# **Boyko Data**

By Boyko Wealth

**Equity Data Report** 

#### **PLEASE NOTE**

#### **NO INVESTMENT ADVICE**

The content is for informational purposes only, you should not construe any such information or other material as legal, tax, investment, financial, or other advice. Nothing contained on our site constitutes a solicitation, recommendation, endorsement, or offer by Boyko Research or any third party service provider to buy or sell any securities or other financial instruments in this or in any other jurisdiction in which such solicitation or offer would be unlawful under the securities laws of such jurisdiction. All content on this site is information of a general nature and does not address the circumstances of any particular individual or entity. Nothing in the site constitutes professional and/or financial advice, nor does any information on the Site constitute a comprehensive or complete statement of the matters discussed or the law relating thereto. Boyko Research is not a fiduciary by virtue of any person's use of or access to the Site or Content. You alone assume the sole responsibility of evaluating the merits and risks associated with the use of any information or other content on the site before making any decisions based on such information or other content. In exchange for using the site, you agree not to hold Boyko Research, its affiliates or any third party service provider liable for any possible claim for damages arising from any decision you make based on information or other content made available to you through the Site.

#### **INVESTMENT RISKS**

There are risks associated with investing in securities. Investing in stocks, bonds, exchange traded funds, mutual funds, cryptocurrency and money market funds involve risk of loss. Loss of principal is possible. Some high risk investments may use leverage, which will accentuate gains and losses. Foreign investing involves special risks, including a greater volatility and political, economic and currency risks and differences in accounting methods. A security's or a firm's past investment performance is not a guarantee or predictor of future investment performance.

#### **COPYRIGHT**

Copyright © Boyko Wealth 2023

All rights reserved. The information contained has been obtained from sources believed to be reliable, but is not necessarily complete and its accuracy cannot be guaranteed.

Table of Contents	<b>√</b>
Key Business Measures	4
Reported Fundamental Data	8
Return Data	23
Liquidity Analysis	31
Asset Analysis	35
Default Analysis	40
Equity Risk Model	45
Forward Outlooks	48
Intermarket Analysis	55
Valuation Simulation	60
Value At Risk (VaR)	63

#### Boyko Data | Service By Boyko Wealth

The Following Data Is Believed To Be Accurate As Of:

January 6, 2024



#### Apple Inc (AAPL:US) \$181.18

Company Name: Apple Inc

Sector: Information Technology

Industry: Technology Hardware, Storage & Peripherals

Subindustry: Technology Hardware, Storage & Peripherals

Currency: USD

Exchange: NASDAQ

Country: US

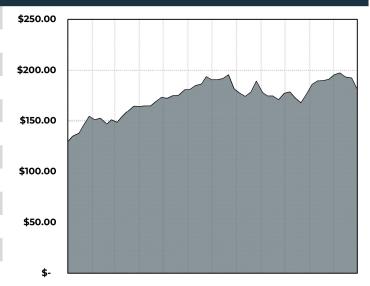
SIC: 3663

NAICS: 334220

ISIN: US0378331005

CIK: 320193

CUSIP: 037833100



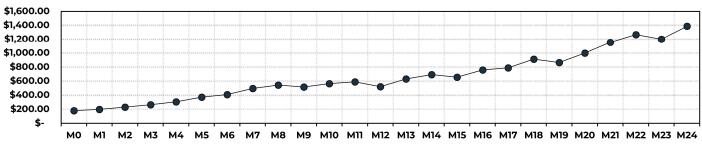
Boyko Data | boykowealth.com

#### **Executive Summary**

Apple Inc. designs, manufactures, and markets smartphones, personal computers, tablets, wearables, and accessories worldwide. The company offers iPhone, a line of smartphones; Mac, a line of personal computers; iPad, a line of multi-purpose tablets; and wearables, home, and accessories comprising AirPods, Apple TV, Apple Watch, Beats products, and HomePod. It also provides AppleCare support and cloud services; and operates various platforms, including the App Store that allow customers to discover and download applications and digital content, such as books, music, video, games, and podcasts. In addition, the company offers various services, such as Apple Arcade, a game subscription service; Apple Fitness+, a personalized fitness service; Apple Music, which offers users a curated listening experience with on-demand radio stations; Apple News+, a subscription news and magazine service; Apple TV+, which offers exclusive original content; Apple Card, a co-branded credit card; and Apple Pay, a cashless payment service, as well as licenses its intellectual property. The company serves consumers, and small and mid-sized businesses; and the education, enterprise, and government markets. It distributes third-party applications for its products through the App Store. The company also sells its products through its retail and online stores, and direct sales force; and third-party cellular network carriers, wholesalers, retailers, and resellers. Apple Inc. was founded in 1976 and is headquartered in Cupertino, California.

Two Year Exped	cted Return And Risk	(Inputs Italicized)
I TO I GOI EXPO	seed needin And mish	(iii)pats italicized)

Category	МО	М6	M12	M18	M24	Dist.	Prob.
Expected Return	0.00%	125.40%	187.07%	403.71%	665.75%	L Extreme	1.64%
Risk	0.75%	0.75%	0.75%	0.75%	0.75%	Bear	4.92%
Bear Case	0.00%	-27.46%	-47.38%	-61.83%	-72.32%	Base	19.67%
Base Case	0.00%	27.21%	61.83%	105.87%	161.89%	Bull	24.59%
Bull Case	0.00%	74.30%	203.81%	429.54%	823.00%	R Extreme	24.59%



