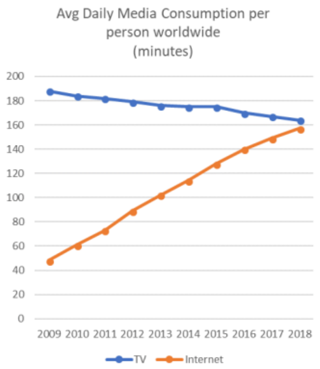


Figure 1: Average daily media consumption worldwide
Source: Business Insider, Analyst graph

The Internet Entertainment sector has developed a great growth potential in recent years. Consumers are shifting their preferences from traditional TV services to Internet media, which can be seen by the evolution of the average number of minutes spent watching each of these services. This is leading to an increase of the “Cord Cutting” phenomena – more households are cancelling their cable/satellite TV packages in exchange for online-only services.

In the first quarter of 2018, Netflix streaming memberships increased 27% relative to the first quarter of 2017, reaching almost 125 million subscribers. Being a well-established competitor in this industry, Netflix is expected to continue increasing its streaming memberships, with 560 million forecasted memberships in 2025.

The existence of an almost unlimited amount of content increases the importance of its quality, being this a differentiating advantage in the industry as a hole and a key value driver for Netflix in particular. In 2018 Netflix is planning to invest approximately $8 Billion in content, and this value is expected to keep increasing the near future.

The profitability of the International segment of Netflix will continue to increase, generating an amount of revenue higher than the Domestic in 2019. The expansion to China would be a great opportunity for value creation, since this one of the largest economies of the world.

Target Price for FY2018 is $404.39

Considering these factors, the Discounted Cash Flow model predicts a share price of $ 404.39 for FY 2018 with subsequent return of 21,9% and a Buy recommendation.

This estimate is highly sensitive to changes in the expected average revenue per user (ARPU) and membership growth.

Company overview

Stock Performance

Netflix Initial Public Offering was on May 22nd, 2002 and its common stock is traded on the NASDAQ Global Select Market under the symbol "NFLX". In order to provide an overview on the recent performance of the stock, the following graph illustrates the cumulative return of Netflix and the S&P index for the five-year period ended May 2018. In this graph it can be seen that Netflix shows evidence of an upward moving trend and consecutive substantial positive returns. Between the period of July 2013 and the beginning of 2016 there is evidence of considerable volatility, despite the positive returns, which can be explained by the entrance of Netflix in many different markets, as this requires significant upfront costs that might have reduced the overall financial performance of Netflix. However, from the end of 2016 onward the volatility has considerably decreased, which could be due to the continuous success of Netflix. For the past year and a half Netflix has continuously increased its membership growth globally, and the average total time spent per user has also been growing, which represents a higher consumer engagement.

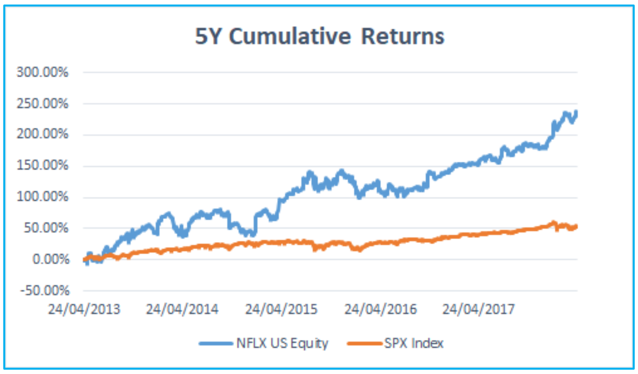


Figure 2: Cumulative Returns NFLX vs S&P 500 2013-2018
Source: Bloomberg, Analyst graph

Shareholder structure

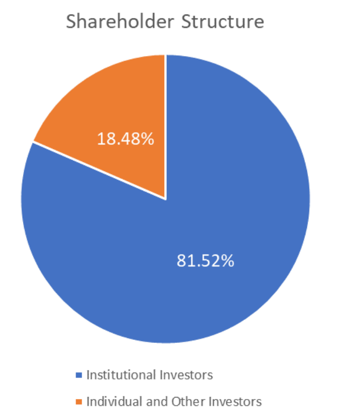


Figure 3: Shareholder Structure as of April 2018
Source: NASDAQ, Analyst graph

Netflix currently has a Market Capitalization of USD 139 141 Million and approximately 434 690 million shares outstanding, of which 81.52% are held by Institutional Investors and 18.48% by Individual and Other Investors. Each share grants one vote to its holder on all company matters decided using a voting process. Of the institutional Investors, the five biggest shareholders are Capital Group Companies (12.37% ownership), Vanguard Group (6.65%), Blackrock (5.94%), FMR LLC (5.71%), and State Street Corporation (3.92%). Netflix main individual shareholder is its co-founder and CEO Reed Hastings (1.28%), followed by one of its board members, Jay Hoag (0.12%), and its former chief product officer Neil Hunt (0.11%). All other individual investors hold 0.01% or less of total shares.[1] As it can be seen, Netflix has a highly diluted ownership structure.

Company Description

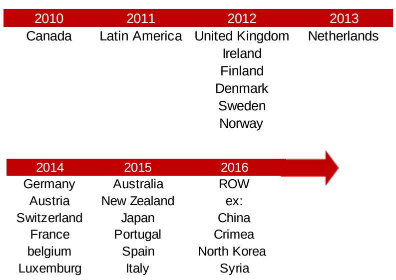


Figure 4: Countries and launching dates
Source: Company Annual Report 2017, Analyst graph

In 1997 Netflix was founded by Reed Hastings and Marc Randolph as a plain DVD rental company. Soon after, Netflix started improving its business model, and so in 1998 it created an online website for its DVD rental service and in 1999 it developed a subscription service that allowed its members to rent an unlimited number of DVDs for a low fixed monthly fee. By 2000 the website provided personalized movie recommendations and member ratings, which made the company able to accurately predict the choices of all its subscribers. This feature and its pricing structure were crucial in distinguishing Netflix from other similar rental services. In 2007 Netflix introduced streaming services, which allowed its members to instantly watch television series and movies on their personal computers. From this moment onward, the company started partnering with consumer electronics companies to be able to stream its services in almost all internet connected devices. Due to its success, Netflix decided to launch its streaming segment internationally. First, it launched in Canada in 2010, and then in 2011 it launched throughout Latin America and the Caribbean. In 2012 Netflix became available in a few European countries, namely the UK and the Nordic Countries, and it won its first Primetime Emmy Engineering Award. By 2013 Netflix was at a scale that it could economically create original content, it released its first original series and was even the first internet TV network nominated for the primetime Emmy. Until 2015 Netflix continued its international

[1] Sources: Bloomberg, NASDAQ and Netflix's Notice of Annual Meeting of Stockholders to be held on June 6, 2018

expansion as well as the increase of its original content, being nominated and even winning various Emmy awards. In 2016 Netflix became global, being present in almost every country around the globe, except China (it expects to enter this market in a near future), Crimea, North Korea and Syria, where it is not allowed to operate. In the future, as the internet entertainment business continues to develop and gradually replace linear TV, Netflix expects to remain the leading company, providing the best entertainment experience to its members.

