

APPLE INC. (NASDAQGS: AAPL) INTRINSIC VALUATION

Apple Inc Valuation

Apple Inc (NasdaqGS : AAPL) has experienced a negative annual revenue growth of -0.5% over prior year in the year ending 30th December 2023. In the year ending 30th December 2022, the annual revenue growth over prior year was negative as well, which was well below par at -2.8%. Surprisingly through, the company share price has been holding up well, as the investors consider the company of premium value and therefore anticipate a turnaround in the foreseeable future.

Indeed, the company is now at a critical juncture and must therefore be in quest for a strong catalyst to pursue accelerated growth. Although, there has been some elevated level of expectation among the investor community that, a greater chunk of future revenues must come from Personal Generative Applications, one must be cognisant of the fact that, Apple Inc's iPhone and Services business segments continue to face intense competition in China, price sensitive part of India and Southeast Asia from the like of Huawei, Samsung, Xiaomi and others.

Nevertheless, the company boasts 2.2 billion active devices in the world, reaching all time high across all products and geographical segments for its fiscal year 2024 first quarter ended 30th December 2023. Apple Inc has approximately 1.4 billion active users and this is where the company can make a significant difference by increasing its product stickiness through Value-add such as Personal Generative AI applications. The company will be releasing its next generation AI products later this year, which must provide higher revenue and operating income boost in the future growth years. The key here is how quickly the company can monetise a personalized AI product through a monthly or annual subscription model targeting the appropriate customer segments thereby increasing the Customer Value Proposition of high value Apple Products and services. On a rough estimate, if 15% of the company's active users subscribe to a personalised AI product priced between \$5 to \$10 per month, that would translate between \$12.6 billion to \$25 billion annually, which would mean the company is back on a trajectory of double-digit annual revenue growth over the future growth years. These additional revenues will go long way to stabilise the operating income margin at 35% or even higher depending on the further uptake of Apple's AI subscription model. In summary, the potential revenue from AI subscriptions could significantly impact the company's financials. Our model considers significantly high growth opportunity for the company moving forward.

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Past Performance: Year Ending 2023

CAGR Revenue Growth 4 year (2020-2023): 8.70%

CAGR Revenue Growth Past 6 year (2018-2023): 6.30%

Sales, General Admin Expenses as % Revenue

2021: 6.01 %

2023: 6.50 %

Past Pre-Tax Operating Margin

2021: 29.78%

2023: 29.82%

Forward looking Estimate (2024-2028)

Estimate	2024	2025	2026	2027	2028
Revenue	388318.4	412683.9	433371.0	441347.5	508197
Gross Margin	45.83%	45.88%	46.01%	47.75%	
Gross Profit	177966.3	189339.4	199394.0	210743.4	
Operating Expense	58057.8	62599.3	64456.1	64615.9	
Depreciation	11463.21	12015.32	13327.97	14028.00	
Operating Income	119908.5	126740.1	134937.9	146127.5	
Net Interest Expense	-242.80	-944.40	-453.00	-353.00	
EBIT	120151.3	127684.5	135390.9	146480.5	
Pre-Tax Operating Margin	30.94%	30.94%	31.24%	33.19%	
Operating Expense Margin	14.95%	15.17%	14.87%	14.64%	
R&D	30064.58	30515.54	30665.87	30816.19	
SG&A Margin	7.21%	7.77%	7.80%	7.66%	

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Model Key Estimate (2024-2032)

Three Scenarios

CAGR 9.48%

CAGR 8.01 %

CAGR 7.02 %

Cost of Calculation Inputs

Risk Free rate	4.09%
Market Return (Rm) -	10.63%
Market Risk Premium (Rm - Rf)	6.54%
(Rf)(1)	4.09%
Add: Size Premium	-

Terminal Rate into Perpetuity: 4.08%

Base Year (2024)

- Pre-Tax Operating Margin 34.45 % (incl. R&D and Operating Lease Capitalizations)
- Cost of Capital 11.47 %, Cost of Equity: 11.83%, After Tax Cost of Debt: 2.62%
- Equity Risk Premium: 4.60% (Country Specific: US 4.50%)
- Effective Tax Rate 14.72%
- Sales to Capital Ratio 1.68

