

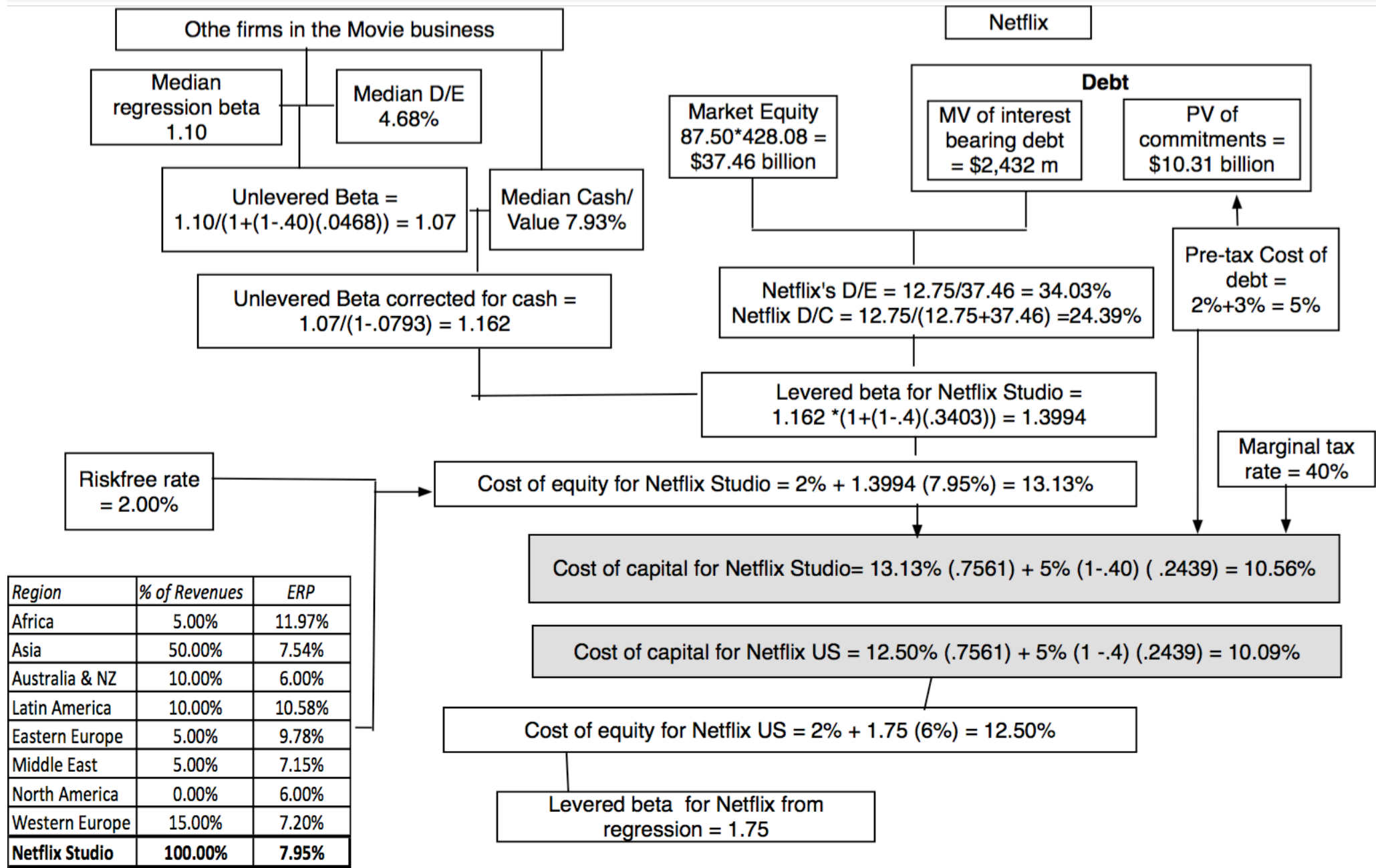


Netflix Studio : “My” Analysis,
Not necessarily “the” analysis

Aswath Damodaran

Executive Summary

- The cost of capital for the cash flows from the studio, reflecting its risk (content production) and its focus (international) is 10.56%. The cost of capital for cost savings in the US, reflecting its risk and focus is 10.09%.
- This project is a good project even without the side benefits of cost savings and becomes even better if you include those benefits.
 - The average return on capital, in the finite life case, is 27.94%, without counting synergy, and is 30.67%, with the cost savings counted in.
 - The net present value of the cash flows the studio, using the 10.56% cost of capital
 - Is \$386.22 million, under the finite life assumption of a of 10 years. Adding the present value of cost savings adds \$123.42 million to that NPV yielding a total NPV of \$509.64 million
 - Is \$1888.19 million, under the assumption of an infinite life. Adding the present value of cost savings adds \$228.01 million to that NPV to yield a total NPV of \$2,116.20 billion
 - The IRR exceeds the cost of capital in both cases.
- I would accept the studio investment. Not only does it generate added value on a stand alone basis, but Netflix could use the added subscriber base to find ways to augment value in the future.

