An Investment Analysis Case Study

This case is a group project that is due on March 30 before 10.30 am

Stating the obvious: Each group will turn in one report (sounds obvious, but might as well make it explicit) **electronically (as a pdf file).** While you should include your cash flows tables in your report, you don't have to attach any excel spreadsheets.

Cover page: Each report should have a cover page that contains the following – the names of the group members in alphabetical order and the following summary information on the analysis:

1. Decision on Investment: Invest or Do not invest
2. Cost of capital: % value
3. Return on capital: % value
4. NPV – 10-year life: $ value
5. NPV- Longer life: $ value

Report format: Please try to keep your report brief. In the report, be clear about:

a. Any assumptions you made to get to your conclusion
b. Your final recommendation

Exhibits: Please make sure that you include the following in your exhibits

a. The table of earnings/cash flows by year, <u>with line item details</u>.
b. Your computation of cost of equity/capital/discount rate

Time: To keep time straight, you can assume the following:

Next year: Year 1

Most recent year: Just ended

Right now: Time 0. Any "up front" expenditure is incurred immediately.

Netflix's Content Play

The Setting

Netflix has disrupted the entertainment business, offering its paying subscribers access to movies and TV shows, originally as rental DVDs, but increasingly as streaming content. Under Reed Hastings, its founder and CEO, the company has grown in leaps and bounds, albeit with a few hiccups along the way. The company's growth in operations is captured in its income statements in exhibit 1 and its stock price (and market capitalization) movements are in exhibit 2. In exhibit 3, you can see the evolution of Netflix's balance sheet over the last two years.

While Netflix historically has depended on content produced by others, it is facing the consequences of its own success. As movie studios and TV show producers raise the price that Netflix has to pay to acquire the rights to their content, Netflix has started developing its own content, with The *House of Cards* and *Orange is the New Black* as standout examples. As Netflix also attempts to attract more international subscribers, the company is looking for a faster path to creating content, especially aimed at its overseas audience.

The Proposal

Netflix is considering developing <u>its own movie and TV studio, located in Mumbai, India</u>. This studio, if developed, will produce TV shows of varying lengths and movies, that will be offered outside the US. The content will be offered to both regular overseas subscribers and to a new class of studio subscribers, who will pay lower fees to access just studio content. You have been asked to collect the data to make the assessment and have come back with the following information:

1. <u>R&D Expenses</u>: Netflix has <u>already spent (and expensed)</u> $ 150 million on research on the content business. None of that money can be recouped at this stage, if Netflix decides not to go ahead with the content investment.
2. <u>Introductory Costs</u>; If Netflix decides to go ahead with the studio investment, it will have to spend <u>$1 billion up front (right now)</u> in infrastructure. The cost is depreciable over the next 10 years, down to a salvage value of $ 200 million, and Netflix expects to use <u>straight-line depreciation</u>.

3. Market Potential and Share: With the new studio in place, Netflix expects to be able to accelerate its overseas subscriber growth. In 2015, Netflix had 45 million US subscribers and 30 million international subscribers, and here are the best estimates for future growth, with and without the studio investment. The new studio has the capacity to serve the new subscribers for the next ten years but will be at full capacity by the end of the tenth year.

	Without Studio Investment	*With Studio investment*
US Subscribers	3% annually for next 10 years	3% annually for next 10 years
International Subscribers	5% annually for next 10 years	8% annually for next 10 years

4. Pricing and Unit Costs: Each subscriber (both domestic and international) now pays $100/year for the basic subscription and this cost is expected to grow at the inflation rate for both domestic and international subscribers, each year for the next 10 years. The cost of servicing each subscriber currently is $36/year for a domestic subscriber and $48/year for an international subscriber and those costs are also expected to grow at the inflation rate each year.
5. Studio subscriptions: If the new studio is built, Netflix expects to offer a studio subscription service, which will be priced at half of the regular subscription price. This service will be offered only to international subscribers and it is anticipated that it will attract 5 million subscribers in year 1, growing at 8% a year for the following 9 years. The cost of servicing each studio subscriber will be 60% of the cost of servicing an international subscriber.
6. Geographical breakdown: The revenue breakdown for Netflix on its international sales, by region, is as follows

Region	*% of Revenues*
Africa	5.00%
Asia	50.00%
Australia & New Zealand	10.00%
Central and South America	10.00%
Eastern Europe & Russia	5.00%
Middle East	5.00%

Western Europe	15.00%

Netflix expects any growth in international subscriptions to reflect this breakdown. The regional country risk premiums (over and above the mature market premium) are provided in exhibit 4. You can assume that the premium for mature markets (Aaa rated countries) is 6%.