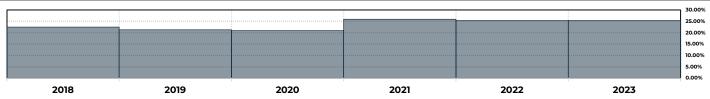
Boyko Data | boykowealth.com





Growth						
Analytic Measure	2018	2019	2020	2021	2022	2023
Revenue Growth	15.86%	-2.04%	5.51%	33.26%	7.79%	-2.80%
Gross Profit Growth	15.48%	-3.38%	6.67%	45.62%	11.74%	-0.96%
EBITDA Growth	14.41%	-6.51%	1.13%	55.45%	8.57%	-3.62%
Operating Income Growth	15.57%	-9.83%	3.69%	64.36%	9.63%	-4.30%
Pretax Income Growth	13.75%	-9.83%	2.06%	62.77%	9.06%	-4.51%
Net Income Growth	23.12%	-7.18%	3.90%	64.92%	5.41%	-2.81%
Diluted EPS Growth	29.40%	-0.34%	10.44%	71.04%	8.91%	0.33%
Diluted Shares Growth	-4.79%	-7.02%	-5.74%	-3.78%	-3.20%	-3.14%
Shares Outstanding (End of Period) Growth	-7.24%	-6.56%	-4.48%	-3.24%	-2.94%	-1.94%
Cash and Equivalents Growth	27.72%	88.49%	-22.17%	-8.09%	-32.32%	26.72%
PPE Growth	22.26%	-9.51%	-1.64%	7.27%	6.79%	3.79%
Total Assets Growth	-2.56%	-7.44%	-4.32%	8.37%	0.50%	-0.05%
Total Equity Growth	-20.07%	-15.55%	-27.79%	-3.44%	-19.68%	22.64%
Cash from Operations Growth	20.57%	-10.39%	16.26%	28.96%	17.41%	-9.50%
Capital Expenditures Growth	-6.92%	21.17%	30.36%	-51.66%	3.40%	-2.34%
Free Cash Flow Growth	23.85%	-8.15%	24.57%	26.70%	19.89%	-10.64%
Revenue 10-Period CAGR	21.63%	19.75%	15.46%	12.95%	9.68%	8.41%
Diluted EPS 10-Period CAGR	28.54%	24.80%	19.75%	18.95%	14.50%	15.75%
Total Assets 10-Period CAGR	26.03%	21.70%	15.73%	11.67%	7.20%	5.47%
Total Equity 10-Period CAGR	17.00%	11.08%	3.18%	-1.92%	-8.12%	-6.64%
Cash from Operations 10-Period CAGR	23.22%	21.18%	15.81%	10.73%	9.16%	7.49%
Free Cash Flow 10-Period CAGR	22.39%	20.65%	16.03%	10.82%	10.10%	8.15%

Margins						
Margin Measure	2018	2019	2020	2021	2022	2023
Gross Margin	38.34%	37.82%	38.23%	41.78%	43.31%	44.13%
EBITDA Margin	30.80%	29.39%	28.17%	32.87%	33.10%	32.83%
Operating Margin	26.69%	24.57%	24.15%	29.78%	30.29%	29.82%
Pretax Margin	27.45%	25.27%	24.44%	29.85%	30.20%	29.67%
Net Margin	22.41%	21.24%	20.91%	25.88%	25.31%	25.31%
Free Cash Margin	24.14%	22.64%	26.73%	25.41%	28.26%	25.98%







Key Metrics						
Key Metrics	2018	2019	2020	2021	2022	2023
EBITDA	81801.00	76477.00	77344.00	120233.00	130541.00	125820.00
Capital Expenditures	-13313.00	-10495.00	-7309.00	-11085.00	-10708.00	-10959.00
Free Cash Flow	64121.00	58896.00	73365.00	92953.00	111443.00	99584.00
Dividends Per Share	0.68	0.75	0.80	0.85	0.90	0.94
Payout Ratio	0.23	0.25	0.24	0.15	0.15	0.15
Income Tax Rate	0.18	0.16	0.14	0.13	0.16	0.15
Net Debt	88570.00	59203.00	74420.00	89779.00	96423.00	81123.00

Returns						
Key Returns	2018	2019	2020	2021	2022	2023
Return on Equity	49.36%	55.92%	73.69%	147.44%	175.46%	171.95%
Return on Assets	16.07%	15.69%	17.33%	28.06%	28.36%	27.50%
Return on Invested Capital	25.26%	26.30%	30.51%	51.80%	55.67%	56.40%
Return on Invested Capital (Legacy)	28.00%	31.99%	39.67%	64.71%	66.54%	66.81%
Return on Capital Employed	25.16%	24.61%	27.55%	46.03%	51.81%	51.61%
Return on Tangible Capital Employed	25.16%	24.61%	27.55%	46.03%	51.81%	51.61%
Debt to Equity	106.85%	119.40%	172.08%	197.68%	236.95%	178.75%
Debt to Assets	31.30%	31.92%	34.71%	35.53%	34.04%	31.51%
Equity to Assets	29.30%	26.73%	20.17%	17.97%	14.36%	17.63%
Assets to Equity	341.33%	374.10%	495.70%	556.35%	696.15%	567.35%
Current Ratio	113.29%	154.01%	136.36%	107.46%	87.94%	98.80%

Long Term Median						
Key Data	2018	2019	2020	2021	2022	2023
Operating Income Per Share	3.54	3.44	3.78	6.46	7.32	7.23
Pretax Income Per Share	3.65	3.54	3.83	6.48	7.30	7.19
Free Cash Flow Per Share	3.21	3.17	4.19	5.51	6.83	6.30
Book Value Per Share	5.36	4.87	3.73	3.74	3.10	3.93
Tangible Book Value Per Share	5.36	4.87	3.73	3.74	3.10	3.93
Growth						
Revenue Growth	15.86%	-2.04%	5.51%	33.26%	7.79%	-2.80%
Gross Profit Growth	15.48%	-3.38%	6.67%	45.62%	11.74%	-0.96%
EBITDA Growth	14.41%	-6.51%	1.13%	55.45%	8.57%	-3.62%
Operating Income Growth	15.57%	-9.83%	3.69%	64.36%	9.63%	-4.30%
Pretax Income Growth	13.75%	-9.83%	2.06%	62.77%	9.06%	-4.51%