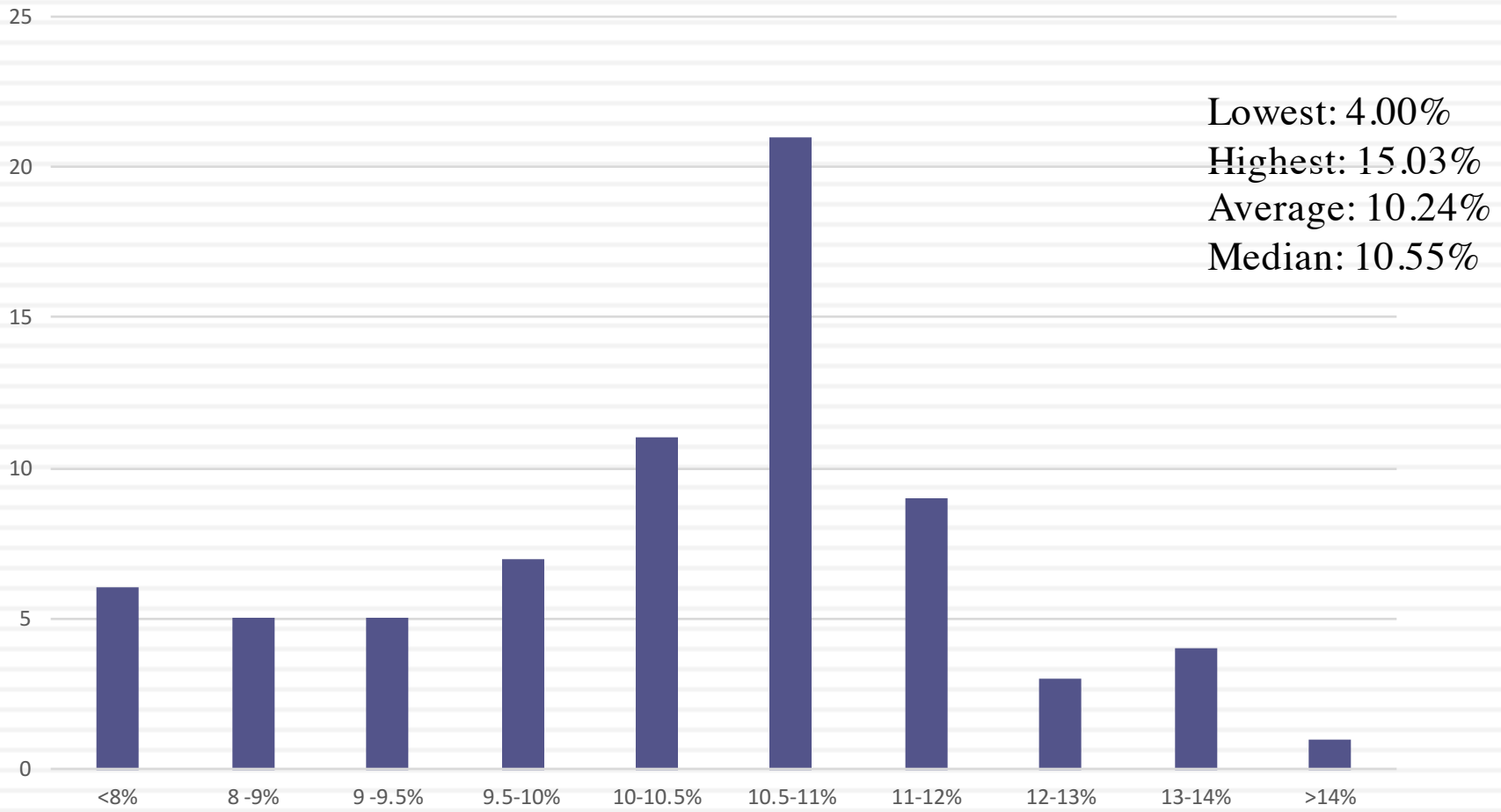


Region	% of Revenues	ERP
Africa	5.00%	11.97%
Asia	50.00%	7.54%
Australia & NZ	10.00%	6.00%
Latin America	10.00%	10.58%
Eastern Europe	5.00%	9.78%
Middle East	5.00%	7.15%
North America	0.00%	6.00%
Western Europe	15.00%	7.20%
Netflix Studio	100.00%	7.95%

