

$$ROE = \text{Profit Margin} * \text{Total Asset Turnover} * \text{Financial Leverage}$$

Facebook

	<i>Net income</i>	<i>Net sales</i>	<i>Profit Margin</i>	<i>Total Assets</i>
2011	1000000000	3711000000	26.947	6331000000
2012	530000000	5089000000	1.041	15103000000
2013	1500000000	7872000000	19.055	17895000000
2014	2940000000	12466000000	23.584	40184000000
2015	3688000000	17928000000	20.571	49407000000
2016	10217000000	27638000000	36.967	64961000000
2017	15934000000	40653000000	39.195	84524000000
2018	22112000000	55838000000	39.600	97334000000
2019	18485000000	70697000000	26.147	133376000000
2020	29146000000	85965000000	33.904	159316000000
Average ROE				

Amazon

	<i>Net income</i>	<i>Net sales</i>	<i>Profit Margin</i>	<i>Total Assets</i>
2011	631000000	48077000000	1.312	25278000000
2012	-390000000	61093000000	-0.064	32555000000
2013	274000000	74452000000	0.368	40159000000
2014	-241000000	88988000000	-0.271	54505000000
2015	596000000	107006000000	0.557	65444000000
2016	2371000000	135987000000	1.744	83402000000
2017	3033000000	177866000000	1.705	131310000000
2018	10073000000	232887000000	4.325	162648000000
2019	11588000000	280522000000	4.131	225248000000
2020	21331000000	386064000000	5.525	321195000000
Average ROE				

Netflix

	<i>Net income</i>	<i>Net sales</i>	<i>Profit Margin</i>	<i>Total Assets</i>
2011	226126000	3204577000	7.056	3069196000
2012	17152000	3609282000	0.475	3967890000
2013	112403000	4374562000	2.569	5412563000
2014	266799000	5504656000	4.847	7056651000
2015	122641000	6779511000	1.809	10202871000
2016	186678000	8830669000	2.114	13586610000
2017	558929000	11692713000	4.780	19012742000
2018	1211242000	15794341000	7.669	25974400000
2019	1866916000	20156447000	9.262	33975712000
2020	2761395000	24996056000	11.047	39280359000
Average ROE				

Google (Alphabet)

	<i>Net income</i>	<i>Net sales</i>	<i>Profit Margin</i>	<i>Total Assets</i>
2011	9737000000	37905000000	25.688	72574000000
2012	10788000000	50175000000	21.501	93798000000

2013	1221400000	5982500000	20.416	11092000000
2014	1392800000	6600100000	21.103	13113300000
2015	1634800000	7498900000	21.801	14746100000
2016	1947800000	9027200000	21.577	16749700000
2017	1266200000	11085500000	11.422	19729500000
2018	3073600000	13681900000	22.465	23279200000
2019	3434300000	16185700000	21.218	27590900000
2020	4026900000	18252700000	22.062	31961600000
Average ROE				

Total Asset Turnover	Capital stock	Retained earnings	Common equity
0.586	3299000000	1606000000	4905000000
0.337	10094000000	1659000000	11753000000
0.440	12297000000	3159000000	15456000000
0.310	30225000000	6099000000	36324000000
0.363	34886000000	9787000000	44673000000
0.425	38227000000	21670000000	59897000000
0.481	40584000000	33990000000	74574000000
0.574	42906000000	41981000000	84887000000
0.530	45851000000	55692000000	101543000000
0.540	50018000000	77345000000	127363000000

Total Asset Turnover	Capital stock	Retained earnings	Common equity
1.902	6995000000	1955000000	8950000000
1.877	8352000000	1916000000	10268000000
1.854	9578000000	2190000000	11768000000
1.633	11140000000	1949000000	13089000000
1.635	13399000000	2545000000	15944000000
1.631	17191000000	4916000000	22107000000
1.355	21394000000	8636000000	30030000000
1.432	26796000000	19625000000	46421000000
1.245	33663000000	31220000000	64883000000
1.202	42870000000	52551000000	95421000000

Total Asset Turnover	Capital stock	Retained earnings	Common equity
1.044	219174000	422930000	642104000
0.910	301672000	440082000	741754000
0.808	777501000	552485000	1329986000
0.780	1042870000	819284000	1862154000
0.664	1324809000	941925000	2266734000
0.650	1599762000	1128603000	2728365000
0.615	1871396000	1731117000	3602513000
0.608	2315988000	2942359000	5258347000
0.593	2793929000	4811749000	7605678000
0.636	3447698000	7573144000	11020842000

Total Asset Turnover	Capital stock	Retained earnings	Common equity
0.522	20264000000	37605000000	57869000000
0.535	22835000000	48342000000	71177000000

0.539	25922000000	61262000000	87184000000
0.503	28767000000	75706000000	104473000000
0.509	32982000000	89223000000	122205000000
0.539	36307000000	105131000000	141438000000
0.562	40247000000	113247000000	153494000000
0.588	45049000000	134885000000	179934000000
0.587	50552000000	152122000000	202674000000
0.571	58510000000	163401000000	221911000000