7. Server Facilities and Costs: Netflix currently uses a server in Singapore to deliver streaming videos to its international subscribers. Netflix used only 65% of the facility in the most recent year but that usage is expected to keep track with the number of international subscribers (not including studio subscribers) over time. If the capacity limit is reached, Netflix will have to invest a substantial amount to create a new server of equivalent capacity. The current estimate of the cost of buying a new server is $600 million, but this cost will grow at the inflation rate.
8. G&A expenses: Netflix's accountants will allocate 10% of its existing general and administrative costs to the new studio. These costs total $ 400 million for the entire firm in the most recent year and are expected to grow 5% a year for the next 10 years, with or without the new studio. *It is expected that Netflix Studio will cause an increase of $ 40 million in general and administrative costs next year when the new studio is operational, and this amount will grow at 10% a year for the next ten years.* The latter cost is directly related to the new studio investment. (Note that the accountants are allocating the existing G&A to Netflix instead of expensing the incremental G&A).
9. Advertising Expenses: Netflix spent $ 500 million on advertising in the most recent year. If it does not invest in the new studio, it expects this cost to increase 5% a year for the next 10 years. If the new studio is built, the total advertising expenses each year, from years 1 to 10, are expected to be 15% higher than they would have been without the studio investment.
10. Working Capital: The new studio will create working capital needs, which you have estimated as follows:
    - The new subscription services will create accounts receivable amounting to 5% of revenues each year.

- Inventory (of movies-in-production) will be approximately 10% of revenues each year.
- Accounts payable will be 6% of the revenues each year.

All of these working capital investments will have to be made at the beginning of each year in which goods are sold. Thus, the working capital investment for the first year will have to be made at the beginning of the first year.

11. Side Benefits: As a potential side benefit, Netflix will be able to use its international studio to cut costs of its US-based shows by moving some of the editing and development work to the international studio. That cost savings in US operations is expected to amount to $30 million (pre-tax) in the first year and increase at 3% a year for the next ten years.
12. Risk Measures: The beta for Netflix is 1.74, calculated using weekly returns over the last 2 years and against the S&P 500 Index and 1.75 against the MSCI Global Index (see exhibit 5) and you can assume that it reflects Netflix's historical business of streaming and video rental subscriptions. The current stock price for the firm is $ 87.50/share and there are 428.08 million shares outstanding.
13. Debt Choices: Netflix plans to finance the studio using the same mix of debt and equity (in market value terms) as it is using currently in the rest of its business. Netflix currently has $2.371 billion in book value of interest bearing debt (with a weighted average maturity of 5 years and interest expenses of $132.7 million) and it reports the following contractual commitments for the future for operating leases and movie/TV content:

	Commitments	
	Lease	*Content*
Last year	$35.00	$3,405.00
2016	$42.37	$4,703.17
2017	$55.24	$2,624.57
2018	$58.44	$2,624.57
2019	$53.22	$445.93
2020	$51.91	$445.93
After 2020	$269.33	$58.05

Netflix was rated BB+ and the default spread for companies with that rating is 3%.

14. Taxes: Netflix's effective tax rate in the past has ranged from 5% to 45% and its marginal tax rate is 40%.
15. Macro data: The current ten-year US Treasury bond rate is 2.0%, and the expected inflation rate is 1.5%.
16. Other information: You have collected information on other movie content companies in Exhibit 6. The data includes the regression betas of these companies and relevant information on market values of debt, equity and cash. You can assume a 40% marginal tax rate for these firms, as well. (You can also assume that the debt includes the present value of operating leases).

Questions on the Project

1. Accounting Return Analysis

- Estimate the operating income from the proposed studio investment to Netflix over the next 10 years.
- Estimate the after-tax return on capital for the investment over the 10-year period.
- Based upon the after-tax return on capital, would you accept or reject this project?