Business Segments

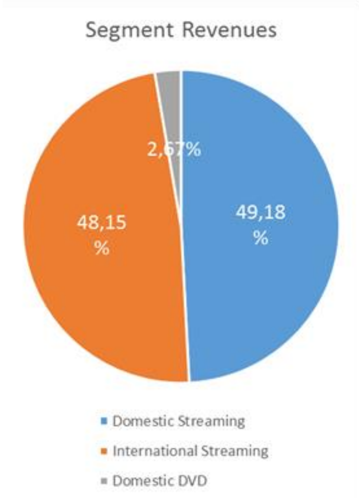


Figure 5: Percentage of Segment Revenues as of total revenues for 1º Q 2018
Source: Company data, Analyst graph

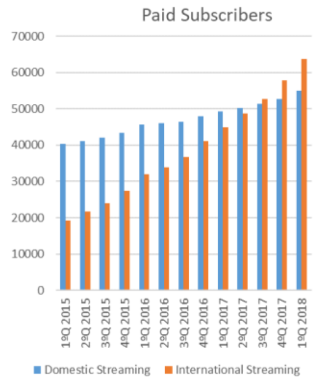


Figure 6: Paid subscribers
Source: Company data, Analyst graph

Netflix has three business segments: Domestic Streaming, International Streaming and Domestic DVD. The domestic streaming service was founded in 2007 and consists exclusively of streaming content to members in the United States. In the first quarter of 2018 the segment's revenues reached $1 820.019 million (24% increase relative to 2017 first quarter), owing to an increase of 12% in memberships and 11% in ARPU. This resulted from an investment of $6 Billion in new and original content and $1.3 Billion in advertising, that continues to make Netflix the most demanded streaming platform in the US according to the Global Television Demand Report by Parrot Analytics. The international streaming segment consists of streaming content to members outside the US. Netflix began its international expansion in 2010 when it launched in Canada, and it was so successful that by the end of 2016 it was already present worldwide, except in China (where it expects to launch its service in the upcoming years), Crimea, North Korea and Syria. Its revenue in the first quarter of 2018 was $1 782.086 million (70% increase relative to the last quarter of 2017), on account of an increase of 43% in memberships and 19% in ARPU. As a result, international streaming revenues currently account for half of Netflix's total revenues (compared to only 39% in the first quarter of 2017), and this percentage is likely to continue increasing. By being able to adapt its content to the different regions where it operates, Netflix continues to attract new members globally. The domestic DVD segment consists exclusively of the DVD mailing service in the US. This segment has seen a gradual reduction in its members over the years, as there is a decrease in the demand for this service. Nevertheless, this segment remains profitable. Even though the number of

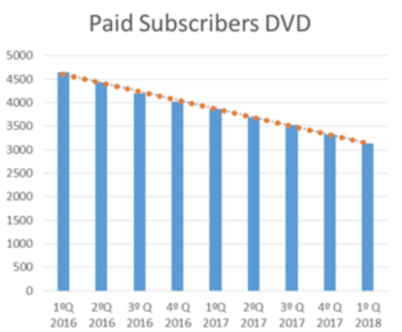


Figure 7: Paid Subscribers DVD Segment
Source: Company data, Analyst graph

memberships is decreasing, there has been a considerable increase in its profit margin, as the existing members are using the service much less frequently (reducing operating costs). Consequently, Netflix is using its revenues to invest in the other two segments. In the first quarter of 2018 this segment had total revenues of $98.751 million, representing an 18% decrease relative to the same quarter in 2017. This was due to a 20% reduction in memberships and a 3% increase in ARPU.

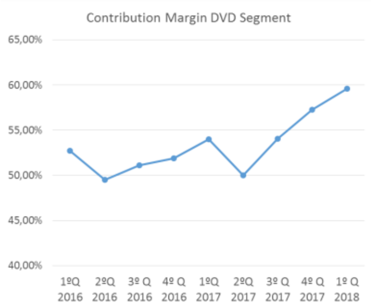


Figure 8: Contribution margin DVD Segment
Source: Company data, Analyst graph

The Sector

Cord Cutting

Netflix operates in the media and entertainment sector, which is going through considerable transformations. Many consumers are shifting their preferences from linear tv to internet entertainment, which is threatening the sustainability of many entertainment and media companies. Customers enjoy the freedom of choosing the programs they want to watch whenever it is more convenient and consider these services cheap compared to traditional tv services. According to the Nielsen Video on Demand March 2016 report, one third of total respondents are planning to (or have already) "**cut the cord**", that is, cancel their satellite or cable service in exchange for an online-only service. This trend has been rising globally in the past couple of months and it is expected to intensify even more in the long-term, as the younger generations are the most prone to prefer online entertainment over linear tv. (Moreover, in that same report it is stated that consumers with subscriptions to SVoD platforms watch less television, even when they are not planning on cancelling their traditional television services.) Nevertheless, SVoD services are not yet able to provide live content, hence they can't compete with networks and MVPD[2]s when it comes to live news and sports programming. This might be one of the most influential reasons that keeps consumers subscribing to cable and satellite services. Still, Netflix is focused on providing only the best quality tv series and movies, so it is not concerned about competing against live content. Also, Netflix has successfully launched bundle offers with a few MVPD companies (such as Proximus and Altice) that have proven profitable to both companies, and it is expecting to continue developing similar partnerships with other corporations. Hence, MVPD and SVoD companies can be supplementary service providers instead of competitors.

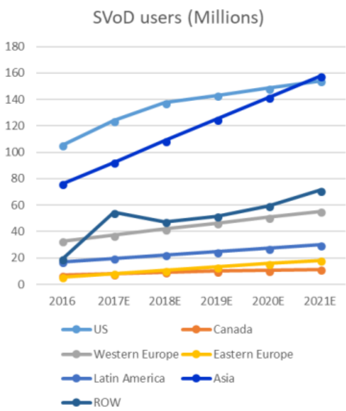


Figure 9: SVoD users
Source: Statista, Analyst graph

[2] Multichannel Video Providers

Strategic M&A

The key success factor in the entertainment industry is **content** and the development of SVoD platforms has made it possible for distributing companies to start producing their own content. Consequently, companies such as Netflix, Hulu and Amazon have started investing more in their own content and are considerably increasing their market share. They are benefiting from the consumer feedback they get on their platforms and investing in more tailor-made programming. On the other hand, traditional entertainment companies are being harmed by this significant increase in competition. As a result, some corporations have started M&A deals, such as the acquisition of Time Warner by AT&T, and the controversial possible partial acquisition of 21st Century Fox by The Walt Disney company (recently Comcast has also shown interest in the acquisition of that share of the company, which might result in a bidding war). In the future, it is very likely that there will be a higher consolidation of this industry, with more mergers of media and entertainment companies taking place.