Year into perpetuity (2032+) and beyond

- Expected Revenue Growth In perpetuity: 4.08%
Pre-tax Operating Margin 35%
- Cost of Capital 7.70%, Cost of Equity :8.39%, Cost of Debt after Tax: 4.34%
- Sales to Capital Ratio 1.68
- Effective Tax Rate 14.70%
- Return on Capital used: 15.00%

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Fair Value Calculation

CAGR 9.48 % - Fair Value \$205

CAGR 8.01 % - Fair Value \$184

CAGR 7.02 % - Fair Value \$170

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APPLE INC. (NASDAQGS: AAPL) INTRINSIC VALUATION

	Calculating Reinvestment, Free Cash Flow to Entity (FCFE) and Return on Capital										
Apple Inc. (AAPL)	Revenue Growth CAGR		9.48%								
Annual Data	Base	1	2	3	4	5	6	7	8	9	10
Fiscal Period	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
Revenue Growth Numbers		15.00%	13.79%	12.57%	11.36%	10.15%	8.93%	7.72%	6.51%	5.29%	4.08%
Revenues	388,205	446,435	507,984	571,854	636,817	701,433	764,094	823,082	876,637	923,041	960,701
EBIT	\$131,607	153,800	176,399	199,364	222,449	245,261	267,302	288,008	306,785	323,044	336,245
Pre Tax Operating Margin	33.90%	34.45%	34.73%	34.86%	34.93%	34.97%	34.98%	34.99%	35.00%	35.00%	35.00%
Income Taxes	16,824.71	22638.00	25964.38	29344.55	32742.45	36100.17	39344.42	42392.21	45156.06	47549.24	49,428.06
After Tax Operating Income	114,782	131,162	150,435	170,019	189,706	209,161	227,957	245,616	261,629	275,495	286,817
After Tax Operating Income Growth Rate		14.27%	14.69%	13.02%	11.58%	10.25%	8.99%	7.75%	6.52%	5.30%	4.11%
Depreciation	\$11,463	12904.52	14370.47	15828.59	17242.62	18573.75	19782.28	20829.42	21679.26	22563.77	23484.38
Capital Expenditure	-\$10,959	-\$12,603	-\$14,340	-\$16,143	-\$17,977	-\$19,801	-\$21,570	-\$23,236	-\$24,747	-\$26,057	-\$27,121
Change in Working Capital	-\$1,807	-6887.25	-7279.67	-7554.30	-7683.47	-7642.44	-7411.28	-6976.83	-6334.26	-5488.37	-4454.25
NOL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
FCFE		\$94,458.11	\$112,346.12	\$131,279.20	\$151,173.18	\$171,792.89	\$192,780.28	\$213,678.67	\$233,957.14	\$253,036.94	\$208,802.96
Reinvestment (AI)		36704.04	38088.72	38740.02	38533.11	37367.63	35177.11	31937.27	27672.30	22458.31	78014.29
EPS											
Terminal Value											\$5,365,836
Cost of Capital Calculations											