Netflix Studio

Your findings on cost of capital

Cost of Capital - Netflix Studios



Netflix Studio: Setting the table

Year	0	1	2	3	4	5	6	7	8	9	10
Domestic Subscribers - no studio	45.00	46.35	47.74	49.17	50.65	52.17	53.73	55.34	57.00	58.71	60.48
Domestic Subscribers - with studio	45.00	46.35	47.74	49.17	50.65	52.17	53.73	55.34	57.00	58.71	60.48
International Subscribers - no studio	30.00	31.50	33.08	34.73	36.47	38.29	40.20	42.21	44.32	46.54	48.87
International Subscriber - studio	30.00	32.40	34.99	37.79	40.81	44.08	47.61	51.41	55.53	59.97	64.77
Studio Subscribers	0.00	5.00	5.40	5.83	6.30	6.80	7.35	7.93	8.57	9.25	10.00
Subscription fee for Studio Subscriber		\$50.75	\$51.51	\$52.28	\$53.07	\$53.86	\$54.67	\$55.49	\$56.32	\$57.17	\$58.03
Subscription fee per subscriber (Annual)		\$101.50	\$103.02	\$104.57	\$106.14	\$107.73	\$109.34	\$110.98	\$112.65	\$114.34	\$116.05
Cost per international subscriber		\$48.72	\$49.45	\$50.19	\$50.95	\$51.71	\$52.49	\$53.27	\$54.07	\$54.88	\$55.71
Cost per studio subscriber		\$29.23	\$29.67	\$30.12	\$30.57	\$31.03	\$31.49	\$31.96	\$32.44	\$32.93	\$33.42

Netflix Studio: Operating Income

	1	2	3	4	5	6	7	8	9	10
Incremental Subscription Revenues	\$345.10	\$475.65	\$625.17	\$795.89	\$990.31	\$1,211.17	\$1,461.54	\$1,744.80	\$2,064.69	\$2,425.35
- Costs of servicing subscriptions	\$190.01	\$255.02	\$329.35	\$414.12	\$510.52	\$619.92	\$743.81	\$883.84	\$1,041.84	\$1,219.84
- Deprec'n (including capacity)	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$112.32	\$112.32	\$112.32	\$78.52	\$78.52
- Allocated G&A	\$42.00	\$44.10	\$46.31	\$48.62	\$51.05	\$53.60	\$56.28	\$59.10	\$62.05	\$65.16
- Advertising Exp.	\$78.75	\$82.69	\$86.82	\$91.16	\$95.72	\$100.51	\$105.53	\$110.81	\$116.35	\$122.17
Operating Profit	\$(45.66)	\$13.85	\$82.69	\$161.99	\$253.01	\$324.82	\$443.60	\$578.74	\$765.92	\$939.66
Taxes	\$(18.26)	\$5.54	\$33.08	\$64.80	\$101.20	\$129.93	\$177.44	\$231.49	\$306.37	\$375.86
EBIT(1-t)	\$(27.39)	\$8.31	\$49.61	\$97.20	\$151.81	\$194.89	\$266.16	\$347.24	\$459.55	\$563.79

Some Thoughts on Operating Income...

- There are a number of allocation mechanisms that can be used to compute operating income, and the return on capital is affected by decisions on allocation.
- With the Netflix Studio, I will count the book value of the investment in the studio, the total working capital investment in the studio
- I will also allocate 20% of the server investment that I will be making in year 5.
- Your choices on depreciation have large effects on return on capital. Using a more accelerated depreciation method would raise your return on capital substantially.

Netflix Studio: Return on Capital

Year	Studio	Cost Savings (US)	Total	Average BV	ROC (without savings)	ROC
1	-\$27.39	\$18.00	-\$9.39	\$996.93	-2.75%	-0.94%
2	\$8.31	\$18.54	\$26.85	\$929.54	0.89%	2.89%
3	\$49.61	\$19.10	\$68.71	\$863.95	5.74%	7.95%
4	\$97.20	\$19.67	\$116.86	\$800.38	12.14%	14.60%
5	\$151.81	\$20.26	\$172.07	\$868.34	17.48%	19.82%
6	\$194.89	\$20.87	\$215.76	\$803.08	24.27%	26.87%
7	\$266.16	\$21.49	\$287.65	\$740.63	35.94%	38.84%
8	\$347.24	\$22.14	\$369.38	\$681.31	50.97%	54.22%
9	\$459.55	\$22.80	\$482.35	\$522.05	88.03%	92.40%
10	\$563.79	\$23.49	\$587.28	\$349.14	161.48%	168.21%
Average=					39.42%	42.48%
Aggregate =	\$2,111.17	\$206.35	\$2,317.52	\$7,555.36	27.94%	30.67%