<i>Financial Leverage</i>	<i>ROE</i>
1.29	20.387
1.29	0.451
1.16	9.705
1.11	8.094
1.11	8.256
1.08	17.058
1.13	21.367
1.15	26.049
1.31	18.204
1.25	22.884
	15.245

<i>Financial Leverage</i>	<i>ROE</i>
2.82	7.050
3.17	-0.380
3.41	2.328
4.16	-1.841
4.10	3.738
3.77	10.725
4.37	10.100
3.50	21.699
3.47	17.860
3.37	22.355
	9.363

<i>Financial Leverage</i>	<i>ROE</i>
4.78	35.216
5.35	2.312
4.07	8.451
3.79	14.327
4.50	5.410
4.98	6.842
5.28	15.515
4.94	23.035
4.47	24.546
3.56	25.056
	16.071

<i>Financial Leverage</i>	<i>ROE</i>
1.25	16.826
1.32	15.157

1.27	14.009
1.26	13.332
1.21	13.378
1.18	13.771
1.29	8.249
1.29	17.082
1.36	16.945
1.44	18.146
	14.689

$$\text{Debt-to-Equity} = \text{Total Liability} / \text{Total Equity}$$

Facebook

	Total Liabilities	Total Equity	Debt-to-Equity
2011	1432000000	4899000000	0.292
2012	3348000000	11755000000	0.285
2013	2425000000	15470000000	0.157
2014	4088000000	36096000000	0.113
2015	5189000000	44218000000	0.117
2016	5767000000	59194000000	0.097
2017	10177000000	74347000000	0.137
2018	13207000000	84127000000	0.157
2019	32322000000	101054000000	0.320
2020	31026000000	128290000000	0.242
Average D/E ratio			0.192

Amazon

	Total Liabilities	Total Equity	Debt-to-Equity
2011	17521000000	7757000000	2.259
2012	24363000000	8192000000	2.974
2013	30413000000	9746000000	3.121
2014	43764000000	10741000000	4.074
2015	52060000000	13384000000	3.890
2016	64117000000	19285000000	3.325
2017	103601000000	27709000000	3.739
2018	119099000000	43549000000	2.735
2019	163188000000	62060000000	2.630
2020	227791000000	93404000000	2.439
Average D/E ratio			3.118

Netflix

	Total Liabilities	Total Equity	Debt-to-Equity
2011	2426386000	642810000	3.775
2012	3223217000	744673000	4.328
2013	4079002000	1333561000	3.059
2014	5198943000	1857708000	2.799
2015	7979445000	2223426000	3.589
2016	10906810000	2679800000	4.070
2017	15430786000	3581956000	4.308
2018	20735635000	5238765000	3.958
2019	26393555000	7582157000	3.481
2020	28215119000	11065240000	2.550
Average D/E ratio			3.592

Google (Alphabet)

	Total Liabilities	Total Equity	Debt-to-Equity
2011	14429000000	58145000000	0.248
2012	22083000000	71715000000	0.308

2013	23611000000	87309000000	0.270
2014	26633000000	104500000000	0.255
2015	27130000000	120331000000	0.225
2016	28461000000	139036000000	0.205
2017	44793000000	152502000000	0.294
2018	55164000000	177628000000	0.311
2019	74467000000	201442000000	0.370
2020	97072000000	222544000000	0.436
Average D/E ratio			0.292

$$WACC = MVe / (MVe + MVd) + MVd / (MVe + MVd)$$

$$\text{Market capitalization} = \text{Current price} \times \text{Common stock outstanding}$$

Facebook

MV of Equity

Market value of equity	798717150000.00
Market value of debt	9631000000
Cost of Equity (CAPM)	0.0919
Post-tax Cost of Debt	0.001674538
WACC	0.090825016

Current price (as for 26.03.2021)
Common stock outstanding
MV of Equity

Amazon

MV of Equity

Market value of equity	1601431790000.00
Market value of debt	84389000000
Cost of Equity (CAPM)	0.0847
Post-tax Cost of Debt	0.016411989
WACC	0.081281631

Current price (as for 26.03.2021)
Common stock outstanding
MV of Equity

Netflix

MV of Equity

Market value of equity	222625731894.26
Market value of debt	21857087000
Cost of Equity (CAPM)	0.0667
Post-tax Cost of Debt	0.055938926
WACC	0.065737946

Current price (as for 26.03.2021)
Common stock outstanding
MV of Equity

Google (Alphabet)

MV of Equity for C

Market value of equity	1372111873980.00
Market value of debt	15201000000
Cost of Equity (CAPM)	0.0769
Post-tax Cost of Debt	0.073819946
WACC	0.076866251