Tax Rate	12.78%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.70%
Debt Ratio	3.82%	3.82%	3.82%	3.82%	3.82%	5.99%	6.53%	7.44%	9.25%	14.67%	14.67%
Beta	1.20	1.20	1.20	1.20	1.20	1.20	1.15	1.09	1.04	0.99	0.93
Correlation with Market	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total Beta	1.20	1.20	1.20	1.20	1.20	1.20	1.15	1.09	1.04	0.99	0.93
Market Risk Premium	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.52%	5.29%	5.06%	4.83%	4.60%
Cost of Equity	11.21%	11.21%	11.21%	11.21%	11.21%	11.21%	10.64%	10.09%	9.57%	9.07%	8.60%
Cost of Debt	3.07%	3.07%	3.07%	3.07%	3.07%	3.47%	3.57%	3.74%	4.08%	5.09%	5.09%
After-tax cost of debt	2.68%	2.62%	2.62%	2.62%	2.62%	2.96%	3.05%	3.19%	3.48%	4.34%	4.34%
Cost of Capital	10.88%	10.88%	10.88%	10.88%	10.88%	10.71%	10.14%	9.58%	9.00%	8.37%	7.97%
Computed Variables (These are measures of how efficiently your firm is investing over time)											
Total Capital Invested	169,537.47	206,241.51	244,330.23	283,070.25	321,603.36	358,971.00	394,148.11	426,085.38	453,757.67	476,215.98	554,230.27
Reinvestment Rate		31.98%	29.04%	25.75%	22.66%	19.70%	16.82%	14.01%	11.27%	8.58%	28.32%
Increase in Revenue/Increase in Capital		1.59	1.62	1.65	1.69	1.73	1.78	1.85	1.94	2.07	0.48
Return on Capital		77.36%	72.94%	69.59%	67.02%	65.04%	63.50%	62.32%	61.40%	60.71%	15.00%
Sales to Capital Ratio	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925
Present Value Calculations											
Cumulative WACC		1.1088	1.2294	1.3632	1.5114	1.6734	1.8430	2.0195	2.2014	2.3857	
Present Value of FCFF		85,190.48	91,382.23	96,305.57	100,018.89	102,663.09	104,599.06	105,806.48	106,278.86	106,063.60	
Present Value of Terminal Value											2,249,157.20
The Valuation											
PV of FCFF during high growth phase =			898,308.27								
PV of Terminal Value =			2,249,157.20								
Value of Operating Assets of the firm =			3,147,465.47								
Value of Cash & Non-operating assets =			118,168.75								
Value of Firm =			3,265,634.22								
- Value of Outstanding Debt =			107,080.74								
Value of Equity =			3,158,553.48								
- Capital Infusion =			4,994.76								
- Value of Equity Options for Employees =			\$10,833.00								
Value of Equity in Common Stock =			3,152,715.24								
Value of Equity per share =			204.17								
						Treasury Stock Approach					
						\$	204.17				