This will require you to make some assumptions about allocation and expensing. Make your assumptions as consistent as you can and estimate the return on capital.

2. Cash Flow Analysis

- Estimate the after-tax incremental cash flows from the proposed studio investment to Netflix over the next 10 years.
- If the project is terminated at the end of the 10th year, and both working capital and investment in other assets can be sold for book value at the end of that year, estimate the net present value of this project to Netflix. Develop a net present value profile and estimate the internal rate of return for this project.
- If the studio is expected to have a <u>life much longer than 10 years</u>, estimate the net present value of this project, making <u>reasonable assumptions</u> about investments needed and cash flows.

3. Sensitivity Analysis

- Estimate the sensitivity of your numbers to changes in at least three of the key assumptions underlying the analysis (You get to pick what you think are the three key assumptions).

Based upon your analysis, and any other considerations you might have, tell me whether you would accept this project or reject it. Explain, briefly, your decision.

Exhibit 1: Netflix's Income Statements (in '000s)

CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Year ended December 31,		
	2015	2014	2013
Revenues	$ 6,779,511	$ 5,504,656	$ 4,374,562
Cost of revenues	4,591,476	3,752,760	3,117,203
Marketing	824,092	607,186	469,942
Technology and development	650,788	472,321	378,769
General and administrative	407,329	269,741	180,301
Operating income	305,826	402,648	228,347
Other income (expense):			
Interest expense	(132,716)	(50,219)	(29,142)
Interest and other income (expense)	(31,225)	(3,060)	(3,002)
Loss on extinguishment of debt	—	—	(25,129)
Income before income taxes	141,885	349,369	171,074
Provision for income taxes	19,244	82,570	58,671
Net income	$ 122,641	$ 266,799	$ 112,403
Earnings per share:			
Basic	$ 0.29	$ 0.63	$ 0.28
Diluted	$ 0.28	$ 0.62	$ 0.26
Weighted-average common shares outstanding:			
Basic	425,889	420,544	407,385
Diluted	436,456	431,894	425,327

Exhibit 2: Netflix – Stock Prices

Exhibit 3: Netflix Balance Sheets

CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)