Average

ROC on just Studio= 39.42%

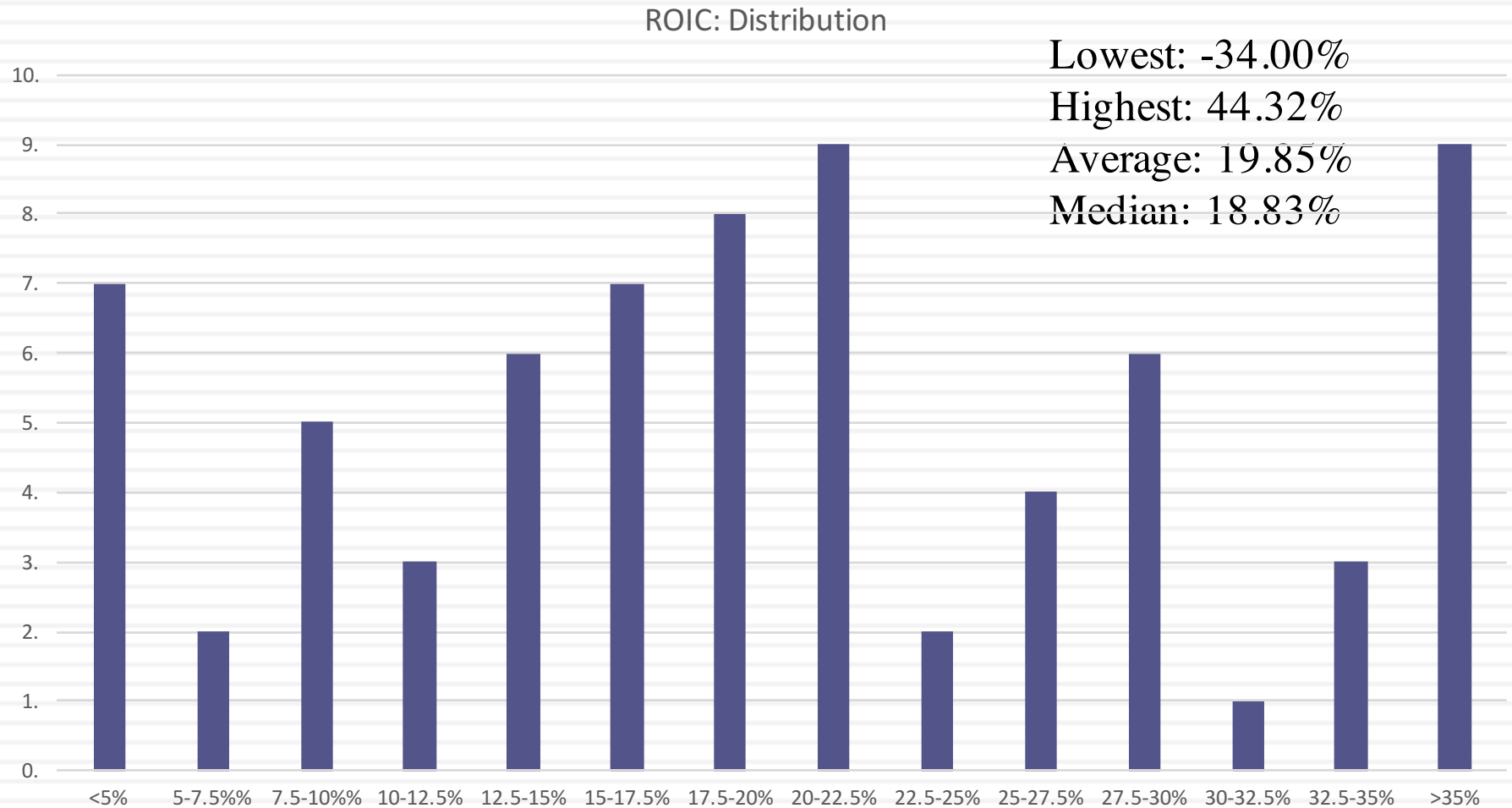
ROC included Savings = 42.48%

Aggregate

ROC on just Studio = 27.94%

ROC with Savings= 30.67%

Your findings on Return on Capital



Neflix Studio: After-tax Cash Flows

	0	1	2	3	4	5	6	7	8	9	10
EBIT(1-t)	\$-	\$(27.39)	\$8.31	\$49.61	\$97.20	\$151.81	\$194.89	\$266.16	\$347.24	\$459.55	\$563.79
+ Depreciation	\$-	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$112.32	\$112.32	\$112.32	\$78.52	\$78.52
+ Adjustment for G&A	\$-	\$1.20	\$0.06	\$(1.26)	\$(2.77)	\$(4.51)	\$(6.49)	\$(8.75)	\$(11.31)	\$(14.21)	\$(17.50)
- Cap Ex	\$1,000.00	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
- Server Investment	\$-	\$-	\$-	\$-	\$-	\$646.37	\$-	\$-	\$(675.90)	\$-	\$-
- Change in WC	\$31.06	\$11.75	\$13.46	\$15.36	\$17.50	\$19.88	\$22.53	\$25.49	\$28.79	\$32.46	\$(218.28)
+ Salvage Value	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$200.00
After-tax Cashflow	\$(1,031.06)	\$42.06	\$74.91	\$112.99	\$156.93	\$(438.95)	\$278.19	\$344.24	\$1,095.36	\$491.40	\$1,043.10

	1	2	3	4	5	6	7	8	9	10
Allocated G&A	\$42.00	\$44.10	\$46.31	\$48.62	\$51.05	\$53.60	\$56.28	\$59.10	\$62.05	\$65.16
Incremental G&A	\$40.00	\$44.00	\$48.40	\$53.24	\$58.56	\$64.42	\$70.86	\$77.95	\$85.74	\$94.32