Current price (as on 26.03.2021)
Common stock outstanding
MV of Equity

market price* Shares outstanding

for Facebook

280.35
2849000000
798717150000.00

for Amazon

3038.77
527000000
1601431790000.00

for Netflix

502.66
442895261
222625731894.26

for Google (Alphabet)

2032.09
675222000
1372111873980.00

Required rate of return = $(R_{fr}) + \text{Beta} * (\text{Erp})$

CAPM for Facebook

Risk free rate	0.0169
Beta	1.25
Equity risk premium	0.06
Cost of Equity	0.0919

CAPM for Amazon

Risk free rate	0.0169
Beta	1.13
Equity risk premium	0.06
Cost of Equity	0.0847

CAPM for Netflix

Risk free rate	0.0169
Beta	0.83
Equity risk premium	0.06
Cost of Equity	0.0667

CAPM for Google (Alphabet)

Risk free rate	0.0169
Beta	1
Equity risk premium	0.06
Cost of Equity	0.0769

After-tax Cost of Debt = Interest expenses/MVd*(1-Tax Rate)

Cost of Debt for Facebook

Interest expenses	20000000
Market value of Debt	9631000000
1-Tax Rate	0.806373746
<i>Post-tax Cost of Debt</i>	<i>0.001674538</i>

Cost of Debt for Amazon

Interest expenses	1647000000
Market value of Debt	84389000000
1-Tax Rate	0.840917656
<i>Post-tax Cost of Debt</i>	<i>0.016411989</i>

Cost of Debt for Netflix

Interest expenses	1385940000
Market value of Debt	21857087000
1-Tax Rate	0.882189688
<i>Post-tax Cost of Debt</i>	<i>0.055938926</i>

Cost of Debt for Google (Alphabet)

Interest expenses	135000000
Market value of Debt	1520100000
1-Tax Rate	0.831212596
<i>Post-tax Cost of Debt</i>	<i>0.073819946</i>

$$FCFF = \text{Net Income} + \text{Non-cash charges}$$

Calculation of FCFE for Facebook

Input data:

Constant growth rate

	2011
Net Income	1000000000
Total adjustments for non-cash items	544000000
Interest*(1-Tax Rate)	24969661.61
Change in Operating Capital (Δ OWC)	5000000
Purchase of Property, Plant and Equipment (CapEx)	-606000000
FCFF	967969661.6
Present Value of FCFF	
Present Value of Terminal Value	
Sum of PVs	
Intrinsic Value	

Calculation of FCFE for Amazon

Input data:

Constant growth rate

	2011
Net Income	631000000
Total adjustments for non-cash items	1808000000
Interest*(1-Tax Rate)	45110410.09
Change in Operating Capital (Δ OWC)	1,464,000,000
Purchase of Property, Plant and Equipment (CapEx)	-1,811,000,000
FCFF	2484110410
Present Value of FCFF	
Present Value of Terminal Value	
Sum of PVs	
Intrinsic Value	

Calculation of FCFE for Netflix

Input data:

Constant growth rate

	2011
Net Income	226126000
Total adjustments for non-cash items	-27562000
Additions to Streaming Content Assets (non-cash expenses)	-2320732000
Interest*(1-Tax Rate)	12522381.22

Change in Operating Working Capital (Δ OWC)	119148000
Purchase of Property, Plant and Equipment (CapEx)	-49682000
FCFF	-2040179619
Present Value of FCFF	
Present Value of Terminal Value	
Sum of PVs	
Intrinsic Value	

Calculation of FCFE for Google (Alphabet)

Input data:

Constant growth rate

	2011
Net Income	9737000000
Total adjustments for non-cash items	4198000000
Interest*(1-Tax Rate)	45148065.73
Change in Operating Capital (Δ OWC)	630000000
Purchase of Property, Plant and Equipment (CapEx)	-3438000000
FCFF	11172148066
Present Value of FCFF	
Present Value of Terminal Value	
Sum of PVs	
Intrinsic Value	

Variables discription

Variable	Source
Net Income	Income statement
Total adjustments for non-cash items (non-cash charges)	Cash Flow Statement
Interest expenses*(1-Tax Rate)	Income statement, Own calculations
Changes in Operating Capital (Δ NOWC)	Cash Flow Statement
Purchase of Property Plant and Equipment (Capital Expenditures)	Cash Flow Statement
Additions to Streaming Content Assets (Part of CapEx)	Cash Flow Statement

+ Interest*(1-Tax Rate) - Change in Net Working Capital - Changes in Operating Worki