Comparables

Netflix's two main competitors are Amazon Prime Video and Hulu Plus. However, Amazon Prime Video is only a segment of Amazon, and Hulu is a joint venture owned by The Walt Disney company, 21st Century Fox, Comcast and Time Warner. All these companies present consolidated financial statements, and consequently neither of them has specific financial statements for the streaming segments. Hence, these firms should not be used in a Comparables Valuation of Netflix. As an alternative, this valuation was performed using selected media and entertainment companies, namely Walt Disney Company, 21st Century Fox, Time Warner, Viacom, Discovery Communications and CBS Corporation. These companies were chosen relative to their dimension and significance in the media and entertainment business. This valuation results in a target price of $55.6, which is significantly lower than the current price of Netflix. This gap can be explained by the fact that all the comparable firms are already in a more mature phase of business, while Netflix is still at a growth and development stage. Consequently, the result of this analysis should only be considered as a benchmark, since this method doesn't include any forecasting and a considerable share of Netflix's potential is expected to come from its future returns.

Multiple	Average	Netflix Inc Value	Valuation	Share Price
P/E	11.2	$ 586 937 000.00	$ 6 553 826 582.55	$ 15.10
EV/EBIT	10.1	$ 838 679 000.00	$ 8 484 915 443.00	$ 19.55
EV/EBITD.	8.8	$ 7 169 064 000.00	$ 63 060 640 241.20	$ 145.32
EV/Rev	2.4	$ 11 692 713 000.00	$ 28 064 265 106.95	$ 64.67
P/B	4.0	$ 3 581 956 000.00	$ 14 456 595 318.20	$ 33.31
Netflix Inc Valuation			**$ 24 124 048 538.38**	**$ 55.59**

Figure 10: Multiple Valuation
Source: Bloomberg, Analyst results

Forecast

Revenues

The forecasting for 2018 until 2028 was essentially based on the revenues, since this variable is the main driver on the major items. As it was mentioned above Netflix has three segments: domestic streaming, international streaming and domestic DVD; and its revenues originate almost solely from the monthly fees that subscribers must pay to have access to either one of these services. Hence, in order for this analysis to be as precise as possible the revenue's forecasts were decomposed in the expected number of subscribers for each segment and the respective average revenue per subscriber.

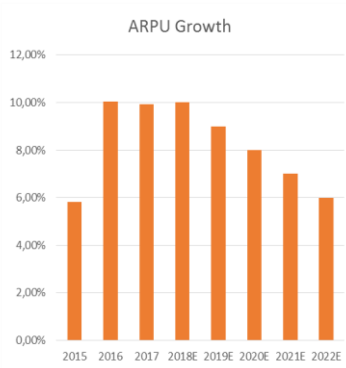


Figure 11: ARPU Growth
Source: Company data, Analyst Forecast and graph

The domestic streaming service was launched in 2007 and at the end of the first quarter of 2018 there were 56.705 million subscribers (12% increase relative to the first quarter of 2017), representing 20% of total population with access to the internet in the US. In the past years there has been a relatively constant increase in the number of memberships and ARPU (in the past two years there was an approximate increase of 10% in both the number of memberships and the ARPU). Hence, it is assumed that this sector has already reached its steady state.

Domestic Str.	2015	2016	2017
Growth Memberships	14,38%	10,49%	10,76%
Growth ARPU	5,82%	10,04%	9,93%

Figure 12: Domestic Streaming Growth Rates
Source: Company data, Analyst Forecast and graph

Consequently, it is expected that from now on Netflix's memberships will increase at an average rate of 6.41% each year until they reach 90 million subscribers in 2025. The company expects to reach this number of subscribers in the long run, and it is probable they will be able to accomplish this objective in the next seven years. Regarding ARPU, Netflix has more than once proved to have strong pricing power- members seem to be willing to pay a higher price as long as the quality of the platform and its content continues to increase. Consequently, it is assumed that ARPU in 2018 will also grow 10% (similarly to the past two years). However, this rate is not sustainable in the long run, so this growth rate is projected to decrease 1% each year until it equals 3%- approximately the expected inflation rate in the US (using the forecasted inflation rate for 2022 as a proxy).[3]

	2018E	2019E	2023E	2024E	2025E
Memberships (millions)	58,259	61,994	79,4837	84,5786	90,0000
ARPU	$ 10,30	$ 11,23	$ 14,44	$ 15,02	$ 15,47
Revenues	$ 7.202.174,98	$ 8.353.576,81	$ 13.775.405,23	$ 15.244.740,16	$ 16.708.578,76
Rev. Growth (yearly)	17,05%	15,99%	11,73%	10,67%	9,60%

Figure 13: Information Domestic Streaming
Source: Company data, Analyst Forecast and graph

For the international streaming segment, membership forecasts were decomposed for different geographical locations. Netflix is globally present in almost every country, but its international expansion was gradual, so there are regions in different development stages. Moreover, different regions have different consumer preferences and so Netflix business model has to adapt to these differences. Considering this, the membership forecasts for: Canada, Latin America, Western Europe, Eastern Europe, Asia (excluding China), and rest of the world were computed individually. As it was mentioned above, the Domestic Streaming segment is already in a stage that can be considered the expected steady state and, henceforth, it was used as a benchmark to predict membership growth in the different regions. Explicitly, it is expected that each region will reach their steady state by the time they have a penetration of 20% of total population with access to the internet. Canada was the first country where Netflix entered, so it currently is a well-established brand with a considerable penetration (16% of total population with access to the internet). Therefore it is expected to reach its steady state in 2020 (ten years after its launch), similarly to the case in the US. For that, this region is expected to have a yearly membership growth of 8.3%. Regarding Latin America, even though this was the second region where Netflix

[3] Data retrieved from Statista for the year 2022

	Canada
Launch Year	2010
# Subs (2017)	5,63 M
ARPU 2017	$ 9,23
Mkt Share	15,08%

	Latin America
Launch Year	2011
# Subs (2017)	17,36 M
ARPU 2017	$ 3,97
Mkt Share	3,53%

	Eastern Europe
Launch Year	2016
# Subs (2017)	1,69 M
ARPU 2017	Not Available
Mkt Share	0,54%

	Western Europe
Launch Year	2012 to 2015
# Subs (2017)	21,73 M
ARPU 2017	$ 8,74
Mkt Share	12,04%

	Asia (ex China)
Launch Year	2015-2016
# Subs (2017)	4,95 M
ARPU 2017	Not Available
Mkt Share	0,20%