G&A adjustment	\$2.00	\$0.10	\$(2.10)	\$(4.62)	\$(7.51)	\$(10.82)	\$(14.58)	\$(18.85)	\$(23.69)	\$(29.16)
G&A adjustment After-tax	\$1.20	\$0.06	\$(1.26)	\$(2.77)	\$(4.51)	\$(6.49)	\$(8.75)	\$(11.31)	\$(14.21)	\$(17.50)

Observations on Server Capacity

- To analyze what happens to capacity, we considered the two scenarios - with the studio versus without it.

	Last year	1	2	3	4	5	6	7	8	9	10
Capacity without Studio	65.00%	68.250%	71.663%	75.246%	79.008%	82.958%	87.106%	91.462%	96.035%	100.836%	105.878%
Capacity with Studio	65.00%	70.20%	75.82%	81.88%	88.43%	95.51%	103.15%	111.40%	120.31%	129.94%	140.33%
Total capacity used	65.00%	70.20%	75.82%	81.88%	88.43%	95.51%	103.15%	111.40%	120.31%	129.94%	140.33%
Expansion Investment						\$646.37			\$675.90		
Incremental Depreciation							\$32.32	\$32.32	\$32.32	-\$1.48	-\$1.48

If you invest in studio, you run out of capacity in year 6 & invest \$646 million at the end of year 5

If you do not invest in studio, you run out of capacity in year 9 & invest \$676 million at the end of year 8.

Assumed straight line depreciation over 20 years

Effect of studio investment: You invest in a new server three years earlier than you otherwise would have and the incremental cost is the PV of the difference, net of the depreciation tax benefit of investing earlier.