0.152454012

2012
53000000
2050000000
4817248.46
-491000000
-1235000000
381817248.5

0.093634348

2012
-39000000
2696000000
24575342.47
1523000000
-3785000000
419575342.5

0.160712335

2012
17152000
2495114000
-2515506000
11108661.87

26005000
-41457000
-7583338.132

0.146894979

2012
10788000000
4984000000
66783843.48
898000000
-3273000000
13463783843

Description
Earnings received by a company after all expenses paid, tax and cost deductions
Expenses that do not imply cash outflows; includes depreciation and amortization costs
Tax shield on interest, which is aimed to reduce income tax obligations due to expenses on interest payments
Compares changes in NOWC, which is represented by the difference between current assets and liabilities, from previous fiscal year
Purchase of fixed assets and long-term investments
Special account for Netflix firm, which includes expenses for content production and its licenses

ing Capital - Capital Expenditures

WACC	0.090825016
------	--------------------

2013	2014	2015	2016
1500000000	2940000000	3688000000	10217000000
2046000000	2779000000	4127000000	5133000000
30445414.85	13885133.78	13706546.28	8146895.385
676000000	-262000000	784000000	758000000
-1362000000	-1831000000	-2523000000	-4491000000
2890445415	3639885134	6089706546	11625146895

WACC	0.081281631
------	--------------------

2013	2014	2015	2016
274000000	-241000000	596000000	2371000000
4434000000	6109000000	8767000000	10156000000
103415562.9	885937500	213199549	297695299.8
767000000	974000000	2557000000	3916000000
-3444000000	-4893000000	-4589000000	-6737000000
2134415563	2834937500	7544199549	10003695300

WACC	0.065737946
------	--------------------

2013	2014	2015	2016
112403000	266799000	122641000	186678000
2915319000	3386040000	4726685000	6800244000
-3049758000	-3773459000	-5771652000	-8653286000
22531911.38	40687021.23	141705523.4	101860713.9

119867000	137103000	172887000	192380000
-54143000	-69726000	-91248000	-107653000
66219911.38	-12555978.77	-698981476.6	-1479776286

WACC	0.076866251
------	--------------------

2013	2014	2015	2016
12214000000	13928000000	16348000000	19478000000
5770000000	7568000000	10085000000	13258000000
69356983.36	80479658.43	86160781.06	99443879.28
-31000000	364000000	-409000000	3300000000
-7358000000	-10959000000	-9915000000	-10212000000
10664356983	10981479658	16195160781	25923443879

<i>Common Stock</i>	2849000000
---------------------	-------------------

			Base Year
2017	2018	2019	2020
15934000000	22112000000	18485000000	29146000000.00
6395000000	8689000000	10579000000	12324000000.00
4615635.986	7825851.269	14724.41818	N/A
1887000000	-1527000000	7250000000	-2723000000.00
-6733000000	-13915000000	-15102000000	-15115000000.00
17487615636	15366825851	21212014724	23632000000.00

<i>Common Stock</i>	527000000
---------------------	------------------

			Base Year
2017	2018	2019	2020
3033000000	10073000000	11588000000	21331000000
15574000000	21693000000	29364000000	31252000000
647842848.4	1262860687	1306483270	1425121542
-1730000000	-1043000000	-2438000000	13481000000
-11955000000	-13427000000	-16861000000	-40140000000
7126842848	18558860687	22959483270	27349121542

<i>Common stock</i>	442895261
---------------------	------------------

			Base Year
2017	2018	2019	2020
558929000	1211242000	1866916000	2761395000
7401909000	8857949000	9119402000	11476839000
-9805763000	-13043437000	-13916683000	-11779284000
299764655.3	415092440.1	564214403.2	1196220789

58977000	293767000	43043000	-31873000
-173302000	-173946000	-253035000	-497923000
-1659485345	-2439332560	-2576142597	3125374789

<i>Common stock</i>	675222000		
			Base Year
2017	2018	2019	2020.00
12662000000	30736000000	34343000000	40269000000
15183000000	12327000000	19358000000	23028000000
53952594.45	98775944.75	85257340.63	109329991
9246000000	4908000000	819000000	1827000000
-13184000000	-25139000000	-23548000000	-22281000000
23960952594	22930775945	31057257341	42952329991

1	2	3	4
2021E	2022E	2023E	2024E

--	--	--	--

27234793216	31386846714	36171897426	41686448318
24967151303	31130049225	36144816565	41683611788

--	--	--	--

1	2	3	4
2021E	2022E	2023E	2024E

--	--	--	--

29909938702	32710536307	35773366042	39122981843
27661561830	32495845885	35754165925	39121274256

--	--	--	--

1	2	3	4
2021E	2022E	2023E	2024E

--	--	--	--

3627661069	4210670949	4887377708	5672839590
3403895942	4192552926	4885989671	5672733651

1	2	3	4
2021E	2022E	2023E	2024E

49261811620	56498124422	64797415244	74315830220
45745524624	56166270472	64768000329	74313235987

<i>Terminal value growth (perpetuity)</i>
0.04

5	TV (5)
2025E	2025P (Terminal Value)
48041714618	983047075117.52
48041417696	181967046577.15
	636500677252.11
	818467723829.25
	287.2824583