	ROW
Launch Year	2015-2016
# Subs (2017)	7,82 M
ARPU 2017	Not Available
Mkt Share	0,62%

Figure 14: Region Specific Information
Source: Morgan Stanley Research January 2018, Statista, Analyst Forecast and graphs

expanded into, it only has a penetration of 4%. Consequently, this region will likely take 15 years to reach its steady state, unlike Canada. Hence, its memberships are expected to grow at a yearly rate of 24% until 2025. The third region considered is Western Europe. Since 2012 Netflix has gradually launched its streaming platform in all Western European countries, and it currently has an average market penetration of 13%. Thus, it is expected that by 2022 (10 years after launching for the first time in Western Europe), Netflix will reach its steady state. For that, its memberships are estimated to grow at a yearly rate of 10.2% until 2022. Regarding Eastern Europe, Netflix only launched in this region in 2016, and thus this is a market with a low penetration and a high potential for growth. Currently Netflix has a market penetration of only approximately 1%. Nonetheless Digital TV Research forecasts substantial growth in SVoD in this region in the next few years (it expects total SVoD users to increase from 5.58 million in 2016 to 18 million by 2021). As a result, it is expected that by 2025 the company will reach its steady state in Eastern Europe. Hence, memberships are expected to grow approximately 50.9% every year until 2025. Netflix launched in Asia (except China) in 2016, and currently it has a total market penetration of approximately 1%. However, unlike the case for Eastern Europe, Netflix will have to struggle to differentiate itself from other much cheaper streaming platforms (such as Iflix, HOOQ and Viu) whose content is already adapted to taste of the Asian consumers. Consequently, it is estimated that Netflix will take approximately 15 years to reach a steady state penetration in this region. Hence, memberships are expected to grow approximately 38.35% every year until 2031. Regarding the rest of the world, Netflix has an average penetration of 1%, which is normal considering that in most countries it only launched in 2016. It is expected that this segment will evolve similarly to the case in the US, so memberships are forecasted to grow 52.51% every year, until this segment reaches the steady state by 2025 (approximately ten years after its launch). In every region from the moment they reach their respective steady states, memberships are expected to grow at the same growth rate as the US (6.41%), as this is the best proxy for the long run membership growth rate.

Regarding ARPU in the international segment, Netflix has been very successful in all the regions that it is present, showing evidence of strong pricing power internationally (last year ARPPU increased 13% relative to 2016 without considering F/X impact and the number of membership cancelations due to this increase was not significant). Subsequently, ARPU is forecasted as 11.2% in 2018, which is the average growth rate of the past two years (it wouldn't be relevant to use data before 2016, as it still has a considerable effect of the international expansion and so it is not a good representation for future growth).

From 2018 onward, ARPU growth rate is expected to decrease 1% every year until it reaches 3%, as in the Domestic Streaming segment. This is approximately the expected global inflation rate (once again using the forecasted inflation rate for 2022 as a proxy)[4].

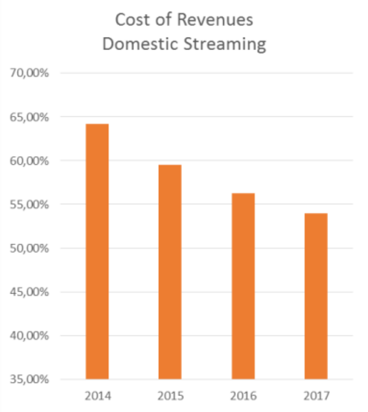
The domestic DVD segment is expected to have a yearly decrease in its memberships of 15%, as this is approximately the average decrease rate of the past three years and it is expected to remain constant. The ARPU of this segment is expected to increase 0.2% per year, as this is the three year average growth rate and it is also expected to remain constant.

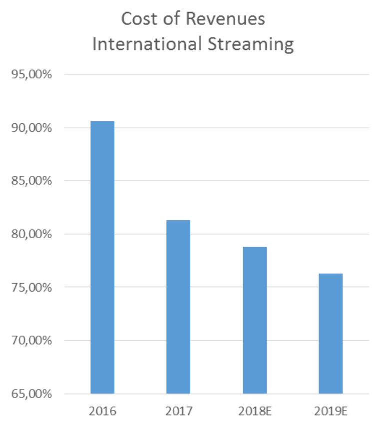
Cost of Revenue

In the domestic streaming segment cost of revenues is expected to gradually decrease 0.5% every year until 2028. Netflix is not concerned about improving contribution margins, and it has been focusing on significantly investing in new content to maintain its competitive position. Consequently, the contribution margin of this segment is not expected to significantly change in the following years. Moreover, cost of revenues includes the amortization of content.

The international streaming segment is very heterogeneous, as there are regions where Netflix has been operating for many years that have already reached contribution margins that are comparable to the domestic segment, while others Netflix has only entered in 2016 and are not yet contribution positive. Nevertheless, there has been a significant improvement in the contribution margins of this segment for the past two years due to the continuous growth and acceptance of Netflix and the meaningful profits generated in the regions where Netflix has been operating for longer. Therefore, it is forecasted that this will decrease at an average rate of 2.5% per year until 2028.

In the domestic DVD segment, the cost of revenues has been decreasing approximately 2% per year, since members have been reducing the frequency of their rentals and the company is not planning to meaningfully increase the investment in the resources or the technology of the DVD operations. Consequently, it is expected that cost of revenues will decrease at an average rate of 2.5% per year until it reaches a value of 20% of revenues. A bigger decrease could lead to a reduction in the quality of this service which could result in more membership cancellations than expected. This is something that the





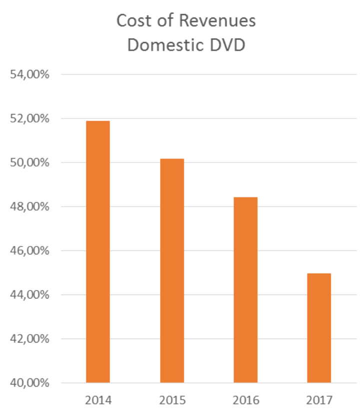


Figure 15: Cost of Revenues per Business Segment
Source: Company data, Analyst graphs

[4] Data retrieved from Statista for the year 2022

company wants to avoid, as the DVD segment is profitable and the revenues it originates are being used to fund the streaming segments.