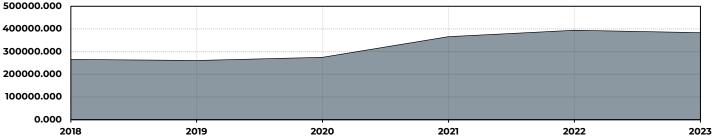






#### Income Statement (Vertical Analysis, Base Bolded)

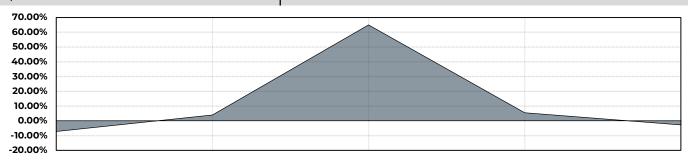
Income Statement	2018	2019	2020	2021	2022	2023
Revenue	265595.000	260174.000	274515.000	365817.000	394328.000	383285.000
Cost of Goods Sold	61.66%	62.18%	61.77%	58.22%	56.69%	55.87%
Gross Profit	38.34%	37.82%	38.23%	41.78%	43.31%	44.13%
Sales, General, & Administrative	6.29%	7.01%	7.25%	6.01%	6.36%	6.50%
Research & Development	5.36%	6.23%	6.83%	5.99%	6.66%	7.80%
Special Charges	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other Operating Expense	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Operating Expense	11.65%	13.25%	14.09%	12.00%	13.02%	14.31%
Operating Profit	26.69%	24.57%	24.15%	29.78%	30.29%	29.82%
Interest Income	2.14%	1.91%	1.37%	0.78%	0.72%	0.98%
Interest Expense	-1.22%	-1.37%	-1.05%	-0.72%	-0.74%	-1.03%
Net Interest Income (Non-financial)	0.92%	0.53%	0.32%	0.05%	-0.03%	-0.05%
Other Income (Expense)	-0.17%	0.16%	-0.03%	0.02%	-0.06%	-0.10%
Pre-Tax Profit	27.45%	25.27%	24.44%	29.85%	30.20%	29.67%
Income Tax	-5.03%	-4.03%	-3.53%	-3.97%	-4.89%	-4.37%
Earnings from Continuing Operations	22.41%	21.24%	20.91%	25.88%	25.31%	25.31%
Earnings from Discontinued Operations	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Minority Interest Income	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other Income Statement Items	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income	22.41%	21.24%	20.91%	25.88%	25.31%	25.31%
Preferred Dividends	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income Available to Shareholders	22.41%	21.24%	20.91%	25.88%	25.31%	25.31%
Basic EPS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Diluted EPS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Basic Shares Outstanding	7.46%	7.10%	6.32%	4.57%	4.11%	4.11%
Diluted Shares Outstanding	7.53%	7.15%	6.39%	4.61%	4.14%	4.13%
Shares Outstanding (End of Period)	7.16%	6.83%	6.18%	4.49%	4.04%	4.08%
Shares Outstanding Change	-0.56%	-0.48%	-0.29%	-0.15%	-0.12%	-0.08%
Depreciation & Amortization	4.11%	4.82%	4.03%	3.08%	2.82%	3.01%
500000.000						<del></del>
400000 000						







Income Statement	2010	2010	2020	2021	2022	2027
	2018	2019	2020	2021	2022	2023
Revenue	265595.00	-2.04%	5.51%	33.26%	7.79%	-2.80%
Cost of Goods Sold	163756.00	-1.21%	4.81%	25.61%	4.96%	-4.21%
Gross Profit	101839.00	-3.38%	6.67%	45.62%	11.74%	-0.96%
Sales, General, & Administrative	16705.00	9.22%	9.16%	10.33%	14.20%	-0.65%
Research & Development	14236.00	13.92%	15.63%	16.86%	19.79%	13.96%
Special Charges	0.00	0.00%	0.00%	0.00%	0.00%	0.00%
Other Operating Expense	0.00	0.00%	0.00%	0.00%	0.00%	0.00%
Total Operating Expense	30941.00	11.38%	12.20%	13.50%	16.99%	6.82%
Operating Profit	70898.00	-9.83%	3.69%	64.36%	9.63%	-4.30%
Interest Income	5686.00	-12.75%	-24.15%	-24.45%	-0.63%	32.74%
Interest Expense	-3240.00	10.37%	-19.66%	-7.94%	10.81%	34.19%
Net Interest Income (Non-financial)	2446.00	-43.38%	-35.74%	-77.75%	-153.54%	72.64%
Other Income (Expense)	-441.00	-195.69%	-120.62%	-168.97%	-480.00%	67.54%
Pre-Tax Profit	72903.00	-9.83%	2.06%	62.77%	9.06%	-4.51%
Income Tax	-13372.00	-21.62%	-7.64%	50.07%	32.86%	-13.26%
Earnings from Continuing Operations	59531.00	-7.18%	3.90%	64.92%	5.41%	-2.81%
Earnings from Discontinued Operations	0.00	0.00%	0.00%	0.00%	0.00%	0.00%
Minority Interest Income	0.00	0.00%	0.00%	0.00%	0.00%	0.00%
Other Income Statement Items	0.00	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income	59531.00	-7.18%	3.90%	64.92%	5.41%	-2.81%
Preferred Dividends	0.00	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income Available to Shareholders	59531.00	-7.18%	3.90%	64.92%	5.41%	-2.81%
Basic EPS	3.00	-0.33%	10.70%	71.30%	8.47%	0.16%
Diluted EPS	2.98	-0.34%	10.44%	71.04%	8.91%	0.33%
Basic Shares Outstanding	19821.51	-6.81%	-6.06%	-3.75%	-2.91%	-2.91%
Diluted Shares Outstanding	20000.44	-7.02%	-5.74%	-3.78%	-3.20%	-3.14%
Shares Outstanding (End of Period)	19019.90	-6.56%	-4.48%	-3.24%	-2.94%	-1.94%
Shares Outstanding Change	-1484.90	-16.02%	-36.16%	-30.91%	-12.11%	-36.04%



365725.000 338516.000 323888.000 351002.000 352755.000 352583.000



#### Apple Inc (AAPL:US) \$181.18

**Total Liabilities & Equity** 

#### **Balance Sheet (Vertical Analysis, Bases Bolded) Balance Sheet** 2018 2019 2020 2021 2022 2023 Cash and Equivalents 7.09% 14.43% 11.74% 9.95% 6.70% 8.50% Short-Term Investments 11.04% 15.28% 16.34% 7.89% 6.99% 8.96% Accounts Receivable 13.40% 13.53% 11.56% 14.67% 17.27% 17.30% Inventories 1.08% 1.21% 1.25% 1.87% 1.40% 1.80% Other Current Assets 6.02% 3.30% 3.65% 3.48% 4.02% 4.17% Total Current Assets 35.91% 48.10% 44.37% 38.41% 38.38% 40.72% Equity & Other Investments 31.12% 34.25% 46.70% 31.15% 36.43% 28.52% 24.72% 31.26% **Gross PPE** 28.35% 31.96% 32.45% 32.50% Accumulated Depreciation -13.43% -17.30% -20.61% -20.02% -20.51% -20.10% **Net PPE** 11.29% 11.04% 11.35% 11.24% 11.94% 12.40% Intangible Assets 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Goodwill 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Other Long-Term Assets 6.09% 9.74% 13.13% 13.92% 15.43% 18.37% **Total Assets** 365725.000 338516.000 323888.000 351002.000 352755.000 352583.000 Accounts Payable 21.61% 18.64% 16.36% 19.02% 21.22% 21.56% 0.00% 0.00% 0.00% 0.00% Tax Payable 0.00% 0.00% Current Accrued Liabilities 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Short-term Debt 8.02% 6.55% 5.33% 5.42% 6.99% 5.44% Current Deferred Revenue 2.31% 2.23% 2.57% 2.64% 2.62% 2.78% Current Deferred Tax Liability 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Current Capital Lease Obligation 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Other Current Liabilities 12.89% 15.21% 16.51% 16.50% 20.14% 20.26% Total Current Liabilities 44.83% 42.62% 40.76% 43.58% 50.97% 50.03% 36.25% 37.01% 32.76% 32.81% Long-term Debt 38.16% 37.90% Capital Lease Obligation 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Pension Liabilities 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Noncurrent Deferred Revenue 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Other Long-Term Liabilities 18.92% 20.36% 21.08% 18.52% 16.27% 17.16% **Total Liabilities** 258578.000 248028.000 258549.000 287912.000 302083.000 290437.000 Common Stock 13.34% 10.99% 15.68% 16.34% 18.38% 20.93% Preferred Stock 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Retained Earnings 19.25% 13.56% 4.62% 1.58% -0.87% -0.06% -0.17% -3.15% -3.25% Accumulated Other Comprehensive Income -0.94% -0.13% 0.05% Additional Paid-in Capital 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Treasury Stock 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Other Equity 0.00% 0.00% 0.00% 0.00% 0.00% 0.00%