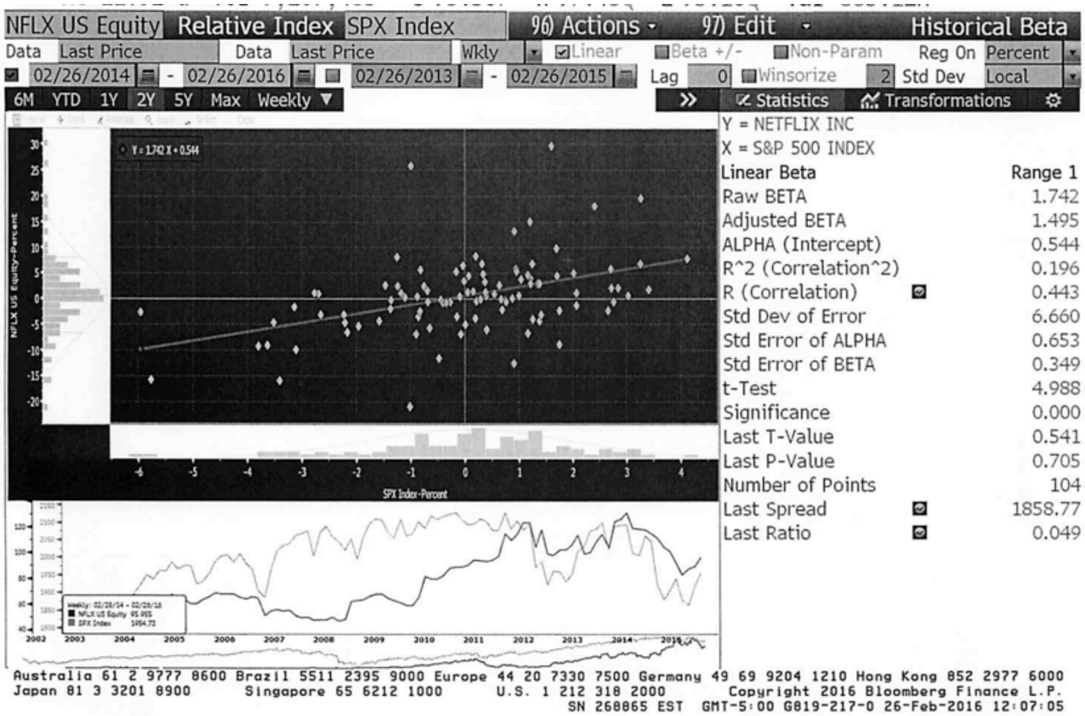
	As of December 31,	
	2015	2014
Assets		
Current assets:		
Cash and cash equivalents	$ 1,809,330	$ 1,113,608
Short-term investments	501,385	494,888
Current content assets, net	2,905,998	2,166,134
Other current assets	215,127	152,423
Total current assets	5,431,840	3,927,053
Non-current content assets, net	4,312,817	2,773,326
Property and equipment, net	173,412	149,875
Other non-current assets	284,802	192,246
Total assets	$ 10,202,871	$ 7,042,500
Liabilities and Stockholders' Equity		
Current liabilities:		
Current content liabilities	$ 2,789,023	$ 2,117,241
Accounts payable	253,491	201,581
Accrued expenses	140,389	69,746
Deferred revenue	346,721	274,586
Total current liabilities	3,529,624	2,663,154
Non-current content liabilities	2,026,360	1,575,832
Long-term debt	2,371,362	885,849
Other non-current liabilities	52,099	59,957
Total liabilities	7,979,445	5,184,792
Commitments and contingencies (Note 6)		
Stockholders' equity:		
Preferred stock, $0.001 par value; 10,000,000 shares authorized at December 31, 2015 and 2014; no shares issued and outstanding at December 31, 2015 and 2014	—	—
Common stock, $0.001 par value; 4,990,000,000 and 160,000,000 shares authorized at December 31, 2015 and December 31, 2014, respectively; 427,940,440 and 422,910,887 issued and outstanding at December 31, 2015 and December 31, 2014, respectively	1,324,809	1,042,870
Accumulated other comprehensive loss	(43,308)	(4,446)
Retained earnings	941,925	819,284
Total stockholders' equity	2,223,426	1,857,708
Total liabilities and stockholders' equity	$ 10,202,871	$ 7,042,500

Exhibit 4: Country Risk Premiums by region (over and above the mature market premium)

Region	*Country Risk Premium (GDP Weighted Average)*
Africa	5.97%
Asia	1.54%
Australia & New Zealand	0.00%
Central and South America	4.58%
Eastern Europe & Russia	3.78%
Middle East	1.15%
North America	0.00%
Western Europe	1.20%

Exhibit 5: Netflix's Beta

Regression against S&P 500



Regression against MSCI (World Equities)