<i>Terminal value growth (perpetuity)</i>
0.06

5	TV (5)
2025E	2025P (Terminal Value)
42786236734	2131105936883.01
42786084936	177818932832.63
	1441819557881.16
	1619638490713.79
	3073.317819

<i>Terminal value growth (perpetuity)</i>
0.04

5	TV (5)
2025E	2025P (Terminal Value)

6584534886	266063047075.36
6584526802	24739698992.39
	193522922795.14
	218262621787.52
	492.8086638

<i>Terminal value growth (perpetuity)</i>
0.06

5	TV (5)
2025E	2025P (Terminal Value)

85232452569	5356637802332.50
85232223860	326225255273.33
	3698992486606.47
	4025217741879.80
	5961.32493

Interest tax shield calculation for Facebook (Interest (1-Tax Rate))

	2011	2012
Total Revenue	3711000000	5089000000
Cost of Revenue	-860000000	-1364000000
Operating expenses	-1095000000	-3187000000
EBIT	1756000000	538000000
Interest expense	-42000000	-51000000
EBT	1714000000	487000000
Provision for Income Tax	-695000000	-441000000
Effective Tax rate	0.405484247	0.905544148
Interest expense	-42000000	-51000000
Cash paid for Interest	-17030338.39	-46182751.54
Interest (1-Tax Rate)	24969661.61	4817248.46
Average 2-year tax rate		

Interest Capitalized, Net of Tax

Interest tax shield calculation for Amazon (Interest (1-Tax Rate))

	2011	2012
Total Revenue	48077000000	61093000000
Cost of Revenue	-37288000000	-52390000000
Operating expenses	-9773000000	-8027000000
EBIT	1016000000	676000000
Interest expense	-65000000	-92000000
EBT	951000000	584000000
Provision for Income Tax	-291000000	-428000000
Effective Tax rate	0.305993691	0.732876712
Interest expense	-65000000	-92000000
Cash paid for Interest	-19889589.91	-67424657.53
Interest (1-Tax Rate)	45110410.09	24575342.47
Average 2-year tax rate		

Interest tax shield calculation for Netflix (Interest (1-Tax Rate))

	2011	2012
Total Revenue	3204577000	3609282000
Cost of Revenue	-2039901000	-2625866000
Operating expenses	-788608000	-933424000
EBIT	376068000	49992000
Interest expense	-20025000	-19986000

EBT	356043000	30006000
Provision for Income Tax	-133396000	-13328000
Effective Tax rate	0.374662611	0.444177831
Interest expense	-20025000	-19986000
Cash paid for Interest	-7502618.785	-8877338.132
Interest (1-Tax Rate)	12522381.22	11108661.87
Average 2-year tax rate		

Interest tax shield calculation for Alphabet (Interest (1-Tax Rate))

	2011	2012
Total Revenue	37905000000	50175000000
Cost of Revenue	-13188000000	-20634000000
Operating expenses	-12975000000	-16781000000
EBIT	11742000000	12760000000
Interest expense	-58000000	-84000000
EBT	11684000000	12676000000
Provision for Income Tax	-2589000000	-2598000000
Effective Tax rate	0.221585074	0.204954244
Interest expense	-58000000	-84000000
Cash paid for Interest	-12851934.27	-17216156.52
Interest (1-Tax Rate)	45148065.73	66783843.48
Average 2-year tax rate		

2013	2014	2015	2016
7872000000	12466000000	17928000000	27638000000
-1875000000	-2153000000	-2867000000	-3789000000
-3193000000	-5319000000	-8836000000	-11422000000
2804000000	4994000000	6225000000	12427000000
-56000000	-23000000	-23000000	-10000000
2748000000	4971000000	6202000000	12417000000
-1254000000	-1970000000	-2506000000	-2301000000
0.456331878	0.396298531	0.404063205	0.185310461
-56000000	-23000000	-23000000	-10000000
-25554585.15	-9114866.224	-9293453.725	-1853104.615
30445414.85	13885133.78	13706546.28	8146895.385

2013	2014	2015	2016
74452000000	88988000000	1.07006E+11	1.35987E+11
-62766000000	-73518000000	-85061000000	-1.05884E+11
-10941000000	-15292000000	-19712000000	-25917000000
745000000	178000000	2233000000	4186000000
-141000000	-210000000	-459000000	-484000000
604000000	-32000000	1774000000	3702000000
-161000000	-167000000	-950000000	-1425000000
0.266556291	5.21875	0.535512965	0.384927066
-141000000	-210000000	-459000000	-484000000
-37584437.09	-1095937500	-245800451	-186304700.2
103415562.9	885937500	213199549	297695299.8

2013	2014	2015	2016
4374562000	5504656000	6779511000	8830669000
-3083256000	-3752760000	-4591476000	-6029901000
-1062959000	-1349248000	-1882209000	-2420975000
228347000	402648000	305826000	379793000
-32144000	-53279000	-163941000	-150114000

