NETFLIX FIT: CASE ANALYSIS

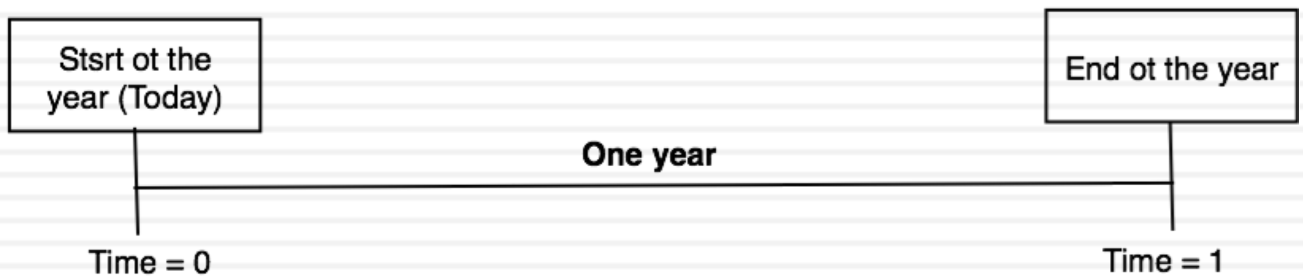
Aswath Damodaran

Discrete and Continuous Time

The Real World

Most of your cash flows occur over the entire year. Revenues and operating expenses are spread over the year, though there may be "seasonal" factors

Some of your cash flows (tax payments, debt payments) occur at discrete intervals (every quarter or month)



The PV World

The Discrete Time World: Cash flows are assumed to occur at a point in time.

The Accounting World

The Accounting World: Revenues, earnings and expenses occur in fiscal years

Summary of Conclusions

- On a stand-alone basis, this project is a value-adding project in the finite life case, albeit only marginal, but with the synergy benefits counted in, it does do better.
  - The average return on capital, in the finite life case, is 10.76%, without synergy and about 14.08% with synergy. The latter is higher than the cost of capital for Netflix Fit, which is 8.01%.
  - The net present value of the cash flows on Netflix Fit, using a cost of capital of 8.01%
    - Is $106 million, under the finite life assumption of a of 10 years. Adding the present value of the side benefits to Netflix Entertainment, the NPV is +$483 million.
    - Is $ 346 million, under the assumption of an infinite life. Adding the present value of the side benefits of the stories, the NPV is $1,055 million.
  - The IRR is 8.69% (11.17%) with a 10-year life and 8.97% (11.53%) with the infinite life, with the number in brackets representing the IRR with synergy counted in.
- All of the numbers in the case are based upon the assumption that existing users stay on as existing users, i.e., that the renewal rate is close to 100%. If we lower that renewal rate, the cash flows decrease and so does the NPV. While extending the life does make the investment better, technology is a fickle advantage.
- We would recommend that Netflix leave this business to players like Peloton, companies that serve a niche market, unless you can find a way to increase the side benefits to the entertainment business.