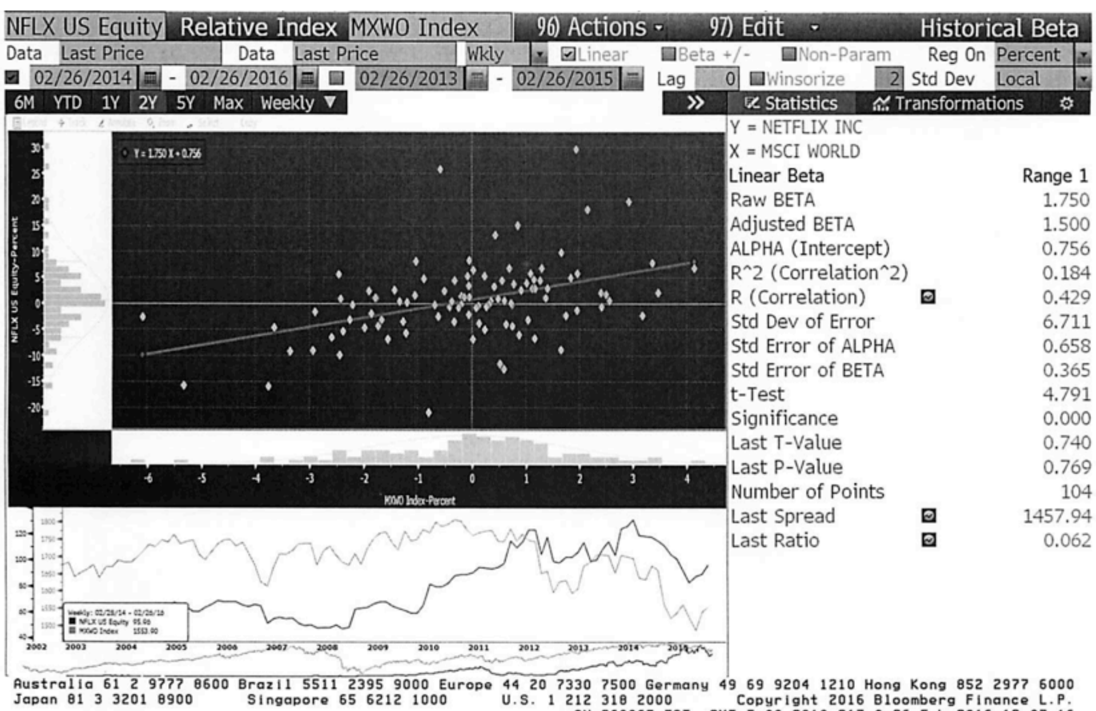


Exhibit 6: Movie Companies

The data includes all publicly traded movie companies. [Click on this link] to get the data in an excel spreadsheet.

Company Name	Beta	Market Capitalization	Total Debt (inclduing leases)	Cash & ST Investments
Channel Nine Entertainment Limited (BSE:535142)	1.31	$107.30	$-	$0.04
Pili International Multimedia Co., Ltd (GTSM:8450)	0.96	$108.00	$1.76	$37.50
Demeter Corporation Public Company Limited (SET:DCORP)	1.22	$109.20	$4.74	$4.48
Bingo Group Holdings Limited (SEHK:8220)	1.24	$114.40	$2.49	$17.20
Imagi international holdings ltd. (SEHK:585)	1.14	$121.80	$-	$92.80
Broccoli Co., Ltd. (JASDAQ:2706)	1.04	$123.20	$0.43	$15.50
Chorokbaem Media Co., Ltd. (KOSDAQ:A047820)	0.92	$124.20	$2.69	$7.80
mm2 Asia Ltd. (Catalist:41C)	1.24	$141.50	$0.22	$4.25
Media Asia Group Holdings Limited (SEHK:8075)	1.17	$142.90	$31.30	$93.10
EuropaCorp (ENXTPA:ECP)	1.11	$148.70	$169.10	$77.80
Hong Kong Television Network Limited (SEHK:1137)	0.78	$149.80	$103.40	$143.60
MONDO TV S.p.A. (BIT:MTV)	1.84	$155.40	$4.87	$0.51
GMM Grammy Public Company Limited (SET:GRAMMY)	1.33	$163.30	$133.70	$61.90
Sri Adhikari Brothers Television Network Limited (BSE:530943)	0.98	$165.80	$33.50	$1.42
Eros International Media Limited (NSEI:EROSMEDIA)	0.98	$175.00	$78.60	$27.10
Pegasus Entertainment Holdings Limited (SEHK:1326)	1.00	$175.20	$14.50	$13.80
FNC Entertainment Co., Ltd. (KOSDAQ:A173940)	1.09	$178.20	$0.32	$50.80
Constantin Medien AG (XTRA:EV4)	1.11	$181.10	$212.60	$90.90
Orange Sky Golden Harvest Entertainment Holdings Limited (SEHK:1132)	1.40	$193.90	$97.40	$52.40
China 3D Digital Entertainment Limited (SEHK:8078)	1.08	$194.70	$8.78	$3.24
Keyeast Co,.LTD (KOSDAQ:A054780)	0.91	$196.80	$1.51	$25.30
Cheung Wo International Holdings Limited (SEHK:9)	1.33	$229.30	$77.70	$7.96
Gaumont SA (ENXTPA:GAM)	1.38	$241.20	$250.00	$35.00