196203000	349369000	141885000	229679000
-58671000	-82570000	-19244000	-73829000
0.299032125	0.236340374	0.135630969	0.321444277
-32144000	-53279000	-163941000	-150114000
-9612088.622	-12591978.77	-22235476.65	-48253286.13
22531911.38	40687021.23	141705523.4	101860713.9

2013	2014	2015	2016
59825000000	66001000000	74989000000	90272000000
-25858000000	-25691000000	-28164000000	-35138000000
-20001000000	-23814000000	-27465000000	-31418000000
13966000000	16496000000	19360000000	23716000000
-83000000	-101000000	-104000000	-124000000
13883000000	16395000000	19256000000	23592000000
-2282000000	-3331000000	-3303000000	-4672000000
0.164373694	0.203171699	0.171530951	0.198033232
-83000000	-101000000	-104000000	-124000000
-13643016.64	-20520341.57	-17839218.94	-24556120.72
69356983.36	80479658.43	86160781.06	99443879.28

2017	2018	2019	2020
40653000000	55838000000	70697000000	85965000000
-5454000000	-9355000000	-12770000000	-16692000000
-14996000000	-21570000000	-33941000000	-36602000000
20203000000	24913000000	23986000000	32671000000
-6000000	-9000000	-20000	N/A
20197000000	24904000000	23985980000	32671000000
-4660000000	-3249000000	-6327000000	-4034000000
0.230727336	0.13046097	0.263779091	0.123473417
-6000000	-9000000	-20000	N/A
-1384364.014	-1174148.731	-5275.581819	N/A
4615635.986	7825851.269	14724.41818	N/A
			0.193626254

2017	2018	2019	2020
1.77866E+11	2.32887E+11	2.80522E+11	386064000000
-1.37183E+11	-1.73183E+11	-2.05768E+11	-291824000000
-36577000000	-47283000000	-60213000000	-71341000000
4106000000	12421000000	14541000000	22899000000
-848000000	-1417000000	-1600000000	-1647000000
3258000000	11004000000	12941000000	21252000000
-769000000	-1197000000	-2374000000	-2863000000
0.236034377	0.108778626	0.183447956	0.134716733
-848000000	-1417000000	-1600000000	-1647000000
-200157151.6	-154139313	-293516729.8	-221878458.5
647842848.4	1262860687	1306483270	1425121542
			0.159082344

2017	2018	2019	2020
11692713000	15794341000	20156447000	24996056000
-7659666000	-9967538000	-12440213000	-15276319000
-3194368000	-4221577000	-5111980000	-5134448000
838679000	1605226000	2604254000	4585289000
-353358000	-420493000	-626023000	-1385940000

485321000	1184733000	1978231000	3199349000
73608000	-15216000	-195315000	-437954000
0.151668689	0.0128434	0.09873215	0.136888473
-353358000	-420493000	-626023000	-1385940000
-53593344.74	-5400559.863	-61808596.79	-189719210.6
299764655.3	415092440.1	564214403.2	1196220789
			0.117810312

2017	2018	2019	2020
1.10855E+11	1.36819E+11	1.61857E+11	182527000000
-45583000000	-59549000000	-71896000000	-84732000000
-36390000000	-45878000000	-54033000000	-56571000000
28882000000	31392000000	35928000000	41224000000
-109000000	-114000000	-100000000	-135000000
28773000000	31278000000	35828000000	41089000000
-14531000000	-4177000000	-5282000000	-7813000000
0.505022069	0.133544344	0.147426594	0.190148215
-109000000	-114000000	-100000000	-135000000
-55047405.55	-15224055.25	-14742659.37	-25670009
53952594.45	98775944.75	85257340.63	109329991
			0.168787404

$$FCFF = \text{Net Income} + \text{Non-cash charges} - \text{Change in Net W}$$

Calculation of FCFE for Facebook

Input data:

Growth Rate

	2011
Net Income	1000000000
Total adjustments for non-cash items	544000000
Change in Operating Capital (Δ OWC)	5000000
Purchase of Property, Plant and Equipment (CapEx)	-606000000
Repayments for Lease Financing (Debt repayments)	
FCFE	943000000
Present Value of FCFF	
Present Value of Terminal Value	
Sum of PVs	
Intrinsic Value	

Calculation of FCFE for Amazon

Input data:

Growth Rate

	2011
Net Income	631000000
Total adjustments for non-cash items	1808000000
Change in Operating Capital (Δ OWC)	1464000000
Purchase of Property, Plant and Equipment (CapEx)	-1811000000
Repayments for Lease Financing (Debt repayments)	N/A
FCFE	2092000000
Present Value of FCFF	
Present Value of Terminal Value	
Sum of PVs	
Intrinsic Value	

Calculation of FCFE for Netflix

Input data:

Growth Rate

	2011
Net Income	226126000
Total adjustments for non-cash items	-27562000
Additions to Streaming Content Assets (non-cash expenses)	-2320732000
Change in Operating Capital (Δ OWC)	119148000
Purchase of Property, Plant and Equipment (CapEx)	-49682000
Repayments for Lease Financing (Debt repayments)	N/A
FCFE	-2052702000
Present Value of FCFF	
Present Value of Terminal Value	
Sum of PVs	

Intrinsic Value

Calculation of FCFE for Google (Alphabet)

Input data:

Growth Rate

	2011
Net Income	9737000000
Total adjustments for non-cash items	4198000000
Change in Operating Capital (Δ OWC)	630000000
Purchase of Property, Plant and Equipment (CapEx)	-3438000000
Repayments for Lease Financing (Debt repayments)	N/A
<i>FCFE</i>	<i>11127000000</i>
Present Value of FCFF	
Present Value of Terminal Value	
Sum of PVs	
<i>Intrinsic Value</i>	

Variables description

Variable	Source
Net Income	Income statement
Total adjustments for non-cash items (non-cash charges)	Cash Flow Statement
Changes in Operating Capital (Δ NOWC)	Cash Flow Statement
Purchase of Property Plant and Equipment (Capital Expenditures)	Cash Flow Statement
Additions to Streaming Content Assets (Part of CapEx)	Cash Flow Statement
Repayments for lease financing (Debt repaymensts)	Cash Flow Statement

Working Capital - Changes in Operating Working Capital - Capital Expenditures - Debt

0.152454012

Cost of equity

2012	2013	2014
53000000	150000000	294000000
205000000	204600000	277900000
-49100000	67600000	-26200000
-123500000	-136200000	-183100000
-36600000	-39100000	-24300000
1100000	246900000	338300000

0.093634348

Cost of equity

2012	2013	2014
-39000000	274000000	-241000000
269600000	443400000	610900000
152300000	76700000	97400000
-378500000	-344400000	-489300000
N/A	N/A	-142000000
39500000	203100000	52900000

0.160712335

Cost of equity

2012	2013	2014
17152000	112403000	266799000
2495114000	2915319000	3386040000
-2515506000	-3049758000	-3773459000
26005000	119867000	137103000
-41457000	-54143000	-69726000
-2319000	-1180000	-1093000
-21011000	42508000	-54336000

0.146894979

Cost of equity

2012	2013	2014
10788000000	12214000000	13928000000
4984000000	5770000000	7568000000
898000000	-31000000	364000000
-3273000000	-7358000000	-10959000000
N/A	N/A	N/A
13397000000	10595000000	10901000000

Description
Earnings received by a company after all expenses paid, tax and cost deductions
Expenses that do not imply cash outflows; includes depreciation and amortization costs
Compares changes in NOWC, which is represented by the difference between current assets and liabilities, from previous fiscal year
Purchase of fixed assets and long-term investments
Special account for Netflix firm, which includes expenses for content production and its licenses
Payments for lease for assets that company has taken for use

Repayments

0.0919

Common stock **2849000000**

2015	2016	2017	2018	2019
3688000000	10217000000	15934000000	22112000000	18485000000
4127000000	5133000000	6395000000	8689000000	10579000000
784000000	758000000	1887000000	-1527000000	7250000000
-2523000000	-4491000000	-6733000000	-13915000000	-15102000000
-119000000	-312000000	0	0	-552000000
5957000000	11305000000	17483000000	15359000000	20660000000

0.0847

Common stock **527000000**

2015	2016	2017	2018	2019
596000000	2371000000	3033000000	10073000000	11588000000
8767000000	10156000000	15574000000	21693000000	29364000000
2557000000	3916000000	-173000000	-1043000000	-2438000000
-4589000000	-6737000000	-11955000000	-13427000000	-16861000000
-2583000000	-4007000000	-4999000000	-7786000000	-9655000000
4748000000	5699000000	1480000000	9510000000	11998000000

0.0667

Common stock **442895261**

2015	2016	2017	2018	2019
122641000	186678000	558929000	1211242000	1866916000
4726685000	6800244000	7401909000	8857949000	9119402000
-5771652000	-8653286000	-9805763000	-13043437000	-13916683000
172887000	192380000	58977000	293767000	43043000
-91248000	-107653000	-173302000	-173946000	-253035000
-545000	N/A	N/A	N/A	N/A
-841232000	-1581637000	-1959250000	-2854425000	-3140357000

0.0769

<i>Common stock</i>

675222000

2015	2016	2017	2018	2019
1634800000	1947800000	1266200000	3073600000	3434300000
1008500000	1325800000	1518300000	1232700000	1935800000
-409000000	330000000	924600000	490800000	819000000
-991500000	-1021200000	-1318400000	-2513900000	-2354800000
N/A	N/A	N/A	N/A	N/A
1610900000	2582400000	2390700000	2283200000	3097200000