Domestic DVD		2014		2015		2016		2017
Gross Profit (Millions)	$	368,28	$	321,83	$	279,53	$	247,97

Figure 16: Gross Profit of Domestic DVD
Source: Company data, Analyst table

Figure 17: Marketing Expenses
Source: Company data, Analyst graphs

Marketing

Marketing expenses have become more relevant, as the success of the streaming business and the shift from linear tv to internet entertainment sector will continue to attract many new players to the market. Consequently, Netflix will have to increase its marketing expenses in the following years in order to attract new customers and prevent existing ones from cancelling their memberships. Last year marketing expenses amounted to $1.3 Billion and for 2018 Netflix is estimating its marketing expenses as approximately $2 Billion.[5]

2018	2019	2020	2021	2022
$ 1 992 284.24	$ 2 752 244.73	$ 3 551 324.90	$ 4 561 526.09	$ 5 895 745.17

Figure 18: Marketing Expenses
Source: Company data, Analyst table and Forecasts

Content Assets and Liabilities

One of the main value drivers of Netflix is its investment in exclusive content, particularly original content that differentiates Netflix from its competitors. Therefore, a detailed analysis of its investment in content is crucial to understand how the company is expected to perform in the future. Netflix has three types of content: Self-Produced Originals, Licensed Originals and Licensed Second-Run movies and tv shows. As the market for licensed content is becoming increasingly competitive, with strong brands such as Disney bringing their content into the market in their own platform, the supply for quality second-run content is decreasing. Hence, Netflix has decided to gradually shift its investment towards original content. In fact, one of the reasons Netflix started producing content was exactly to prepare for when legacy brands decided to limit the offering of their content. Consequently, it is expected that licensing content will gradually decrease, while produced content will increase.

In order to understand the forecast, it is important to know how is content reflected in the balance sheet: Current content assets consist of available

[5] Other operational expenses are expected to remain constant

licensed content (original and second run) that is expected to be amortized in the next twelve months and Non-current content assets include licensed content expected to be amortized beyond twelve months, produced content and DVD content. Current content assets consist of available licensed content (original and second run) that is expected to be amortized in the next twelve months. Both this item and the licensed content expected to be amortized over 12 months (included in non-current assets) are each expected to decrease at a yearly rate of 2.5%. On the other hand, produced content is expected to increase 5% every year. The reasoning is that even though overall investment in content will continue to increase, investment in second run content (that is included in the licensing components) will shift towards produced originals. Regarding DVD content, it is expected that it will continue to decrease at an average rate of 26% each year. Current content liabilities, which consist of content payments due within twelve months, and non-current content labilities, which consist of content liabilities due over one year, will each increase approximately 2% every year, as the overall increase in content will result in an increase in content payments.

Other Working Capital and Capital Expenditures

All other working capital and CAPEX items except working cash are simply expected to continue increasing at their respective three-year average rates, since there is no prediction of any significant changes of the values of these items. Regarding working cash (or operating cash), it is expected to slightly increase from 1% to 1.5% of total revenue. Since Netflix has been investing a lot in new content, particularly original content that requires more up-front cash it is reasonable to assume it will increase its working cash. Moreover, since the company has been financing a big percentage of this investment with debt, it is expected that it will increase its working capital as a buffer to decrease investor fears regarding its ability to repay its debt.

China

One of Netflix’s biggest challenges is launching its platform in China. The Chinese market has very strict corporate ownership legislation that considerably decreases the profitability of entering this market. Also, consumers in China have only recently started adhering to paid streaming platforms, as there is plenty of available pirated content. Nonetheless, the possibility of choosing between a large number of high quality content and not having to put up with advertising are the two main reasons Chinese consumers now prefer paid streaming services. There are already a number of streaming platforms successfully operating in

China, namely iQiyi and HOOQ, which are considerably cheaper than Netflix. The average monthly prices range between $1 and $3, which means that in China consumers are used to paying only approximately $27 per year for streaming services, while Netflix's monthly fee of about $8 yields an average $96 price per year. Henceforth, pricing is also a challenge in this market. However, even though Netflix has not launched its platform in China, it already licensed some of its original content to iQiyi, namely the series “Black Mirror” and “Stranger Things”. Additionally, iQiyi's CEO has stated his interest in expanding its deal with Netflix, proving the success of its original content in this market. Considering the size and relevance of the Chinese economy, and the fact that Netflix is already planning to enter this market in a near future, a scenario where the company launches its service in China in 2019 was projected. In the first year the number of memberships is expected to be approximately 8 038 million, representing the same penetration rate observed in the other Asian economies. From 2019 onward, memberships are forecasted to grow at the same yearly average rate as in the Asian region. On the other hand, due to the huge gap between prices of the existing platforms and Netflix, ARPU is only expected to increase 1.5% in the first years. Only after Netflix obtains a higher penetration rate will it start increasing its ARPU at an average rate of 3%, similarly to the other regions. Regarding marketing expenses, it is expected that they will represent the same proportion as in the International Streaming Segment. Considering the difficult conditions of operating in this market, it is expected that it will start being profitable in 2025, six years after its launch.

Streaming in China	2019E	2024E	2025E
Revenues	$ 771 604.90	$ 4 213 385.42	$ 5 916 684.75
Cost of Revenues	$ 925 925.88	$ 3 792 046.88	$ 4 970 015.19
Marketing Costs	$ 152 777.77	$ 665 714.90	$ 875 669.34
Operating Income before taxes	$ -307 098.75	$ -244 376.35	$ 71 000.22

Figure 19: Chinese Scenario
Source: Analyst table and forecasts

Valuation

In this analysis the fundamental method chosen to value the company was the Discounted Cash Flow Model. The discount rate used was the WACC, as it was considered the rate that would best reflect the true risk of the company. Additionally, it was also modelled a scenario where Netflix enters the Chinese market in 2019, as well as a “Bear Case” and a “Bull Case” scenarios. The “Bear Case” represents a proxy for a “worst-case scenario” and the “Bull” represents the “best-case scenario”, where the alternative values of Netflix are computed by varying the membership and ARPU growth rates.

WACC

As it was mentioned above, the discount rate used was the WACC[6]. To compute this rate the cost of equity was estimated using the CAPM model[7]. The risk-free rate employed in this calculation was the yield of the 10Y US Treasury Note and the expected market risk premium used was 4% (historical value)[8]. For determining the company’s beta, the weekly excess returns of Netflix were regressed on the market’s excess returns for the period of March 2013 until March 2018, as well as the respective 95% confidence interval and the rolling betas for the periods of 6months and one year. Since Netflix has a very specific business model there aren’t any competitors similar enough that could be analysed to benchmark this beta value, so it was particularly relevant to be thorough in analysing the robustness of the estimated beta. Analysing the computed rolling betas it is observable that there isn’t any trend or seasonal behaviour. Hence, the equity beta was estimated by first un-levering the beta from the regression and then re-levering it at a target debt to equity ratio of 0.1. Currently this ratio is approximately 0.05, but Netflix has stated that it will continue to raise debt for as long as their cost of debt and ratio of debt to enterprise value remain low. Hence it is expected that this ratio will increase up to 0.1 and then stabilize. This will yield a beta equal to 1.76, which is just above the higher bound of the 95% confidence interval (1.71).