January 6, 2024



#### Apple Inc (AAPL:US) \$181.18

# Ralance Sheet (Horizontal Analysis)

The Following Data Is Believed To Be Accurate As Of:

Balance Sheet (Horizontal Analysis)								
Balance Sheet	2018	2019	2020	2021	2022	2023		
Cash and Equivalents	25913.00	88.49%	-22.17%	-8.09%	-32.32%	26.72%		
Short-Term Investments	40388.00	28.04%	2.35%	-47.67%	-10.98%	28.11%		
Accounts Receivable	48995.00	-6.51%	-18.25%	37.55%	18.30%	0.09%		
Inventories	3956.00	3.79%	-1.10%	62.03%	-24.83%	28.00%		
Other Current Assets	12087.00	2.19%	-8.81%	25.28%	50.40%	-30.76%		
Total Current Assets	131339.00	23.97%	-11.73%	-6.18%	0.42%	6.03%		
Equity & Other Investments	170799.00	-38.32%	-4.23%	26.75%	-5.53%	-16.77%		
Gross PPE	90403.00	6.14%	7.89%	5.99%	4.31%	0.12%		
Accumulated Depreciation	-49099.00	19.31%	13.97%	5.28%	2.93%	-2.01%		
Net PPE	41304.00	-9.51%	-1.64%	7.27%	6.79%	3.79%		
Intangible Assets	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Goodwill	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Other Long-Term Assets	22283.00	48.00%	28.94%	14.88%	11.42%	18.98%		
Total Assets	365725.00	-7.44%	-4.32%	8.37%	0.50%	-0.05%		
Accounts Payable	55888.00	-17.27%	-8.52%	29.48%	17.08%	-2.35%		
Tax Payable	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Current Accrued Liabilities	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Short-term Debt	20748.00	-21.73%	-15.22%	13.39%	35.21%	-25.12%		
Current Deferred Revenue	5966.00	-7.44%	20.30%	14.59%	3.94%	1.88%		
Current Deferred Tax Liability	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Current Capital Lease Obligation	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Other Current Liabilities	33327.00	13.18%	13.16%	11.27%	28.11%	-3.31%		
Total Current Liabilities	115929.00	-8.81%	-0.31%	19.06%	22.71%	-5.63%		
Long-term Debt	93735.00	-2.06%	7.47%	10.58%	-9.30%	-3.72%		
Capital Lease Obligation	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Pension Liabilities	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Noncurrent Deferred Revenue	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Other Long-Term Liabilities	48914.00	3.25%	7.89%	-2.14%	-7.84%	1.44%		
Total Liabilities	258578.00	-4.08%	4.24%	11.36%	4.92%	-3.86%		
Common Stock	40201.00	12.37%	12.41%	12.97%	13.05%	13.82%		
Preferred Stock	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Retained Earnings	70400.00	-34.80%	-67.39%	-62.84%	-155.16%	-93.02%		
Accumulated Other Comprehensive Income	-3454.00	-83.09%	-30.48%	-140.15%	-6915.34%	3.09%		
Additional Paid-in Capital	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Treasury Stock	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Other Equity	0.00	0.00%	0.00%	0.00%	0.00%	0.00%		
Total Liabilities & Equity	365725.00	-7.44%	-4.32%	8.37%	0.50%	-0.05%		

5624.000 24311.000 -10435.000 -3860.000 -10952.000 5760.000



#### Apple Inc (AAPL:US) \$181.18

**Net Change in Cash** 

#### Cash Flow Statement (Vertical Analysis, Bases Bolded) **Balance Sheet** 2018 2019 2020 2021 2022 2023 Net Income (Cash Flow Statement) 76.88% 79.63% 71.16% 91.01% 81.70% 87.74% Depreciation, Depletion, & Amortization 14.08% 18.08% 13.70% 10.85% 9.09% 10.42% Change in Receivables -17.22% 4.58% 10.50% -13.48% -7.65% -0.38% Change in Inventory 1.07% -0.42% -0.16% -2.54% 1.21% -1.46% Change in Prepaid Assets 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Change in Other Working Capital 60.95% -9.19% -3.29% 11.30% 7.42% -4.11% Change in Working Capital -5.03% 7.05% -4.72% 0.98% -5.95% 44.80% Change in Deferred Tax -42.09% -0.27% -0.49% -4.59% 0.73% 0.00% Stock Compensation 6.90% 8.74% 8.46% 7.60% 7.40% 9.80% Other Cash from Operations -0.12% 0.09% -0.57% -0.94% -0.14% -2.01% Cash from Operations 77434.000 69391.000 80674.000 104038.000 122151.000 110543.000 Cash from Purchases of PPE 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% Cash from Sales of PPF 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% **Net Purchases of PPE** -13313.000 -10495.000 -7309.000 -11085.000 -10708.000 -10959.000 Cash from Acquisitions 100.00% 100.00% 100.00% 100.00% 100.00% 0.00%Cash from Divestitures 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% -721.000 -624.000 -1524.000 -33.000 -306.000 0.000 Net Cash From Acquisitions and Divestitures Cash from Purchases of Investments -237.40% -69.94% -2107.79% 3562.86% 804.63% -184.44% Cash from Sales of Investments 337.40% 169.94% 2207.79% -3462.86% -704.63% 284.44% **Net Purchases of Investments** 30845.000 58093.000 5453.000 -3075.000 -9560.000 16001.000 Net Purchases of Intangible Assets 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Other Cash from Investing -4.64% -2.35% 21.19% 2.42% 7.96% -36.09% Cash from Investing 16066.000 45896.000 -4289.000 -14545.000 -22354.000 3705.000 Common Stock Issued 0.00% -0.93% -1.18% -1.23% 0.00% -1.30% Common Stock Repurchased 101.23% 100.93% 101.18% 101.30% 100.00% 100.00% **Net Issuance of Common Stock** -72069.000 -66116.000 -71478.000 -84866.000 -89402.000 -77550.000 Preferred Stock Issued 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Preferred Stock Repurchased 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% **Net Issuance of Preferred Stock** 0.000 0.000 0.000 0.000 0.000 0.000 Total Debt Issued -89.05% 169.09% -7658.54% -52.80% 1613.19% 643.90% Total Debt Repaid -1513.19% 189.05% -543.90% -69.09% 7758.54% 152.80% 432.000 **Net Issuance of Debt** -7819.000 2499.000 12665.000 -123.000 -9901.000 Cash Paid for Dividends -58.08% 134.94% 374.79% 135.51% -243.81% -260.85% Other Cash from Financing -44.93% -12.02% 36.03% 173.19% 58.28% -104.38% Cash from Financing -1562.52% -374.22% 832.01% 2418.47% 1011.22% -1883.47% Foreign Exchange Adjustments 0.00% 0.00% 0.00% 0.00% 0.00% 0.00%