Base Year	1	2	3	4
2020	2021P	2022P	2023P	2024P
29146000000				
12324000000				
-2723000000				
-15115000000				
-604000000				
23028000000	26538710993	30584643963	35247395647	40621002533
	24305074634	30328501269	35220059543	40618105311

Base Year	1	2	3	4
2020	2021P	2022P	2023P	2024P
21331000000				
31252000000				
13481000000				
-40140000000				
-10695000000				
15229000000	16654957484	18214433566	19919930175	21785119847
	15354436696	18084692356	19907833271	21783998677

Base Year	1	2	3	4
2020	2021P	2022P	2023P	2024P
2761395000				
11476839000				
-11779284000				
-31873000				
-497923000				
N/A				
1929154000	2239192843	2599058753	3016759554	3501590025
	2099177691	2587547041	3015864623	3501520721

Base Year	1	2	3	4
2020	2021P	2022P	2023P	2024P
40269000000				
23028000000				
18270000000				
-22281000000				
N/A				
42843000000	49136421602	56354315240	64632481215	74126668211
	45627654937	56023016967	64603102528	74124076034

<i>Terminal value growth (perpetuity)</i>
0.04

5	TV (5)
2025P	2025P (Terminal Value)
46813837349	938080748420.40
46813530483	177285271240.53
	604402000838.75
	781687272079.27
	274.3725069

<i>Terminal value growth (perpetuity)</i>
0.06

5	TV (5)
2025P	2025P (Terminal Value)
23824955337	1022447475982.88
23824851477	98955812476.63
	680914850969.92
	779870663446.55
	1479.830481

<i>Terminal value growth (perpetuity)</i>
0.04

5	TV (5)
2025P	2025P (Terminal Value)
4064338733	158311321452.18
4064333368	15268443444.49
	114630582312.86
	129899025757.35

293.2951359

Terminal value growth (perpetuity)

0.06

5	TV (5)
2025P	2025P (Terminal Value)
85015503610	5332333362505.36
85015274982	325393125447.46
	3681632267155.24
	4007025392602.71
	5934.382163

Price-to-Earnings = Market Value per Share/Earnings per Share

	Market price (26.03.2021)	Earnings per Share	P/E	Subsector Average
<i>Facebook</i>	280.35	10.22	27.43150685	157.38
<i>Amazon</i>	3038.77	42.64	71.26571295	131.27
<i>Netflix</i>	502.66	6.26	80.2971246	1157.13
<i>Google</i>	2032.09	59.15	34.35486052	157.38

Price-to-Book Value = Market Value per Share/Book Value per Share

	Market price (26.03.2021)	Book Value per Share	P/B	Subsector Average
<i>Facebook</i>	280.35	45.02983503	6.225872243	6.23
<i>Amazon</i>	3038.77	177.2371917	17.14521637	18.62
<i>Netflix</i>	502.66	24.98387536	20.11937671	5.49
<i>Google</i>	2032.09	329.5864175	6.165575679	6.23

Book Value per Share = (Total Assets - Total Liabilities)/Book Value

Book Value per Share (Facebook)

Total Assets	159316000000
Total Liabilities	31026000000
Book Value	128290000000
Book value per share	45.02983503

Book Value per Share (Amazon)

Total Assets	321195000000
Total Liabilities	227791000000
Book Value	93404000000
Book value per share	177.2371917

Book Value per Share (Netflix)

Total Assets	39280359000
Total Liabilities	28215119000
Book Value	11065240000.00
Book value per share	24.98387536

Book Value per Share (Alphabet)

Total Assets	319616000000
Total Liabilities	97072000000
Book Value	222544000000
Book value per share	329.5864175

Facebook

Number of shares
2849000000

Amazon

Number of shares
527000000

Netflix

Number of shares
442895261

Alphabet (Google)

Number of shares
675222000

Price-to-Sales = Market Value per Share/Sales per Share

	Market price (26.03.2021)	Sales	Number of Shares	Sales per Share
<i>Facebook</i>	280.35	85965000000	2849000000	30.17
<i>Amazon</i>	3038.77	386064000000	527000000	732.57
<i>Netflix</i>	502.66	24996056000	442895261	56.44
<i>Google</i>	2032.09	182527000000	675222000	270.32

<i>P/S</i>	<i>Subsector Average</i>
9.29	8.11
4.148099253	4.52
8.906434355	6.24
7.517309077	8.11

Price-to-Cash Flow = Market Value per Share/ Cash Flow per Share

	Market price (26.03.2021)	Cash generated from Operating Activities	Number of Shares
<i>Facebook</i>	280.35	38747000000.00	2849000000
<i>Amazon</i>	3038.77	66064000000.00	527000000
<i>Netflix</i>	502.66	14206361000.00	442895261
<i>Google</i>	2032.09	65124000000.00	675222000

Cash Flow per Share	P/CF
13.6002106	20.61365138
125.3586338	2.236383658
32.07611878	8.740147207
96.44827923	2.906739262