PV of Server-related cash flows = -\$69.70 million

Studio: NPV and IRR

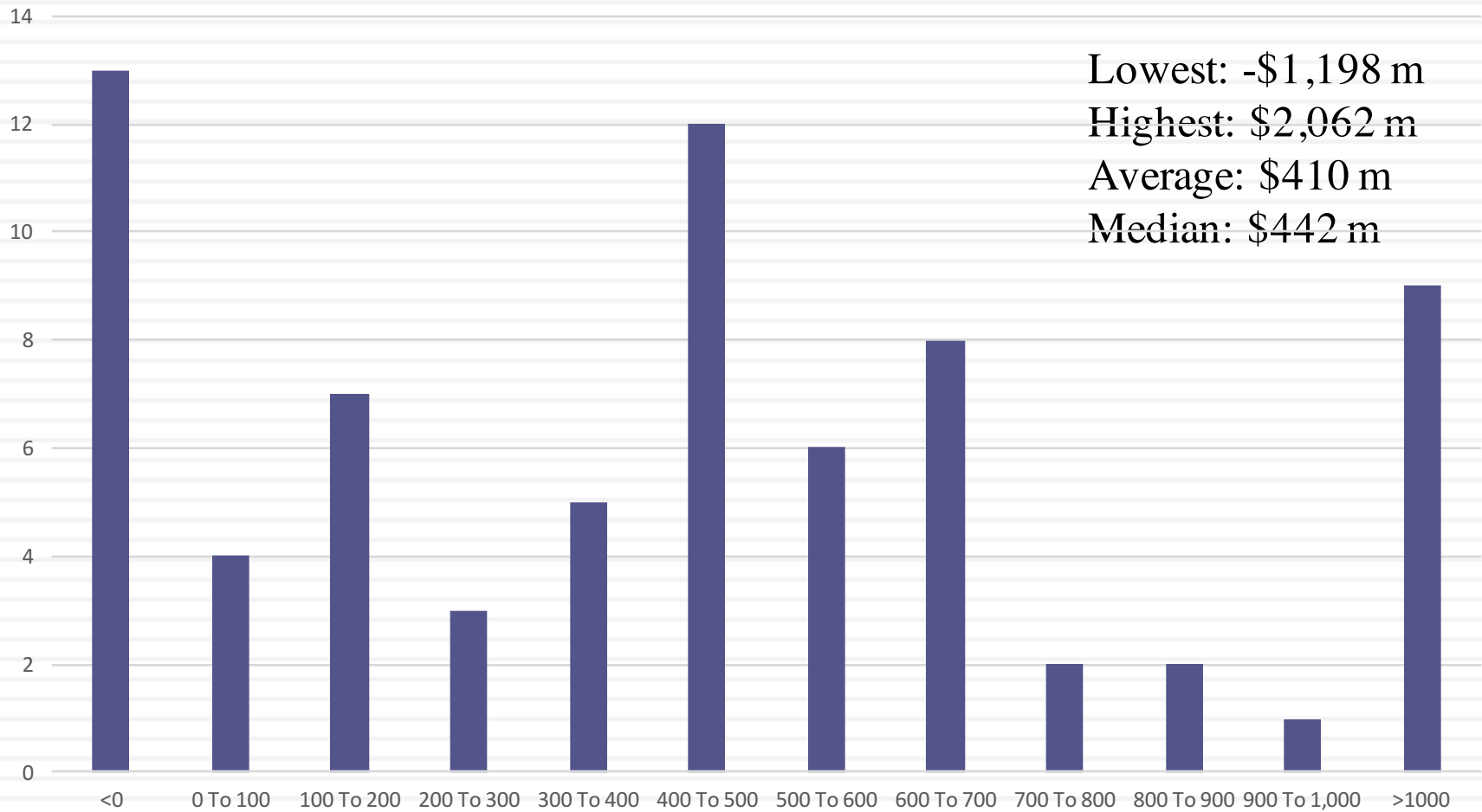
Year	0	1	2	3	4	5	6	7	8	9	10
Cash Flow from Studio	\$(1,031.06)	\$42.06	\$74.91	\$112.99	\$156.93	\$(438.95)	\$278.19	\$344.24	\$1,095.36	\$491.40	\$1,043.10
PV @ 10.56%	\$(1,031.06)	\$38.04	\$61.29	\$83.61	\$105.04	\$(265.75)	\$152.34	\$170.51	\$490.74	\$199.13	\$382.33
Net Present Value of Studio	\$386.22										
Cost Savings (US)		\$30.00	\$30.90	\$31.83	\$32.78	\$33.77	\$34.78	\$35.82	\$36.90	\$38.00	\$39.14
After-tax operating income (CF)		\$18.00	\$18.54	\$19.10	\$19.67	\$20.26	\$20.87	\$21.49	\$22.14	\$22.80	\$23.49
PV of cash flows		\$16.35	\$15.30	\$14.31	\$13.39	\$12.53	\$11.72	\$10.97	\$10.26	\$9.60	\$8.98
PV @ 10.09%	\$123.42										
Overall NPV =	\$509.64										