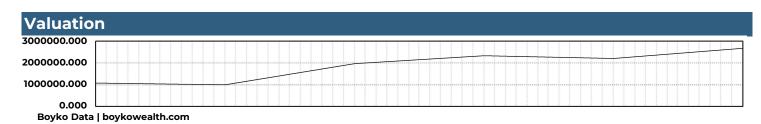
January 6, 2024



Cash Flow Statement (Horizontal	Analysis)					
Balance Sheet	2018	2019	2020	2021	2022	2023
Net Income (Cash Flow Statement)	5953100.00%	-7.18%	3.90%	64.92%	5.41%	-2.81%
Depreciation, Depletion, & Amortization	1090300.00%	15.08%	-11.88%	2.06%	-1.60%	3.74%
Change in Receivables	-1333200.00%	-123.82%	166.69%	-265.62%	-33.40%	-95.54%
Change in Inventory	82800.00%	-134.90%	-56.06%	1980.31%	-156.17%	-209.03%
Change in Prepaid Assets	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Change in Other Working Capital	4719800.00%	-113.51%	-58.38%	-543.23%	-22.96%	-150.14%
Change in Working Capital	3469400.00%	-110.05%	-263.13%	-186.31%	-124.43%	-648.08%
Change in Deferred Tax	-3259000.00%	-98.96%	-36.76%	2120.47%	-118.75%	-100.00%
Stock Compensation	534000.00%	13.63%	12.54%	15.77%	14.32%	19.86%
Other Cash from Operations	-44400.00%	46.85%	-85.12%	51.55%	-175.51%	-2106.31%
Cash from Operations	7743400.00%	-10.39%	16.26%	28.96%	17.41%	-9.50%
Cash from Purchases of PPE	-1331300.00%	-21.17%	-30.36%	51.66%	-3.40%	2.34%
Cash from Sales of PPE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Purchases of PPE	-1331300.00%	-21.17%	-30.36%	51.66%	-3.40%	2.34%
Cash from Acquisitions	-72100.00%	-13.45%	144.23%	-97.83%	827.27%	-100.00%
Cash from Divestitures	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Cash From Acquisitions and Divestitures	-72100.00%	-13.45%	144.23%	-97.83%	827.27%	-100.00%
Cash from Purchases of Investments	-7322700.00%	-44.51%	182.88%	-4.68%	-29.79%	-61.63%
Cash from Sales of Investments	10407200.00%	-5.14%	21.95%	-11.55%	-36.74%	-32.43%
Net Purchases of Investments	3084500.00%	88.34%	-90.61%	-156.39%	210.89%	-267.37%
Net Purchases of Intangible Assets	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other Cash from Investing	-74500.00%	44.70%	-15.68%	-61.28%	405.68%	-24.89%
Cash from Investing	1606600.00%	185.67%	-109.35%	239.12%	53.69%	-116.57%
Common Stock Issued	66900.00%	16.74%	12.68%	25.57%	-100.00%	0.00%
Common Stock Repurchased	-7273800.00%	-8.03%	8.16%	18.81%	3.99%	-13.26%
Net Issuance of Common Stock	-7206900.00%	-8.26%	8.11%	18.73%	5.34%	-13.26%
Preferred Stock Issued	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Preferred Stock Repurchased	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Issuance of Preferred Stock	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Debt Issued	696900.00%	-0.09%	131.09%	33.09%	-56.01%	-44.50%
Total Debt Repaid	-653700.00%	126.13%	-8.05%	-35.62%	9.06%	58.54%
Net Issuance of Debt	43200.00%	-1909.95%	-131.96%	406.80%	-100.97%	7949.59%
Cash Paid for Dividends	-1371200.00%	2.97%	-0.27%	2.74%	2.59%	1.24%
Other Cash from Financing	-252700.00%	15.63%	28.68%	77.79%	-4.52%	-5.81%
Cash from Financing	-8787600.00%	3.53%	-4.57%	7.52%	18.63%	-2.04%
Foreign Exchange Adjustments	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Change in Cash	562400.00%	332.27%	-142.92%	-63.01%	183.73%	-152.59%