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	Calculating Reinvestment, Free Cash Flow to Entity (FCFE) and Return on Capital										
Apple Inc. (AAPL)	Revenue Growth CAGR		8.01%								
Annual Data	Base	1	2	3	4	5	6	7	8	9	10
Fiscal Period	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
Revenue Growth Numbers		12.00%	11.12%	10.24%	9.36%	8.48%	7.60%	6.72%	5.84%	4.96%	4.08%
Revenues	388,205	434,789	483,138	532,611	582,464	631,856	679,878	725,565	767,938	806,028	838,914
EBIT	\$131,607	149,788	167,771	185,682	203,462	220,933	237,840	253,886	268,745	282,093	293,620
Pre Tax Operating Margin	33.90%	34.45%	34.73%	34.86%	34.93%	34.97%	34.98%	34.99%	35.00%	35.00%	35.00%
Income Taxes	0.00	22047.44	24694.43	27330.79	29947.82	32519.32	35007.97	37369.67	39556.91	41521.48	43,162.13
After Tax Operating Income	131,607	127,741	143,077	158,352	173,514	188,414	202,832	216,516	229,189	240,571	250,458
After Tax Operating Income Growth Rate		-2.94%	12.01%	10.68%	9.58%	8.59%	7.65%	6.75%	5.85%	4.97%	4.11%
Depreciation	\$11,463	12637.04	13819.87	14991.80	16131.17	17215.19	18220.55	19124.29	19904.56	20716.67	21561.91
Capital Expenditure	-\$10,959	-\$12,274	-\$13,639	-\$15,036	-\$16,443	-\$17,837	-\$19,193	-\$20,483	-\$21,679	-\$22,754	-\$23,683
Change in Working Capital	-\$1,807	-\$509.80	-\$718.44	-\$851.47	-\$896.30	-\$841.96	-\$679.71	-\$503.73	-\$311.68	-\$150.07	-\$889.59
NOL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
FCFE		\$98,908.21	\$113,573.84	\$128,622.59	\$144,059.38	\$159,776.48	\$175,586.89	\$191,247.07	\$206,474.00	\$220,959.75	\$182,333.26
Reinvestment (AI)		28832.32	29503.05	29729.12	29455.10	28637.03	27245.57	25268.84	22714.54	19611.30	68124.52
EPS											
Terminal Value											\$4,685,615
Cost of Capital Calculations											
Tax Rate	12.78%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.70%
Debt Ratio	3.82%	3.82%	3.82%	3.82%	3.82%	5.99%	6.53%	7.44%	9.25%	14.67%	14.67%
Beta	1.20	1.20	1.20	1.20	1.20	1.20	1.15	1.09	1.04	0.99	0.93
Correlation with Market	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total Beta	1.20	1.20	1.20	1.20	1.20	1.20	1.15	1.09	1.04	0.99	0.93
Market Risk Premium	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.52%	5.29%	5.06%	4.83%	4.60%
Cost of Equity	11.21%	11.21%	11.21%	11.21%	11.21%	11.21%	10.64%	10.09%	9.57%	9.07%	8.60%
Cost of Debt	3.07%	3.07%	3.07%	3.07%	3.07%	3.47%	3.57%	3.74%	4.08%	5.09%	5.09%
After-tax cost of debt	2.68%	2.62%	2.62%	2.62%	2.62%	2.96%	3.05%	3.19%	3.48%	4.34%	4.34%
Cost of Capital	10.88%	10.88%	10.88%	10.88%	10.88%	10.71%	10.14%	9.58%	9.00%	8.37%	7.97%
Computed Variables (These are measures of how efficiently your firm is investing over time)											
Total Capital Invested	169,537.47	198,369.79	227,872.84	257,601.96	287,057.06	315,694.09	342,939.67	368,208.51	390,923.05	410,534.34	478,658.86
Reinvestment Rate		21.91%	23.10%	20.78%	18.60%	16.50%	14.46%	12.46%	10.49%	8.56%	28.32%
Increase in Revenue/Increase in Capital		1.62	1.64	1.66	1.69	1.72	1.76	1.81	1.87	1.94	0.48
Return on Capital		75.35%	72.13%	69.49%	67.36%	65.64%	64.25%	63.14%	62.24%	61.54%	15.00%
Sales to Capital Ratio	1.676887925	1.67688792	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.67688792	1.676887925	1.676887925
Present Value Calculations											
Cumulative WACC		1.1088	1.2294	1.3632	1.5114	1.6734	1.8430	2.0195	2.2014	2.3857	
Present Value of FCFF		89,203.97	92,380.85	94,356.69	95,312.28	95,482.11	95,270.25	94,699.11	93,794.20	92,618.05	
Present Value of Terminal Value											1,964,034.27
The Valuation											
PV of FCFF during high growth phase =			843,117.49								
PV of Terminal Value =			1,964,034.27								
Value of Operating Assets of the firm =			2,807,151.76								
Value of Cash & Non-operating assets=			118,168.75								
Value of Firm =			2,925,320.51								
- Value of Outstanding Debt =			107,080.74								
Value of Equity =			2,818,239.77								
- Capital Infusion =			4,994.76								
- Value of Equity Options for Employees =			\$10,833.00								
Value of Equity in Common Stock =			2,812,401.53								
Value of Equity per share =			182.13								
											Treasury Stock Approach
											\$ 182.13