Other firms in the fitness business

Median regression beta 1.25

Median D/E 34.92%

Unlevered Beta = 1.25/(1+(1-.25)(.3492)) = 0.99

Median Cash/ Value 5.26%

Unlevered Beta corrected for cash = 0.99/(1-.0526) = 1.0495

Netflix

Market Equity $368.77 *438.81 = $161,820 m

Market Debt = PV of leases = $15,161 m + $1,727=$ 16,888

Pre-tax Cost of debt = 1.5%+2% = 3.5%

Netflix D/E = 16888161820 = 10.44%
Netflix D/C = 9.45%

Levered beta for Netflix Fit= 1.0495 *(1+(1-.25)(..1044)) = 1.1274

Riskfree rate = 1.50%

Marginal tax rate = 25%

Cost of equity for Netflix Fit = 1.50% + 1.1274 (6.27%) = 8.57%

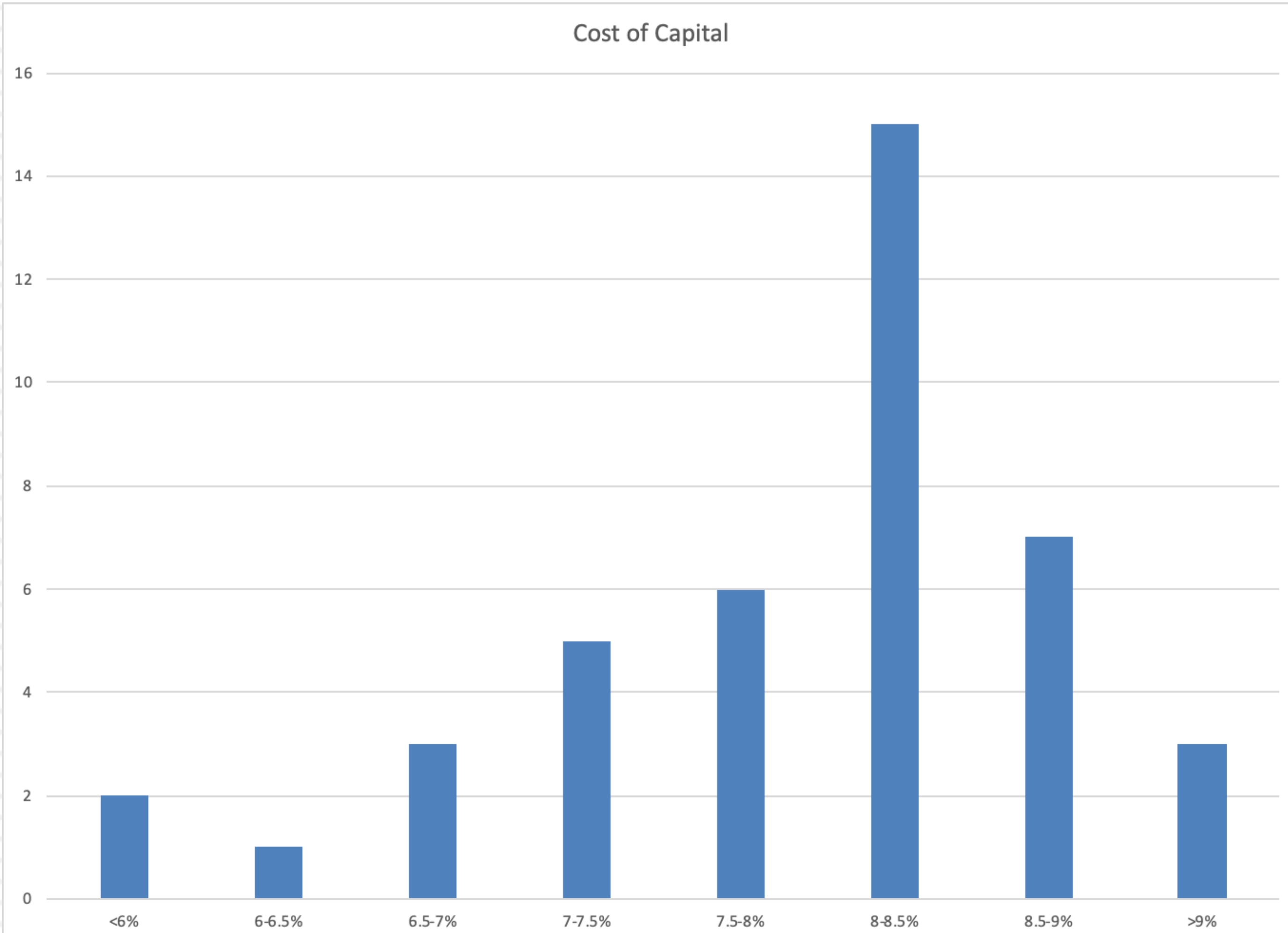
Cost of capital for Netflix Fit= 8.57% (0.9055) + 3.50% (1-.25) (.0945) = 8.01%

Cost of capital for Netflix Entertainment= 9.59% (.9039) + 3.5% (1 -.25) (..0961) = 8..93%