Internal Rate of Return =

16.65%

Your findings on NPV – Finite Life

NPV for Studio - 10-year Life



Studio: Longer Life

	0	1	2	3	4	5	6	7	8	9	10
EBIT(1-t)	\$-	\$(27.39)	\$8.31	\$49.61	\$97.20	\$151.81	\$194.89	\$266.16	\$347.24	\$459.55	\$563.79
+ Depreciation	\$-	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$112.32	\$112.32	\$112.32	\$78.52	\$78.52
+ Adj for G&A	\$-	\$1.20	\$0.06	\$(1.26)	\$(2.77)	\$(4.51)	\$(6.49)	\$(8.75)	\$(11.31)	\$(14.21)	\$(17.50)
- Cap Ex	\$1,000.00	\$81.20	\$82.42	\$83.65	\$84.91	\$86.18	\$87.48	\$88.79	\$90.12	\$91.47	\$92.84
- Opp. Cost of Capacity	\$-	\$-	\$-	\$-	\$-	\$646.37	\$-	\$-	\$(675.90)	\$-	\$-
- Chg in WC	\$31.06	\$11.75	\$13.46	\$15.36	\$17.50	\$19.88	\$22.53	\$25.49	\$28.79	\$32.46	\$3.27
+ Terminal Value	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$5,924.73
After-tax Cashflow	\$(1,031.06)	\$(39.14)	\$(7.50)	\$29.34	\$72.02	\$(525.13)	\$190.71	\$255.45	\$1,005.24	\$399.93	\$6,453.43

Observations on Infinite Life & Capital Maintenance

- You cannot extend the project life without putting money back to preserve existing investments. I assume that whatever assets get replenished each year, with the capital maintenance set equal to the depreciation in that year, adjusted for inflation.

	1	2	3	4	5	6	7	8	9	10
Depreciation	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00
Inflation adjustment	1.0150	1.0302	1.0457	1.0614	1.0773	1.0934	1.1098	1.1265	1.1434	1.1605
Capital Maintenance	\$81.20	\$82.42	\$83.65	\$84.91	\$86.18	\$87.48	\$88.79	\$90.12	\$91.47	\$92.84

- An alternate approach is to estimate how much it will cost you to replace the entire studio in year 10 and then back out an annuity that will yield that future value.
 - ▣ Future value of studio investment = \$1,160 million
 - ▣ Annuity given future value = \$71 million
- None of the assets are salvaged in this case, since the project continues forever.

Terminal Value and NPV Calculations

- Value of Studio in year 10 = CF in year 11 / (Cost of capital - g)
 = $\$536.63 / (.1056 - .015) = \$ 5,943$ million
- Value of Savings beyond year 10 = CF in year 11 / (Cost of capital – g)
 = $\$23.49 / (.1009 - .015) = \$ 273$ million