Inputs	
Shares Outstanding	433 948 000
Market Value of Equity (in millions)	$135 519.75
Book Value of Debt (in millions)	$ 6 542.37
Net Operating Assets (in millions)	$142 062.13
Marginal tax rate	21%
Beta	1.7608
Historical Market Risk Premium	4.00%
Cost of Equity	9.89%
Cost of Debt	4.57%
Cost of Debt (after-tax)	3.61%
WACC	9.32%

Figure 20: WACC
Source: Company data, Analyst estimates

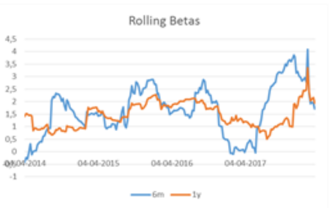


Figure 21: Rolling Betas
Source: Company data, Analyst graphs and results

Afterwards, the cost of debt was computed. Netflix has been increasingly financing its business activities by raising debt, and most of its issued notes are rated as B+ by the S&P (and B1 by Moody’s). Hence, to estimate the cost of debt the product between the probability of default of a B+ bond as estimated by S&P and the loss given default of a B1 bond as estimated by Moody’s was subtracted from the value of the yield to maturity of one of Netflix’s notes with a fixed coupon and a maturity of 10 years. These computations resulted in a cost of debt of 4.57%. Considering all these variables, the resulting WACC is 9.32%.

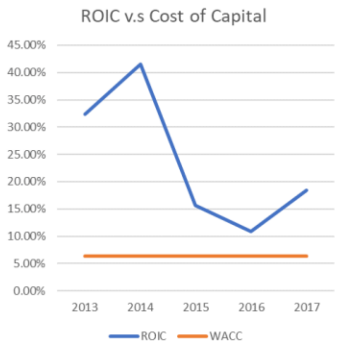
ROIC Analysis

Netflix is still at an early stage of development, as it only completed its global expansion in 2016 and it is still planning to enter the Chinese market.

[6] $WACC = \frac{D}{E+D} r_d \times (1-t) + \frac{E}{E+D} r_e$

[7] $CAPM: r_e = r_f + \beta_L \times (r_m - r_f)$

[8] Research suggests a value of market risk premium between 3.5% and 5.5%



Capital
Source: Company data, Analyst graphs and results

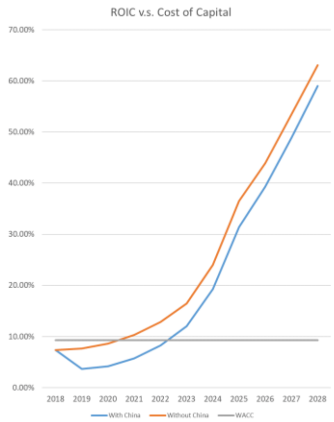


Figure 23: ROIC v.s. Cost of Capital
Source: Company data, Analyst graphs and forecasts

Additionally, since 2013 the company has started producing and licensing original content, so it is now operating as an entertainment producer in addition to distributer. Consequently, the ROIC for the period from 2013 until 2028 was analysed. For that, the WACC for the periods of 2013 until 2017 and from 2018 onward were both computed. Between 2013 and 2017 Netflix has carried out its international expansion, which required considerable investment. Nonetheless, its ROIC remains higher than the WACC every year, which shows that the international expansion has been increasing firm value.

In the case where Netflix doesn't launch its platform in China, the ROIC is lower than the cost of capital from 2018 until 2020. This can be explained by the fact that Netflix is significantly increasing its investment in original produced content that requires more upfront investment relative to its subsequent increase in cash flow. Consequently, this should not be interpreted as an investment that is destroying value for the firm, but rather one that is expected to provide its returns over a larger period of time. In fact, from 2021 until 2028 ROIC becomes higher than the cost of capital (and continuously increasing), which suggests that the previous investment will pay off and generate considerable value for Netflix.

Analysing the same period for the case including China yields analogous conclusions, with the difference that the ROIC remains lower than the cost of capital for two more years due to the effect of the increased investment for the international expansion.

After 2028 it is expected that Netflix will have a period of constant growth to consolidate its business. Observing the values of ROIC, IR and expected growth rate for the years 2027 and 2028, it seems that the expected growth rate of the company is stabilizing. Consequently, Netflix is projected to grow at an average rate of 9.85% per year until 2033 in the scenario where it doesn't enter China, and 12.2% per year for the same period otherwise.

From 2033 forward, Netflix is expected to grow at a perpetual growth rate of 3%, as this is the expected global economic growth rate.[9]

Recommendation

Applying the DCF method for the case without China the estimated Enterprise Value is $179 278 045.19. After subtracting the value of Net Debt the subsequent value of Equity is $175 484 481.06. Dividing this value by the number of shares outstanding (433 948 000) results in a target price for FY2018 of $404.39. Since Netflix is currently trading at $331.74, then the implied total expected return is 21.90%, which consists of a recommendation of a **Buy** position. Similarly, for the

[9] Forecasts retrieved from OECD

case where Netflix enters the chinese market in 2019 the Enterprise value is estimated at $190 668 016.15. Subtracting the value of Net Debt results in an Equity value of $186 874 452.15. Dividing this value by the number of shares outstanding will result in a share price of $430.64, which yields an expected return of 29.81%, and, consequently, a **Buy** recommendation.

Scenario Analysis

Netflix's performance is highly dependent on the number of memberhips and ARPU. Hence, it is relevant to compute a scenario analysis to understand how sensitive is the company's value to changes in the values of these variables. Two alternative scenarios were computed: a Bear case that represents the worst-case scenario, and a Bull case that represents a best case scenario. In the first case membership growth is 3% lower than in the Base case, and ARPU increases at growth rate 1% lower. This will still yield a ROIC rate above cost of capital from 2023 onward, and an expected growth rate of 9.6%. However, price target for FY2018 reduces to $240.48, yielding an expected return of negative 24.9%, and a subsequent Sell recommendation. On the other hand, in the Bull case membership growth is 3% higher relative to the Base case and ARPU will increase at a 1% higher growth rate. In this scenario, ROIC will become higher than cost of capital in 2021, yielding an expected growth rate of approximately 14%. As a result, the price target for FY2018 increases to $681.6, with an expected return of approximately 113% that represents a Buy recommendation. Considering the significant discrepancy in the target prices of each scenario, it is clear that small changes in the growth rates of memberships and ARPU will result in substantial differences in value creation for Netflix.