Cost of equity for Netflix Entertainment= 1.50% + 1.29 (6.27%) = 9.59%

Levered beta for Netflix Entertainment = 1.29

Cost of Capital: Your numbers



Netflix Fit: Operating Income & Incremental Operating Income

Operating Income

	0	1	2	3	4	5	6	7	8	9	10
Revenues		$1,120.00	$1,320.27	$1,534.87	$1,764.61	$2,010.39	$1,959.49	$2,070.31	$2,186.87	$2,309.46	$2,438.39
- Equipment COGS		$400.00	$428.24	$458.11	$489.68	$523.06	$491.38	$523.92	$558.29	$594.57	$632.87
- Subscriber Servicing Costs		$24.00	$49.93	$77.92	$108.08	$140.55	$146.21	$152.10	$158.23	$164.61	$171.24
- Content Costs		$400.00	$440.00	$484.00	$532.40	$585.64	$591.50	$597.41	$603.39	$609.42	$615.51
- Depreciation		$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00
- Selling and Advertising		$126.00	$132.30	$138.92	$145.86	$153.15	$160.81	$168.85	$177.29	$186.16	$195.47
- Allocated G&A		$65.00	$68.51	$72.20	$76.08	$80.17	$83.90	$88.12	$92.55	$97.20	$102.09
Operating Income		-$95.00	$1.29	$103.73	$212.51	$327.82	$285.69	$339.90	$397.12	$457.50	$521.21
- Taxes		-$23.75	$0.32	$25.93	$53.13	$81.95	$71.42	$84.97	$99.28	$114.38	$130.30
Operating Income after taxes		-$71.25	$0.97	$77.80	$159.38	$245.86	$214.27	$254.92	$297.84	$343.13	$390.90

Incremental Operating Income

	0	1	2	3	4	5	6	7	8	9	10
Revenues		$1,120.00	$1,320.27	$1,534.87	$1,764.61	$2,010.39	$1,959.49	$2,070.31	$2,186.87	$2,309.46	$2,438.39
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Return on Capital Computation

	1	2	3	4	5	6	7	8	9	10
After-tax Operating Income	-$71.25	$0.97	$77.80	$159.38	$245.86	$214.27	$254.92	$297.84	$343.13	$390.90
After-tax Incremental Operating Income	-$60.00	$8.14	$80.55	$157.36	$238.68	$211.59	$251.70	$294.03	$338.70	$385.83
After-tax Operating Income with synergy	-$15.00	$57.78	$135.18	$217.33	$304.40	$273.39	$314.63	$358.15	$404.04	$452.42
After-tax Incr Operating Income with synergy	-$3.75	$64.96	$137.93	$215.31	$297.21	$270.71	$311.41	$354.34	$399.62	$447.35
BV of Fixed Assets	$2,400.00	$2,200.00	$2,000.00	$1,800.00	$1,600.00	$1,400.00	$1,200.00	$1,000.00	$800.00	$600.00
BV of Working Capital	$50.00	$53.53	$57.26	$61.21	$65.38	$61.42	$65.49	$69.79	$74.32	$79.11
BV of Netflix Studio	$0.00	$0.00	$0.00	$0.00	$520.30	$416.24	$364.21	$312.18	$260.15	$208.12
Invested Capital	$2,450.00	$2,253.53	$2,057.26	$1,861.21	$2,185.69	$1,877.66	$1,629.70	$1,381.97	$1,134.47	$887.23
ROIC (no synergy)	-2.91%	0.04%	3.78%	8.56%	11.25%	11.41%	15.64%	21.55%	30.25%	44.06%
Incremental ROIC (no synergy)	-2.45%	0.36%	3.92%	8.45%	10.92%	11.27%	15.44%	21.28%	29.86%	43.49%
ROIC (with synergy)	-0.61%	2.56%	6.57%	11.68%	13.93%	14.56%	19.31%	25.92%	35.61%	50.99%
Incremental ROIC (with synergy)	-0.15%	2.88%	6.70%	11.57%	13.60%	14.42%	19.11%	25.64%	35.22%	50.42%

BV of capital = Undepreciated portion of original investment
+ BV of Studio + Non-cash Working capital

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.
- Your choices on depreciation have profound effects on return on capital. Using a more accelerated depreciation method would raise your return on capital substantially.
- Note that the operating income is computed after marginal taxes (Why?) and does not include the tax savings due to interest expenses (Why?).