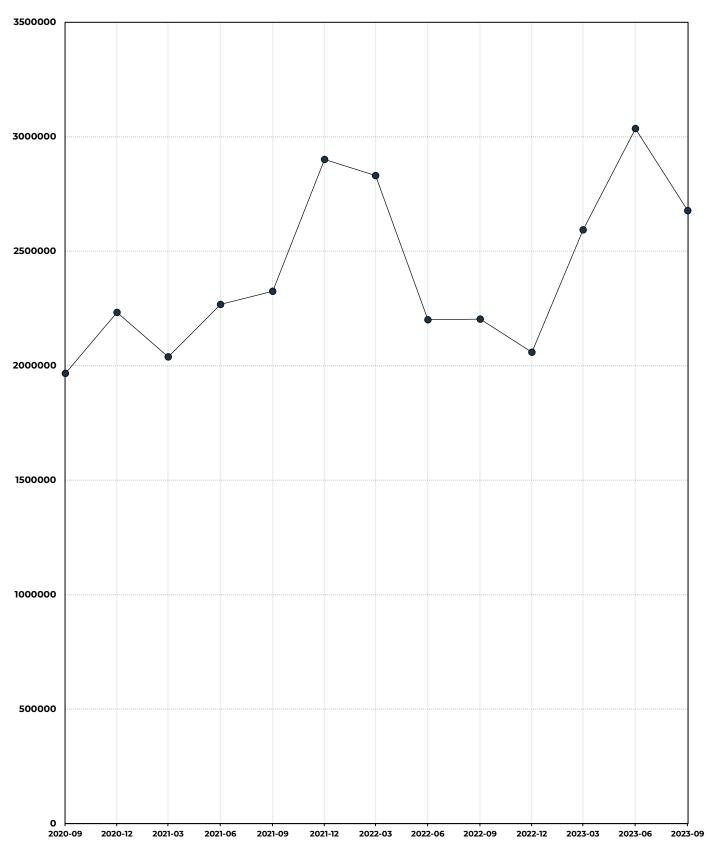


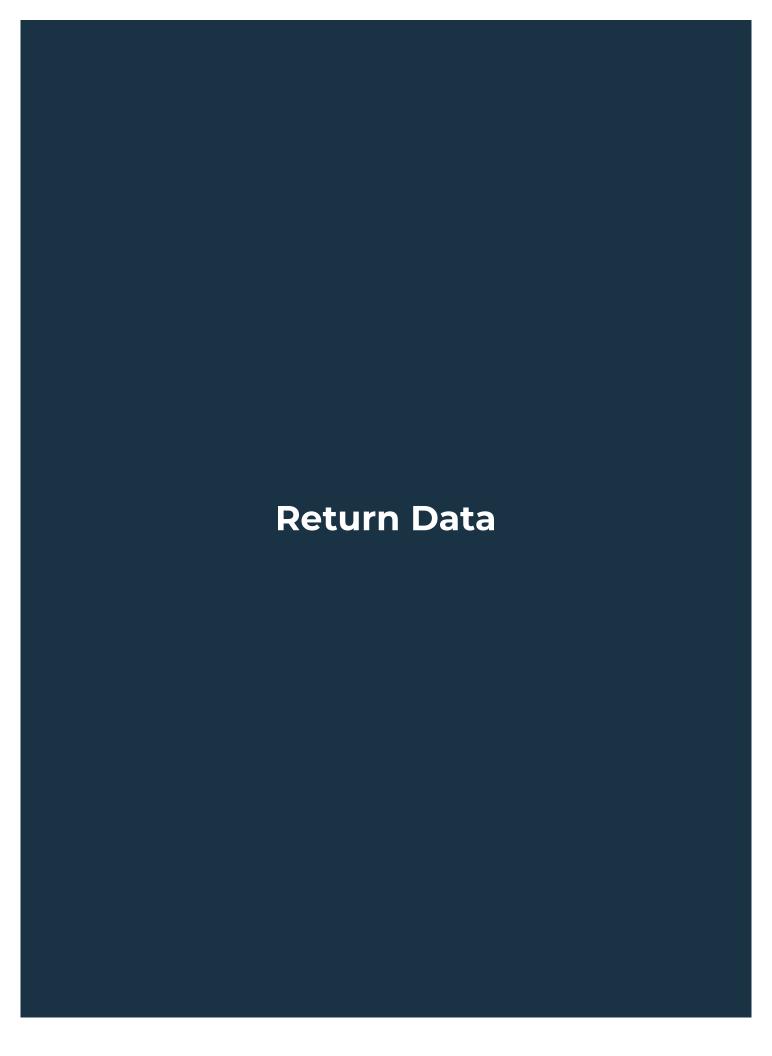
Valuation Metrics						
Valuation Metrics	2018	2019	2020	2021	2022	2023
Market Capitalization (Latest)	2817856.000	2817856.000	2817856.000	2817856.000	2817856.000	2817856.000
Market Capitalization	1073483.156	995104.671	1966083.208	2324392.200	2203377.880	2676731.382
Period End Price	56.440	55.990	115.810	141.500	138.200	171.210
Available Float Shares	15535.000	15535.000	15535.000	15535.000	15535.000	15535.000
Enterprise Value (Latest)	2851582.000	2851582.000	2851582.000	2851582.000	2851582.000	2851582.000
Enterprise Value	1100917.156	986354.671	1973807.208	2370859.200	2254032.880	2710457.382
Book Value	107147.000	90488.000	65339.000	63090.000	50672.000	62146.000
Tangible Book Value	107147.000	90488.000	65339.000	63090.000	50672.000	62146.000
Price to Earnings	18.032	18.009	34.246	24.550	22.077	27.597
Price to Book	10.019	10.997	30.091	36.843	43.483	43.072
Price to Sales	4.042	3.825	7.162	6.354	5.588	6.984
Price to Tangible Book	10.019	10.997	30.091	36.843	43.483	43.072
Price to Free Cash Flow	16.742	16.896	26.799	25.006	19.771	26.879
Price to Pretax Income	14.725	15.138	29.305	21.284	18.500	23.535
Price to Earnings Growth	0.632	0.726	1.734	1.295	1.523	1.752
Enterprise Value to Earnings	18.493	17.851	34.380	25.041	22.585	27.944
Enterprise Value to Book	10.275	10.900	30.209	37.579	44.483	43.614
Enterprise Value to Tangible Book	10.275	10.900	30.209	37.579	44.483	43.614
Enterprise Value to Sales	4.145	3.791	7.190	6.481	5.716	7.072
Enterprise Value to Free Cash Flow	17.169	16.747	26.904	25.506	20.226	27.218
Enterprise Value to Pretax Income	15.101	15.005	29.420	21.710	18.925	23.831
Price to Earnings (Latest)	29.100	29.100	29.100	29.100	29.100	29.100
Price to Book (Latest)	45.300	45.300	45.300	45.300	45.300	45.300
Price to Sales (Latest)	7.400	7.400	7.400	7.400	7.400	7.400
Price to Pretax Income (Latest)	24.800	24.800	24.800	24.800	24.800	24.800
Price to Earnings Growth (Latest)	1.800	1.800	1.800	1.800	1.800	1.800
Enterprise Value to Sales (Latest)	7.400	7.400	7.400	7.400	7.400	7.400
Enterprise Value to EBITDA (Latest)	22.700	22.700	22.700	22.700	22.700	22.700
Enterprise Value to EBIT (Latest)	24.900	24.900	24.900	24.900	24.900	24.900
Enterprise Value to Pretax Income (Latest)	25.100	25.100	25.100	25.100	25.100	25.100
Enterprise Value to Free Cash Flow (Latest)	28.600	28.600	28.600	28.600	28.600	28.600