Tohokushinsha Film Corporation (JASDAQ:2329)	1.03	$241.30	$60.20	$291.70
Highlight Communications AG (XTRA:HLG)	1.38	$258.40	$94.60	$58.30
Sotsu Co.,Ltd. (JASDAQ:3711)	0.80	$275.30	$-	$127.20
RS Public Company Limited (SET:RS)	0.98	$284.80	$0.36	$21.10
Lajin Entertainment Network Group Limited (SEHK:8172)	1.00	$286.20	$-	$22.70
AMUSE Inc. (TSE:4301)	0.64	$313.90	$0.16	$103.00
Showbox Corp. (KOSDAQ:A086980)	0.92	$365.50	$-	$26.40
Corporación Interamericana de Entretenimiento, SAB de CV (BMV:CIE B)	1.11	$384.60	$133.40	$122.00
Eros International Plc (NYSE:EROS)	1.84	$392.10	$334.00	$153.70
Workpoint Entertainment Public Company Limited (SET:WORK)	0.94	$441.90	$20.70	$35.30
YG Entertainment Inc. (KOSDAQ:A122870)	0.96	$451.20	$55.40	$201.00
PVR Limited (BSE:532689)	1.16	$478.10	$119.50	$4.12
Avex Group Holdings Inc. (TSE:7860)	1.38	$495.20	$85.00	$214.20
Mei Ah Entertainment Group Limited (SEHK:391)	1.17	$510.30	$6.86	$6.97
Poly Culture Group Corporation Limited (SEHK:3636)	1.07	$549.20	$16.10	$252.50
Toei Animation Co. Ltd. (JASDAQ:4816)	1.40	$563.80	$-	$151.20
Network18 Media & Investments Limited (BSE:532798)	0.92	$589.90	$165.30	$66.70
Digital Domain Holdings Limited (SEHK:547)	1.12	$598.50	$52.80	$18.20
Village Roadshow Limited (ASX:VRL)	0.93	$609.00	$387.00	$73.40
DHX Media Ltd. (TSX:DHX.B)	1.27	$629.10	$281.00	$34.40
S.M. Entertainment Co., Ltd. (KOSDAQ:A041510)	1.16	$676.30	$14.10	$88.30
Major Cineplex Group Public Company Limited (SET:MAJOR)	0.95	$694.80	$129.80	$8.66
Bona Film Group Limited (NasdaqGS:BONA)	1.18	$875.50	$276.00	$97.20
Entertainment One Ltd. (LSE:ETO)	0.99	$885.30	$573.60	$105.90
China Television Media, Ltd. (SHSE:600088)	0.69	$928.30	$-	$111.80
Toei Co., Ltd. (TSE:9605)	1.07	$986.80	$206.00	$266.90
Shochiku Co., Ltd. (TSE:9601)	0.69	$1,195.70	$705.30	$175.10
Zhejiang Talent Television & Film Company Limited (SZSE:300426)	0.80	$1,271.90	$52.30	$12.20
World Wrestling Entertainment Inc. (NYSE:WWE)	1.41	$1,277.40	$21.60	$102.40
SMI Holdings Group Limited (SEHK:198)	0.99	$1,372.00	$187.60	$26.80

IMAX Corporation (NYSE:IMAX)	1.20	$2,041.80	$29.70	$317.40
DreamWorks Animation SKG Inc. (NasdaqGS:DWA)	1.11	$2,150.30	$360.00	$110.80
Beijing Hualu Baina Film &TV Inc. (SZSE:300291)	0.77	$2,186.80	$29.70	$55.60
Technicolor SA (ENXTPA:TCH)	1.14	$2,493.50	$1,404.30	$418.10
Visual China Group Co., Ltd. (SZSE:000681)	1.02	$2,585.70	$-	$45.70
Zhejiang Huace Film & TV Co., Ltd. (SZSE:300133)	0.80	$2,995.40	$115.00	$100.20
Lions Gate Entertainment Corp. (NYSE:LGF)	1.19	$3,095.80	$1,315.10	$102.70
DMG Entertainment and Media Co., Ltd. (SZSE:002143)	1.06	$3,635.10	$65.50	$20.70
Beijing Enlight Media Co., Ltd. (SZSE:300251)	1.28	$4,175.50	$161.00	$106.00
Toho Co. Ltd. (TSE:9602)	1.10	$4,507.10	$2.69	$125.30
Huayi Brothers Media Corporation (SZSE:300027)	1.41	$4,804.80	$383.20	$294.90
Alibaba Pictures Group Limited (SEHK:1060)	1.36	$5,223.70	$-	$853.10