Your findings: Return on Capital

Finite Life case assumptions

- Incremental Effects
  - When analyzing the cost of studio expansion, we consider the cost of the system in year 4 ($ 520 million) but <u>we show the savings in year 8 ($ 541 million).</u> Similarly, for depreciation, we show the depreciation on the existing system of $ 52 million from year 5-8, but show the differential depreciation of -$2 million between the two systems in years 9 & 10.
  - Since we are planning on wrapping up the business in 10 years, there is no need for significant capital maintenance expenditures.
- Both working capital investments and capital investments are assumed to occur at the start of the year and are therefore shown at the end of the previous year.

Incremental Cash Flows - Finite Life

	0	1	2	3	4	5	6	7	8	9	10
Incremental Operating Income after taxes		-$60.00	$8.14	$80.55	$157.36	$238.68	$211.59	$251.70	$294.03	$338.70	$385.83
+ Depreciation		$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00
- Capital Expenditures	$2,400.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
- Capital Expenditures (maintenance)		$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
+ Tax benefit of Deprec'n on cap maintenance		$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
- Change in non-cash Working Capital	$100.00	$7.06	$7.47	$7.89	$8.34	-$7.92	$8.14	$8.59	$9.07	$9.58	-$158.22
- Studio Investment					$520.30		-$541.43				
+ Tax benefit from incr deprecn - Studio						$13.01	-$0.53	-$0.53	-$0.53	-$0.53	-$0.53
+ Salvage Value/ Terminal Value											$400.00
FCFF	-$2,500.00	$132.94	$200.68	$272.66	-$171.29	$459.60	$944.35	$442.58	$484.43	$528.60	$1,143.52

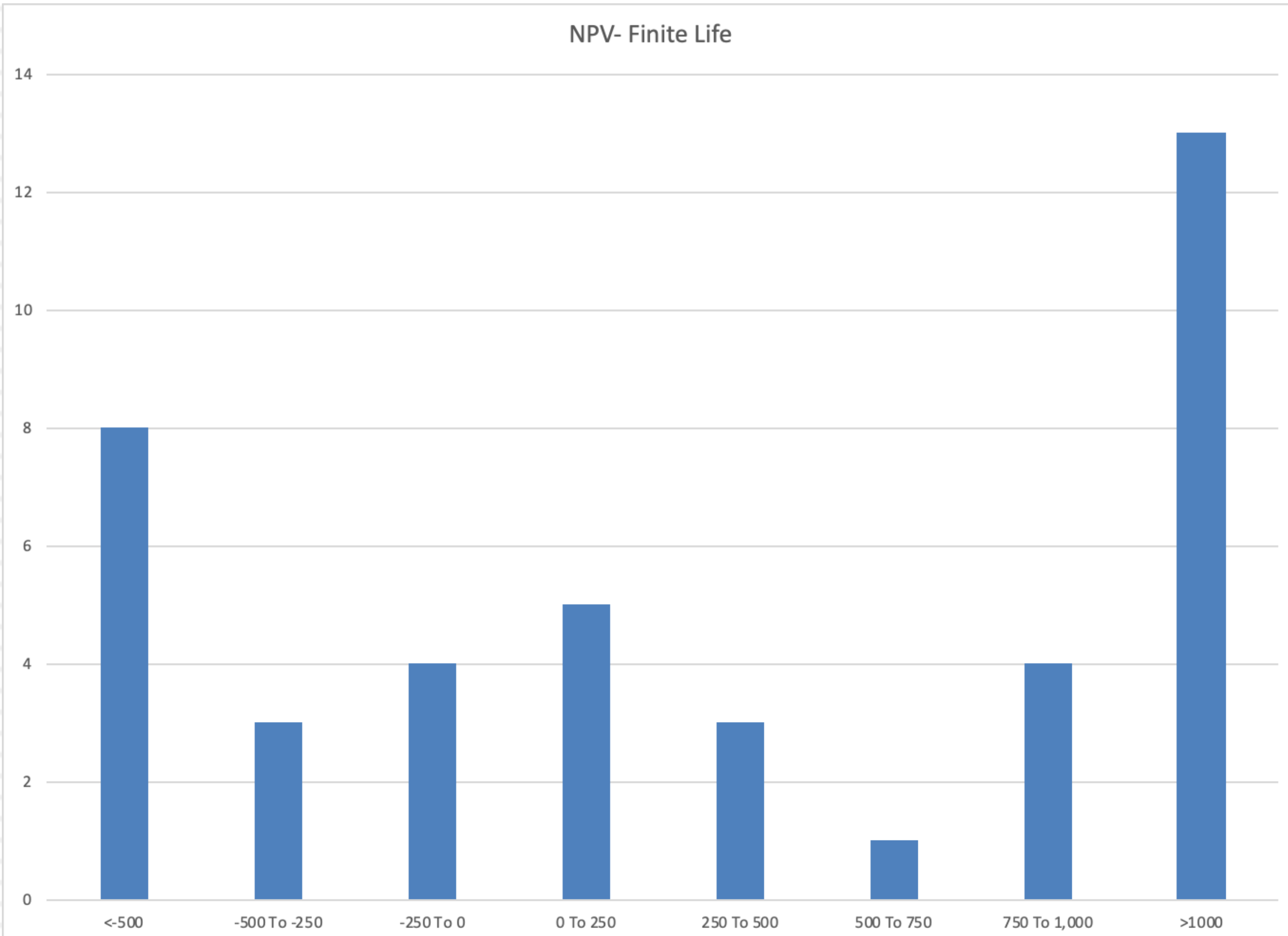
The Side Benefits for Netflix Entertainment