Bull Case

	2018	2019	2026	2027	2028
ROIC	7.39%	7.65%	45.88%	55.80%	65.79%
IR	1616.81%	1610.32%	241.13%	202.78%	173.10%
G	19.50%	23.25%	10.64%	13.15%	13.88%
Value per share	$ **681.59**				
Expected Return	112.94%				

Figure 24: Bull Case Scenario
Source: Company data, Analyst forecasts

Bear Case

	2018	2019	2026	2027	2028
ROIC	7.39%	7.69%	41.89%	51.03%	60.28%
IR	1479.70%	1496.10%	245.35%	206.02%	175.66%
G	9.30%	15.00%	2.77%	5.14%	5.90%
Value per share	$ **240.48**				
Expected Return	-24.87%				

Figure 25: Bear Case Scenario
Source: Company data, Analyst forecasts

Appendix

Financial Statements

Income Statment	2017	2018E	2019E	2020E	2021E	2022E
Revenues						
Domestic	$ 6 153 025.00	$ 7 202 174.98	$ 8 353 576.81	$ 9 600 161.29	$ 10 930 615.34	$ 12 329 139.89
International	$ 5 089 191.00	$ 6 788 325.71	$ 9 331 540.65	$ 12 925 112.45	$ 18 032 408.09	$ 25 375 046.28
Domestic DVD	$ 450 497.00	$ 383 688.29	$ 326 787.32	$ 278 324.76	$ 237 049.20	$ 201 894.80
China	-	-	$ 771 604.90	$ 1 083 533.19	$ 1 521 561.33	$ 2 136 666.32
Total Revenues	**$ 11 692 713.00**	**$ 14 374 188.98**	**$ 18 783 509.68**	**$ 23 887 131.69**	**$ 30 721 633.95**	**$ 40 042 747.29**
Cost of Revenues						
Domestic	$ 3 319 230.00	$ 3 849 179.79	$ 4 422 774.99	$ 5 034 774.42	$ 5 677 873.79	$ 6 342 687.27
International	$ 4 137 911.00	$ 5 349 732.49	$ 7 120 696.60	$ 9 539 745.61	$ 12 858 519.73	$ 17 460 019.87
Domestic DVD	$ 202 525.00	$ 162 898.34	$ 130 570.83	$ 104 249.06	$ 82 862.69	$ 65 526.78
China	-	-	$ 925 925.88	$ 1 235 227.84	$ 1 643 286.23	$ 2 179 399.64
Total Cost of Revenues	**$ 7 659 666.00**	**$ 9 361 810.62**	**$ 12 599 968.31**	**$ 15 913 996.93**	**$ 20 262 542.44**	**$ 26 047 633.57**
Marketing						
Domestic	$ 553 331.00	$ 648 195.75	$ 751 821.91	$ 777 613.06	$ 885 379.84	$ 998 660.33
International	$ 724 691.00	$ 1 344 088.49	$ 1 847 645.05	$ 2 559 172.26	$ 3 390 092.72	$ 4 516 758.24
Domestic DVD	-	-	-	-	-	-
China	-	-	$ 152 777.77	$ 214 539.57	$ 286 053.53	$ 380 326.60
Total Marketing Costs	**$ 1 278 022.00**	**$ 1 992 284.24**	**$ 2 752 244.73**	**$ 3 551 324.90**	**$ 4 561 526.09**	**$ 5 895 745.17**
Technology and Development	$ 1 052 778.00	$ 1 365 547.95	$ 1 784 433.42	$ 2 269 277.51	$ 2 918 555.23	$ 3 804 060.99
General and Administrative	$ 863 568.00	$ 963 070.66	$ 1 258 495.15	$ 1 600 437.82	$ 2 058 349.47	$ 2 682 864.07
Operating Income (Before Taxes)	$ 838 679.00	$ 691 475.51	$ 388 368.08	$ 552 094.53	$ 920 660.72	$ 1 612 443.49
Taxes	$ 171 807.50	$ 141 652.14	$ 79 559.10	$ 113 099.27	$ 188 601.85	$ 330 316.94
Operating Income (After Taxes)	**$ 666 871.50**	**$ 549 823.37**	**$ 308 808.98**	**$ 438 995.26**	**$ 732 058.86**	**$ 1 282 126.55**

Balance Sheet	2017	2018E	2019E	2020E	2021E	2022E
Operating Assets						
Working Cash	$ 175.390,70	$ 215.612,83	$ 270.178,57	$ 342.053,98	$ 438.001,09	$ 568.591,21
Current Content Assets (net)	$ 4.310.934,00	$ 5.155.813,48	$ 6.280.490,43	$ 7.723.248,67	$ 9.597.641,12	$ 12.080.119,21
Other Current Assets	$ 536.245,00	$ 517.470,80	$ 648.428,57	$ 820.929,55	$ 1.051.202,61	$ 1.364.618,91
Non-Current Content Assets (net)	$ 10.371.055,00	$ 13.102.282,89	$ 16.863.361,47	$ 21.915.767,62	$ 28.790.291,22	$ 38.319.548,98
Other Non-Current Assets	$ 652.309,00	$ 661.212,69	$ 828.547,62	$ 1.048.965,53	$ 1.343.203,34	$ 1.743.679,72
Property and Equipment (net)	$ 319.404,00	$ 325.792,08	$ 332.307,92	$ 338.954,08	$ 345.733,16	$ 352.647,82
Total Operating Assets	$ 16.365.337,70	$ 19.978.184,78	$ 25.223.314,58	$ 32.189.919,42	$ 41.566.072,55	$ 54.429.205,88
Operating Liabilities						
Current Content Liabilities	$ 4.173.041,00	$ 5.417.523,32	$ 7.148.789,03	$ 9.506.648,07	$ 12.757.291,29	$ 17.319.002,24
Accounts Payable	$ 359.555,00	$ 487.327,13	$ 607.689,88	$ 764.100,31	$ 969.221,56	$ 1.242.456,01
Accrued Expenses	$ 315.094,00	$ 344.980,54	$ 432.285,71	$ 547.286,36	$ 700.801,74	$ 909.745,94
Defered Revenue	$ 618.622,00	$ 747.457,83	$ 936.619,05	$ 1.185.787,12	$ 1.518.403,78	$ 1.971.116,21
Non-Current Content Liabilities	$ 3.329.796,00	$ 4.380.897,94	$ 5.849.822,01	$ 7.862.117,80	$ 10.651.465,62	$ 14.585.324,16
Other Non-Current Liabilities	$ 135.246,00	$ 100.619,32	$ 126.083,33	$ 159.625,19	$ 204.400,51	$ 265.342,57
Total Operating Liabilities	$ 8.931.354,00	$ 11.478.806,07	$ 15.101.289,02	$ 20.025.564,85	$ 26.801.584,50	$ 36.292.987,13
Net Operating Assets	$ 7.433.983,70	$ 8.499.378,71	$ 10.122.025,56	$ 12.164.354,57	$ 14.764.488,05	$ 18.136.218,75