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Apple Inc. (AAPL)	Revenue Growth CAGR		7.02%								
Annual Data	Base	1	2	3	4	5	6	7	8	9	10
Fiscal Period	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
Revenue Growth Numbers		10.00%	9.34%	8.68%	8.03%	7.37%	6.71%	6.05%	5.40%	4.74%	4.08%
Revenues	388,205	427,025	466,919	507,468	548,201	588,597	628,099	666,120	702,060	735,322	765,324
EBIT	\$131,607	147,113	162,139	176,917	191,494	205,807	219,727	233,085	245,691	257,347	267,863
Pre Tax Operating Margin	33.90%	34.45%	34.73%	34.86%	34.93%	34.97%	34.99%	34.99%	35.00%	35.00%	35.00%
Income Taxes	0.00	21653.74	23865.43	26040.59	28186.18	30292.93	32341.79	34307.96	36163.50	37879.17	39,375.90
After Tax Operating Income	131,607	125,459	138,274	150,876	163,308	175,514	187,385	198,777	209,527	219,468	228,487
After Tax Operating Income Growth Rate		-4.67%	10.21%	9.11%	8.24%	7.47%	6.76%	6.08%	5.41%	4.74%	4.11%
Depreciation	\$11,463	12458.73	13458.75	14450.51	15420.30	16353.74	17236.11	18052.72	18789.27	19555.88	20353.76
Capital Expenditure	-\$10,959	-\$12,055	-\$13,181	-\$14,326	-\$15,476	-\$16,616	-\$17,731	-\$18,805	-\$19,819	-\$20,758	-\$21,605
Change in Working Capital	-\$1,807	-4591.50	-4718.43	-4795.98	-4817.68	-4777.88	-4672.04	-4496.93	-4250.91	-3934.08	-3548.39
NOL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
FCFE		\$101,669.16	\$114,092.49	\$126,585.69	\$139,217.68	\$151,957.64	\$164,711.41	\$177,343.63	\$189,691.90	\$201,576.92	\$166,338.79
Reinvestment (AI)		23790.28	24181.28	24290.70	24090.05	23556.38	22673.49	21433.07	19835.59	17890.97	62148.56
EPS											
Terminal Value											\$4,274,588
Cost of Capital Calculations											
Tax Rate	12.78%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.72%	14.70%
Debt Ratio	3.82%	3.82%	3.82%	3.82%	3.82%	5.99%	6.53%	7.44%	9.25%	14.67%	14.67%
Beta	1.20	1.20	1.20	1.20	1.20	1.20	1.15	1.09	1.04	0.99	0.93
Correlation with Market	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total Beta	1.20	1.20	1.20	1.20	1.20	1.20	1.15	1.09	1.04	0.99	0.93
Market Risk Premium	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.52%	5.29%	5.06%	4.83%	4.60%
Cost of Equity	11.21%	11.21%	11.21%	11.21%	11.21%	11.21%	10.64%	10.09%	9.57%	9.07%	8.60%
Cost of Debt	3.07%	3.07%	3.07%	3.07%	3.07%	3.47%	3.57%	3.74%	4.08%	5.09%	5.09%
After-tax cost of debt	2.68%	2.62%	2.62%	2.62%	2.62%	2.96%	3.05%	3.19%	3.48%	4.34%	4.34%
Cost of Capital	10.88%	10.88%	10.88%	10.88%	10.88%	10.71%	10.14%	9.58%	9.00%	8.37%	7.97%
Computed Variables (These are measures of how efficiently your firm is investing over time)											
Total Capital Invested	169,537.47	193,327.75	217,509.04	241,799.73	265,889.78	289,446.17	312,119.66	333,552.72	353,388.31	371,279.28	433,427.84
Reinvestment Rate		18.08%	19.27%	17.57%	15.97%	14.42%	12.92%	11.44%	9.98%	8.54%	28.32%
Increase in Revenue/Increase in Capital		1.63	1.65	1.67	1.69	1.71	1.74	1.77	1.81	1.86	0.48
Return on Capital		74.00%	71.52%	69.37%	67.54%	66.01%	64.74%	63.69%	62.82%	62.10%	15.00%
Sales to Capital Ratio	1.676887925	1.67688792	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925	1.676887925
Present Value Calculations											
Cumulative WACC		1.1088	1.2294	1.3632	1.5114	1.6734	1.8430	2.0195	2.2014	2.3857	
Present Value of FCFF		91,694.03	92,802.72	92,862.43	92,108.92	90,809.58	89,369.41	87,814.59	86,170.65	84,493.49	
Present Value of Terminal Value											1,791,747.08
The Valuation											
PV of FCFF during high growth phase =			808,125.83								
PV of Terminal Value =			1,791,747.08								
Value of Operating Assets of the firm =			2,599,872.91								
Value of Cash & Non-operating assets =			118,168.75								
Value of Firm =			2,718,041.66								
- Value of Outstanding Debt =			107,080.74								
Value of Equity =			2,610,960.92								
- Capital Infusion =			4,994.76								
- Value of Equity Options for Employees =			\$10,833.00								
Value of Equity in Common Stock =			2,605,122.69								
Value of Equity per share =			168.71								
						Treasury Stock Approach					
						\$	168.71				

DISCLAIMER: This is not financial advice, but a fair value assessment of the company based on the past, present and forward-looking financials. We use this information to make our own decision on the stock purchase and sell for our portfolio.

Financial markets are notorious to predict, and past performance is no indicator of the future performance. We share information purely for knowledge and learning purpose. Please don't rely on the information shared and any decision you take is yours and we have zero liabilities in this regard.