	1	2	3	4	5	6	7	8	9	10
Additional Revenue - Entertanment Subscriptions	$500.00	$505.00	$510.05	$515.15	$520.30	$525.51	$530.76	$536.07	$541.43	$546.84
Pre-tax Operating Margin	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Incremental Operating Income	$75.00	$75.75	$76.51	$77.27	$78.05	$78.83	$79.61	$80.41	$81.21	$82.03
Incremental After-tax Operating Income	$56.25	$56.81	$57.38	$57.95	$58.53	$59.12	$59.71	$60.31	$60.91	$61.52

Finite Life NPV

	0	1	2	3	4	5	6	7	8	9	10
FCFF	-$2,500.00	$132.94	$200.68	$272.66	-$171.29	$459.60	$944.35	$442.58	$484.43	$528.60	$1,143.52
Present Value (at Netflix Fit Cost of capita	-$2,500.00	$123.08	$172.02	$216.40	-$125.87	$312.68	$594.84	$258.11	$261.57	$264.26	$529.28
Cost of capital for Netflix Fit =	8.01%										
NPV of Netflix Fit =	$106.37										
Incremental After-tax Operating Income		$56.25	$56.81	$57.38	$57.95	$58.53	$59.12	$59.71	$60.31	$60.91	$61.52
PV of After-tax Operating Income		$51.66	$47.92	$44.45	$41.23	$38.25	$35.48	$32.91	$30.52	$28.31	$26.26
Cost of capital for Netflix Entertainment	8.93%										
NPV of Synergy =	$376.20										
Total NPV with synergy	$482.57										

The Value Effect: NPV



Explanations for Infinite Life Case

- When extending the project life to infinity, I did make some changes to the assumptions about capital maintenance.
  - Made the capital expenditure exceed depreciation by 1% (the inflation rate) all through the 10 years. Essentially, I am assuming that whatever depletion occurs in book value because of depreciation is made up by new capital maintenance expenditures in that year, with the inflation adjustment.
  - Set capital expenditures higher than depreciation, using the inflation adjustment for 10 years (= $200*1.01^{10}$), in year 11, to allow for the fact that in perpetuity, I would have to keep stores looking pristine to have growth of 1% a year forever.
- The synergy benefits now continue in perpetuity as well.