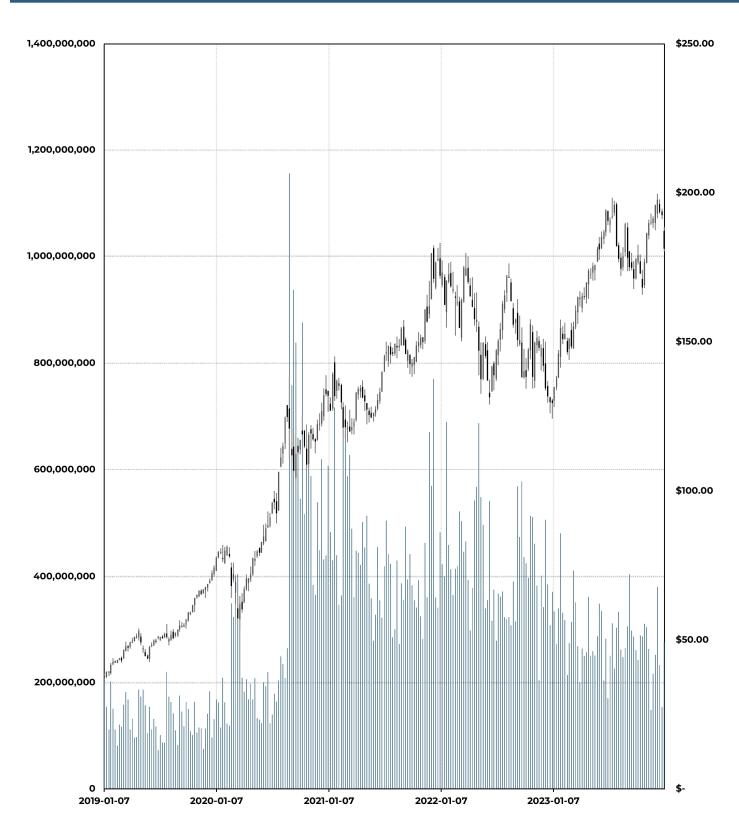
#### **Quarterly Valuation Change**





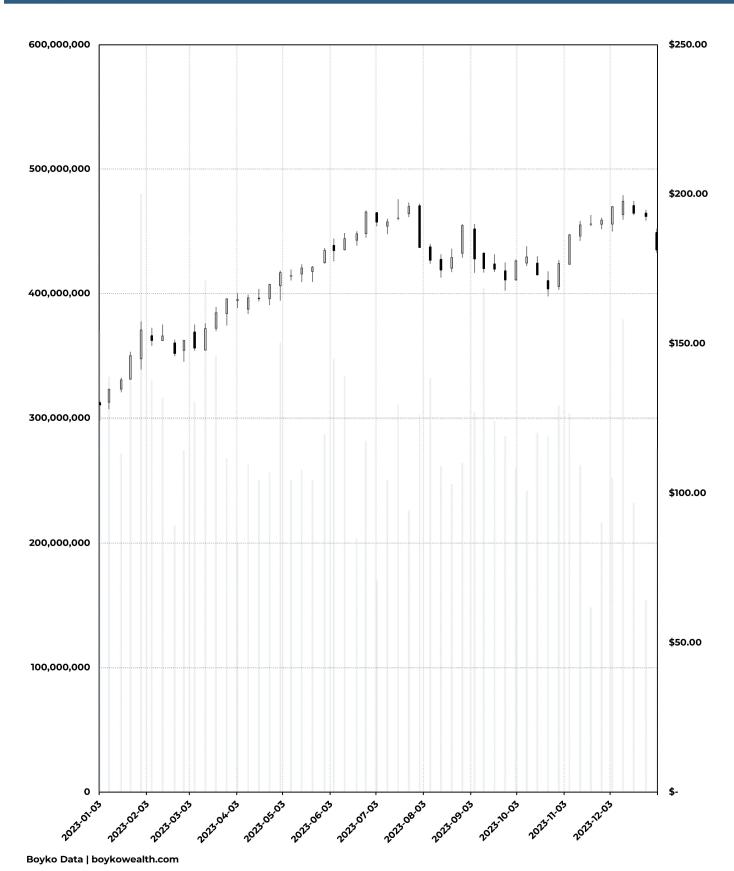


#### **Weekly Five Year Price Return**



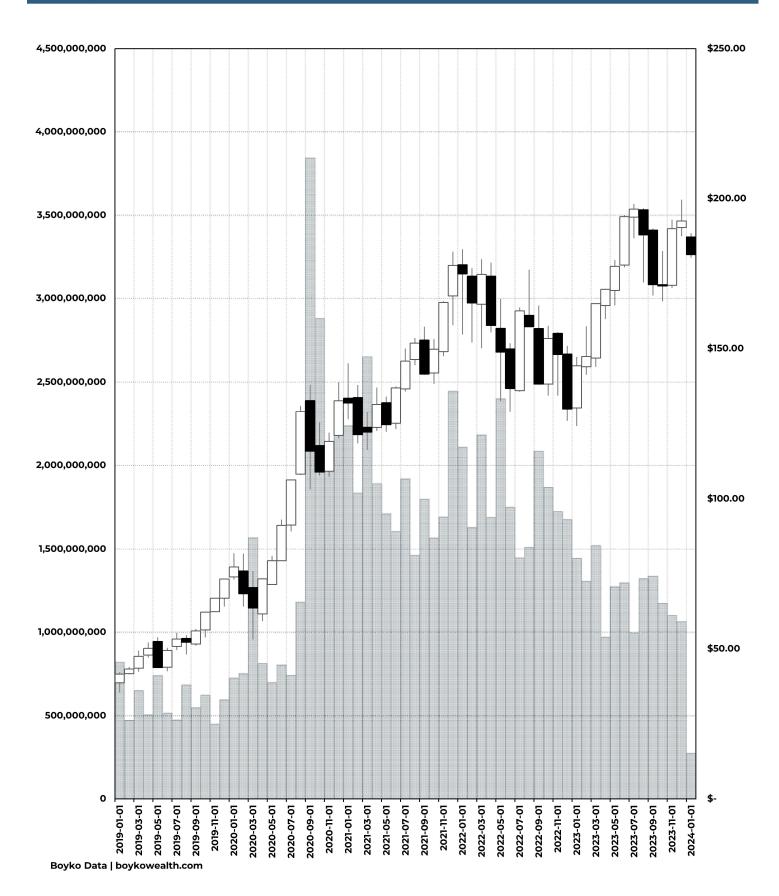


#### **Weekly One Year Price Return**



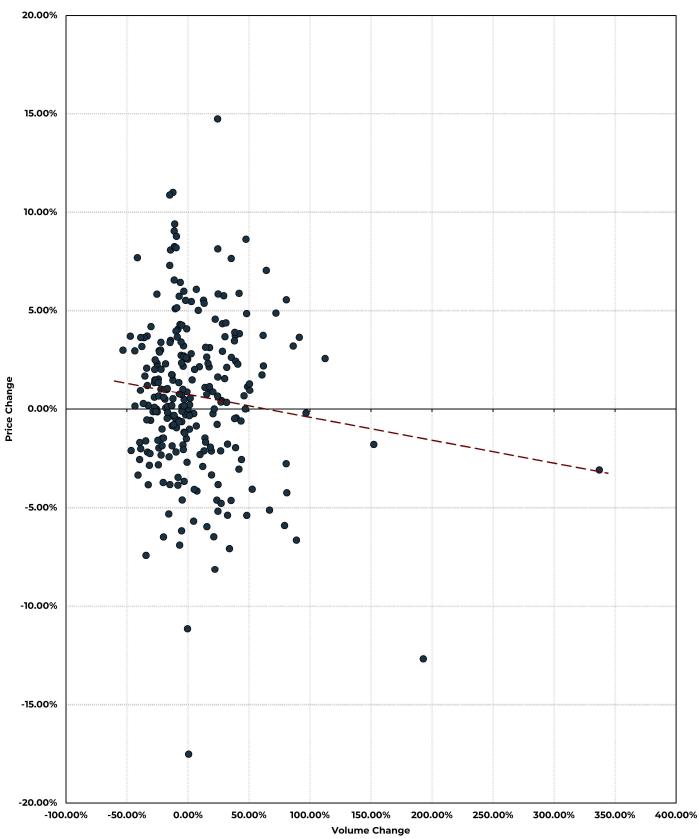


#### **Monthly Five Year Price Return**





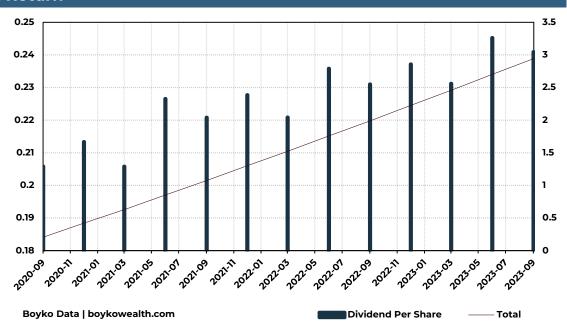
#### **Weekly Price To Volume Change**





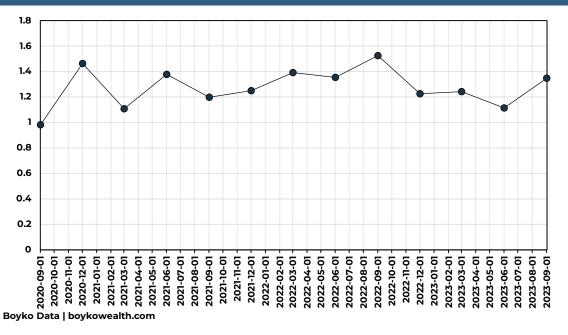
#### **Per-Share Dividend Return**

Date	Dividend
2020-09-01	0.21
2020-12-01	0.21
2021-03-01	0.21
2021-06-01	0.23
2021-09-01	0.22
2021-12-01	0.23
2022-03-01	0.22
2022-06-01	0.24
2022-09-01	0.23
2022-12-01	0.24
2023-03-01	0.23
2023-06-01	0.25
2023-09-01	0.24



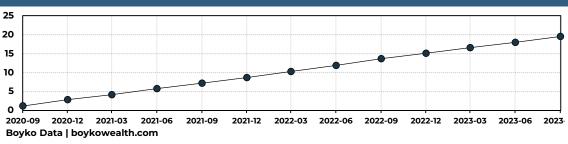
#### **Per-Share Buy-Backs**

Date	Buy-Back
2020-09-01	0.98