Free Cash Flow					
Year	Operational Result	Investment in Net Working Capital	Investment in Gross CAPEX	Total Investment	FCF
2017	$ 816 619.70	$ -2 878 675.44	$ -69 009.00	$ -2 947 684.44	$ -2 131 064.74
2018	$ 549 823.37	$ -1 059 006.94	$ -6 388.08	$ -1 065 395.02	$ -515 571.65
2019	$ 652 390.18	$ -1 616 131.01	$ -6 515.84	$ -1 622 646.85	$ -970 256.67
2020	$ 869 778.32	$ -2 035 682.84	$ -6 646.16	$ -2 042 329.00	$ -1 172 550.69
2021	$ 1 252 299.54	$ -2 593 354.41	$ -6 779.08	$ -2 600 133.49	$ -1 347 833.95
2022	$ 1 893 752.06	$ -3 364 816.03	$ -6 914.66	$ -3 371 730.70	$ -1 477 978.64
2023	$ 2 982 282.53	$ -1 966 201.80	$ -7 052.96	$ -1 973 254.75	$ 1 009 027.78
2024	$ 4 827 789.70	$ -1 671 509.92	$ -7 194.02	$ -1 678 703.94	$ 3 149 085.77
2025	$ 7 960 812.78	$ -3 545 643.31	$ -7 337.90	$ -3 552 981.20	$ 4 407 831.58

Disclosures and Disclaimers

Report Recommendations

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

This report was prepared by [*insert student's name*], a Master in Finance student of Nova School of Business & Economics ("Nova SBE"), within the context of the Field Lab – Equity Research.

This report is issued and published exclusively for academic purposes, namely for academic evaluation and masters graduation purposes, within the context of said Field Lab – Equity Research. It is not to be construed as an offer or a solicitation of an offer to buy or sell any security or financial instrument.

This report was supervised by a Nova SBE faculty member, acting merely in an academic capacity, who revised the valuation methodology and the financial model.

Given the exclusive academic purpose of the reports produced by Nova SBE students, it is Nova SBE understanding that Nova SBE, the author, the present report and its publishing, are excluded from the persons and activities requiring previous registration from local regulatory authorities. As such, Nova SBE, its faculty and the author of this report have not sought or obtained registration with or certification as financial analyst by any local regulator, in any jurisdiction. In Portugal, the author of this report is not registered with or qualified under COMISSÃO DO MERCADO DE VALORES MOBILIÁRIOS ("CMVM", the Portuguese Securities Market Authority) as a financial analyst. No approval for publication or distribution of this report was required and/or obtained from any local authority, given the exclusive academic nature of the report.

The additional disclaimers also apply:

USA: Pursuant to Section 202 (a) (11) of the Investment Advisers Act of 1940, neither Nova SBE nor the author of this report are to be qualified as an investment adviser and, thus, registration with the Securities and Exchange Commission ("SEC", United States of America's securities market authority) is not necessary. Neither the author nor Nova SBE receive any compensation of any kind for the preparation of the reports.

Germany: Pursuant to §34c of the WpHG (*Wertpapierhandelsgesetz*, i.e., the German Securities Trading Act), this entity is not required to register with or otherwise notify the *Bundesanstalt für*

Finanzdienstleistungsaufsicht ("BaFin", the German Federal Financial Supervisory Authority). It should be noted that Nova SBE is a fully-owned state university and there is no relation between the student's equity reports and any fund raising programme.

UK: Pursuant to section 22 of the Financial Services and Markets Act 2000 (the "FSMA"), for an activity to be a regulated activity, it must be carried on "by way of business". All regulated activities are subject to prior authorization by the Financial Conduct Authority ("FCA"). However, this report serves an exclusively academic purpose and, as such, was not prepared by way of business. The author - a Masters' student - is the **sole and exclusive responsible** for the information, estimates and forecasts contained herein, and for the opinions expressed, which exclusively reflect his/her own judgment at the date of the report. Nova SBE and its faculty have no single and formal position in relation to the most appropriate valuation method, estimates or projections used in the report and may not be held liable by the author's choice of the latter.

The information contained in this report was compiled by students from public sources believed to be reliable, but Nova SBE, its faculty, or the students make no representation that it is accurate or complete, and accept no liability whatsoever for any direct or indirect loss resulting from the use of this report or of its content.

Students are free to choose the target companies of the reports. Therefore, Nova SBE may start covering and/or suspend the coverage of any listed company, at any time, without prior notice. The students or Nova SBE are not responsible for updating this report, and the opinions and recommendations expressed herein may change without further notice.

The target company or security of this report may be simultaneously covered by more than one student. Because each student is free to choose the valuation method, and make his/her own assumptions and estimates, the resulting projections, price target and recommendations may differ widely, even when referring to the same security. Moreover, changing market conditions and/or changing subjective opinions may lead to significantly different valuation results. Other students' opinions, estimates and recommendations, as well as the advisor and other faculty members' opinions may be inconsistent with the views expressed in this report. Any recipient of this report should understand that statements regarding future prospects and performance are, by nature, subjective, and may be fallible.

This report does not necessarily mention and/or analyze all possible risks arising from the investment in the target company and/or security, namely the possible exchange rate risk resulting from the security being denominated in a currency either than the investor's currency, among many other risks.

The purpose of publishing this report is merely academic and it is not intended for distribution among private investors. The information and opinions expressed in this report are not intended to be available to any person other than Portuguese natural or legal persons or persons domiciled in Portugal. While preparing this report, students did not have in consideration the specific investment objectives, financial situation or particular needs of any specific person. Investors should seek financial advice regarding the appropriateness of investing in any security, namely in the security covered by this report.

The author hereby certifies that the views expressed in this report accurately reflect his/her personal opinion about the target company and its securities. He/ She has not received or been promised any direct or indirect compensation for expressing the opinions or recommendation included in this report.

[If applicable, it shall be added: *"While preparing the report, the author may have performed an internship (remunerated or not) in* [insert the Company's name]. *This Company may have or have had an interest in the covered company or security"* and/ or *"A draft of the reports have been shown to the covered company's officials (Investors Relations Officer or other), mainly for the purpose of correcting inaccuracies, and later modified, prior to its publication."]*

The content of each report have been shown or made public to restricted parties prior to its publication in Nova SBE's website or in Bloomberg Professional, for academic purposes such as its distribution among faculty members for students' academic evaluation.

Nova SBE is a state-owned university, mainly financed by state subsidies, students tuition fees and companies, through donations, or indirectly by hiring educational programs, among other possibilities. Thus, Nova SBE may have received compensation from the target company during the last 12 months, related to its fund raising programs, or indirectly through the sale of educational, consulting or research services. Nevertheless, no compensation eventually received by Nova SBE is in any way related to or dependent on the opinions expressed in this report. The Nova School of Business and Economics does not deal for or otherwise offer any investment or intermediation services to market counterparties, private or intermediate customers.