Incremental Cash Flows- Infinite Life

	0	1	2	3	4	5	6	7	8	9	10	11
# Fitness Subscribers (Total Market)		20	20.6	21.22	21.85	22.51	23.19	23.88	24.60	25.34	26.10	26.10
Netflix Share of Fitness Market		5.00%	10.00%	15.00%	20.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
# Netflix Fit Subscribers		1.00	2.06	3.18	4.37	5.63	5.80	5.97	6.15	6.33	6.52	6.52
# Netflix New Subscribers		1.00	1.06	1.12	1.19	1.26	0.17	0.17	0.18	0.18	0.19	0.00
Operating Income after taxes		-$60.00	$8.14	$80.55	$157.36	$238.68	$211.59	$251.70	$294.03	$338.70	$385.83	$231.60
+ Depreciation		$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00	$200.00
- Capital Expenditures	$2,400.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
- Capital Expenditures (maintenance)		$202.00	$204.02	$206.06	$208.12	$210.20	$212.30	$214.43	$216.57	$218.74	$220.92	$223.13
+ Tax benefit of Deprec'n on cap maintenance		$33.87	$34.21	$34.55	$34.90	$35.25	$35.60	$35.96	$36.32	$36.68	$37.05	$37.42
- Change in non-cash Working Capital	$100.00	$7.06	$7.47	$7.89	$8.34	-$7.92	$8.14	$8.59	$9.07	$9.58	-$29.11	$1.29
- Studio Investment					$520.30		-$530.76					
+ Tax benefit from incr deprecn - Studio						$13.01	-$0.26	-$0.26	-$0.26	-$0.26	-$0.26	-$0.26
+ Salvage Value/ Terminal Value											$3,486.43	
FCFF	-$2,500.00	-$35.19	$30.87	$101.15	-$344.51	$284.65	$757.25	$264.38	$304.45	$346.81	$3,917.23	$244.33

The terminal value: Assumptions and Calculation

- After year 10, I assume that the number of subscribers is level, but subscription prices grow at the inflation rate of 1% a year.
- My cash flow in year 11 is much lower than my cash flow in year 10, because I no longer have add on subscribers.
- Terminal Value

  = CF in year 11/ (Cost of capital –g)

  = 244.33/(.0801-.01) = $ 3,486 million

Finite versus Infinite: The Cash Flow Trade off

Year	Finite	Perpetual	Differential
0	$ (2,500.00)	$ (2,500.00)	$ -
1	$ 132.94	$ (35.19)	$ (168.13)
2	$ 200.68	$ 30.87	$ (169.81)
3	$ 272.66	$ 101.15	$ (171.51)
4	$ (171.29)	$ (344.51)	$ (173.22)
5	$ 459.60	$ 284.65	$ (174.95)
6	$ 944.35	$ 757.25	$ (187.10)
7	$ 442.58	$ 264.38	$ (178.20)
8	$ 484.43	$ 304.45	$ (179.99)
9	$ 528.60	$ 346.81	$ (181.79)
10	$ 1,143.52	$ 3,917.23	$ 2,773.71