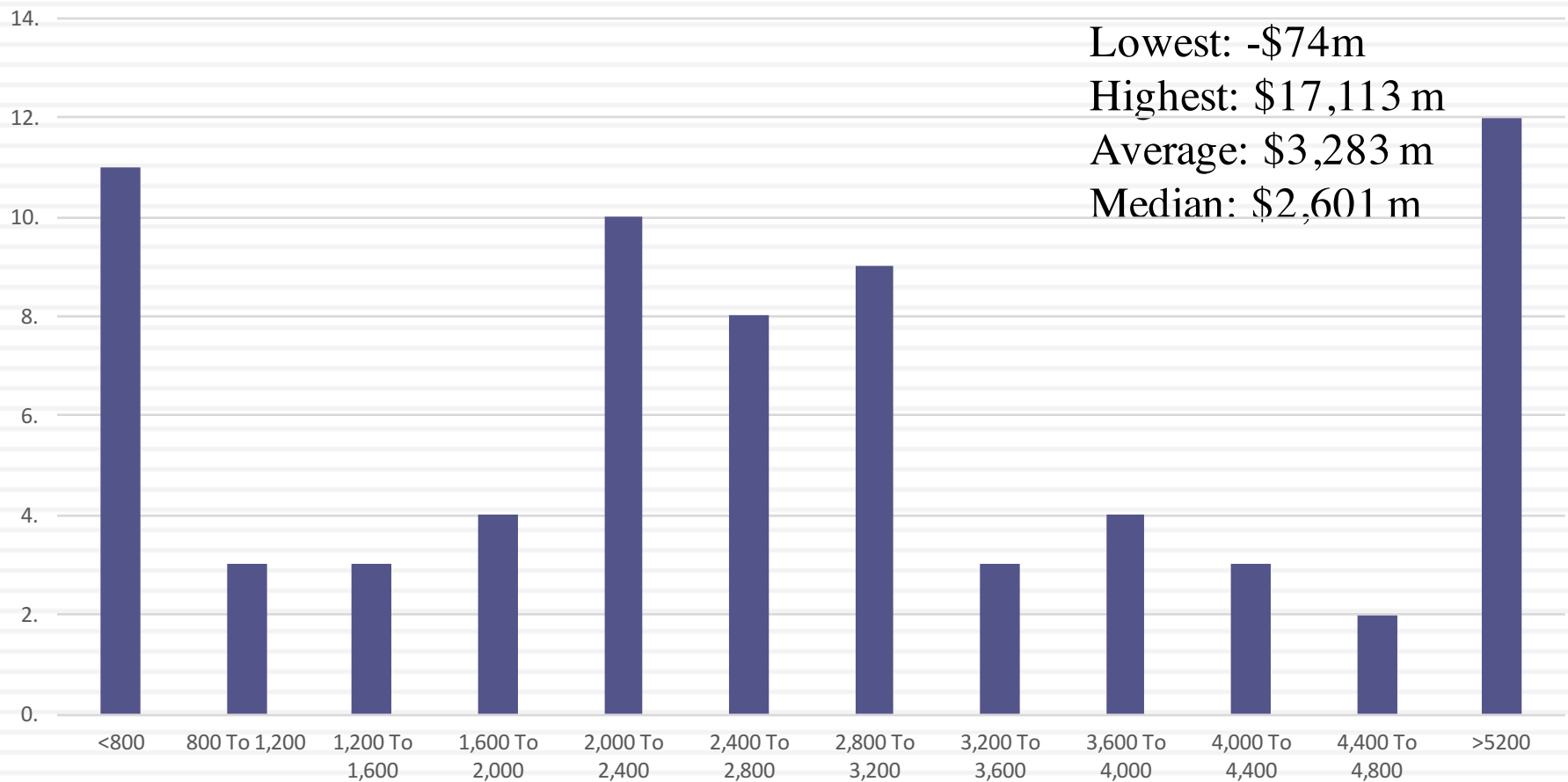
Year	0	1	2	3	4	5	6	7	8	9	10
Cash Flow from Studio	\$(1,031.06)	\$(39.14)	\$(7.50)	\$29.34	\$72.02	\$(525.13)	\$190.71	\$255.45	\$1,005.24	\$399.93	\$6,453.43
PV @ 10.56%	\$(1,031.06)	\$(35.41)	\$(6.14)	\$21.71	\$48.20	\$(317.93)	\$104.44	\$126.53	\$450.36	\$162.07	\$2,365.42
Net Present Value of Studio	\$1,888.19										
Cost Savings to US movie development		\$30.00	\$30.90	\$31.83	\$32.78	\$33.77	\$34.78	\$35.82	\$36.90	\$38.00	\$39.14
After-tax operating income (CF)		\$18.00	\$18.54	\$19.10	\$19.67	\$20.26	\$20.87	\$21.49	\$22.14	\$22.80	\$23.49
Terminal Value											\$273.47
PV @ 10.09%		\$16.35	\$15.30	\$14.31	\$13.39	\$12.53	\$11.72	\$10.97	\$10.26	\$9.60	\$8.98
PV of Cost Savings =	\$228.01										
Overall NPV =	\$2,116.20										

Finite versus Longer Life: The Trade off

Time	Finite life	Perpetual life	Difference
Now	\$(1,031.06)	\$(1,031.06)	\$-
1	\$42.06	\$(39.14)	\$(81.20)
2	\$74.91	\$(7.50)	\$(82.42)
3	\$112.99	\$29.34	\$(83.65)
4	\$156.93	\$72.02	\$(84.91)
5	\$(438.95)	\$(525.13)	\$(86.18)
6	\$278.19	\$190.71	\$(87.48)
7	\$344.24	\$255.45	\$(88.79)
8	\$1,095.36	\$1,005.24	\$(90.12)
9	\$491.40	\$399.93	\$(91.47)
10	\$1,043.10	\$6,453.43	\$5,410.33

NPV – Longer Life

NPV of Studio; Longer Life



Consistency in growth and investment assumptions

<i>In terminal year</i>	<i>Capital Maintenance</i>	<i>Consequence</i>
Project ends	No or very low capital maintenance, especially towards project end.	Book value of capital will decline over time
Infinite life, growth rate = 0%	Capital Maintenance = Depreciation	Maintain invested capital at base level through life
Infinite life, $g = \text{Inflation}$	Capital Maintenance $>$ Depreciation	Capital invested roughly maintained for project life & then grows at inflation rate
Infinite life, $g > \text{Inflation}$	Capital Investment to increase capacity, Capital maintenance $>$ Depreciation	Capital invested has to grow to reflect real growth

The final decision...

- My rationale for investing in the Studio
 - ▣ The NPV is positive in both the finite and perpetual life cases, with synergy just providing an added benefits.
 - ▣ The subscriber base that Netflix accumulates could provide other benefits down the road.
- Of the 72 groups (with summary sheets):
 - ▣ 62 suggested accepting the investment, most because the longer life analysis yielded such a high NPV.
 - ▣ 7 suggested rejecting the investment
 - ▣ 3 said “other”.