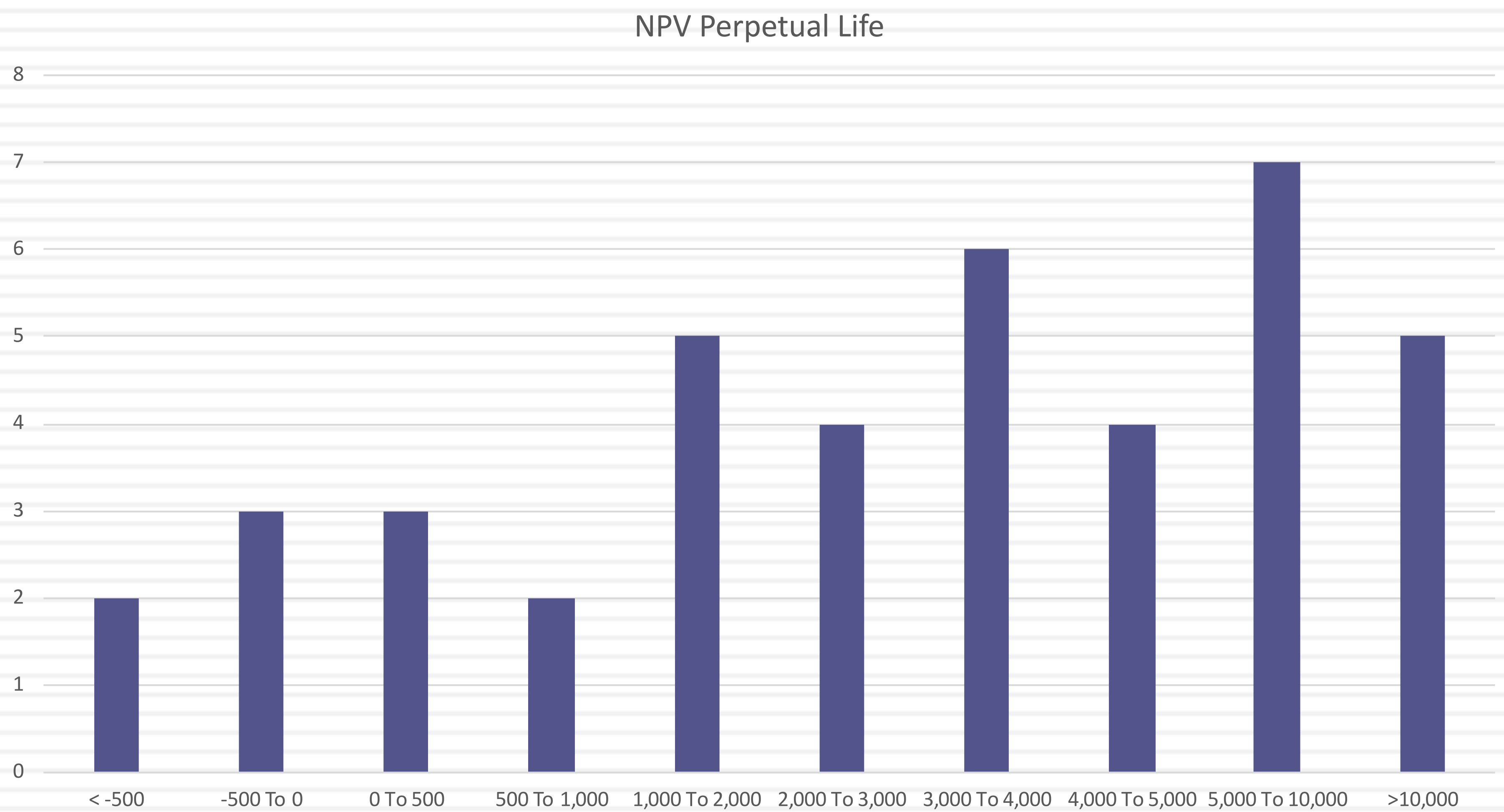
Value Added: NPV of Infinite Life Case

	0	1	2	3	4	5	6	7	8	9	10
FCFF	-$2,500.00	-$35.19	$30.87	$101.15	-$344.51	$284.65	$757.25	$264.38	$304.45	$346.81	$3,917.23
Present Value (at Netflix Fit Cost of capita	-$2,500.00	-$32.58	$26.46	$80.28	-$253.15	$193.66	$476.99	$154.18	$164.39	$173.38	$1,813.10
Cost of capital for Netflix Fit =	8.01%										
NPV of Netflix Fit =	$365.22										
Incremental After-tax Operating Income		$56.25	$56.81	$57.38	$57.95	$58.53	$59.12	$59.71	$60.31	$60.91	$61.52
Terminal Value											$783.40
PV of After-tax Operating Income		$51.64	$47.88	$44.39	$41.16	$38.16	$35.38	$32.81	$30.42	$28.20	$359.16
Cost of capital for Netflix Entertainment	8.93%										
NPV of Synergy =	$709.20										
Total NPV	$1,074.42										

Consistency in growth and investment assumptions

After year 15	*Capital Expenditure Assumption*
Project ends	No (or very low) capital maintenance
	Let assets run down towards end of life
Infinite life; g=0%	Capital maintenance = Depreciation Maintain invested capital at base level
Infinite life; g= inflation	Capital maintenance > Depreciation Capital invested has to grow at inflation rate
Infinite life; g> inflation	Capital investment to increase capacity
	Capital maintenance > Depreciation
	Capital invested has to grow to reflect real growth

Your findings: Infinite Life



Final Conclusions

- Of the 45 groups that turned in numbers on this project, 17 decided that it should be rejected.
- 28 groups suggested that the investment be made…
- If you did accept or reject, is it possible that the six weeks since the case was written might have changed your views.
  - Why or why not?
  - If the events of the last few weeks changed your views, what would you do other than express regrets?