2020-12-01	1.46
2021-03-01	1.11
2021-06-01	1.38
2021-09-01	1.20
2021-12-01	1.25
2022-03-01	1.39
2022-06-01	1.35
2022-09-01	1.52
2022-12-01	1.23
2023-03-01	1.24
2023-06-01	1.11
2023-09-01	1.35



#### **Capital Returned To Shareholders**

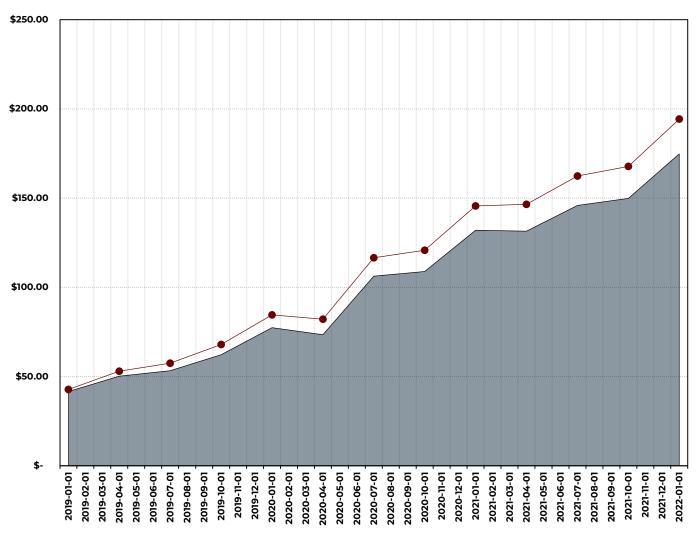
Total	Total
5.78	13.63
7.20	15.09
8.68	16.56
10.29	17.92
11.87494	19.51





#### **Total Return**

Date	Price	Capital	Total	% Total	% +-	% Price	Dev
2021-08-01	41.61	1.19	42.80	0.00	0.00	0.00	0.00
2021-11-01	50.17	2.86	53.03	53.03	52.82	0.21	37.35
2022-02-01	53.26	4.18	57.44	57.43	57.15	0.28	40.41
2022-05-01	62.19	5.78	67.97	67.96	67.47	0.49	47.71
2022-08-01	77.38	7.20	84.58	84.57	83.71	0.86	59.19
2022-11-01	73.45	8.68	82.13	82.12	81.35	0.77	57.52
2023-02-01	106.26	10.29	116.55	116.53	114.98	1.55	81.30
2023-05-01	108.86	11.87	120.73	120.72	119.10	1.62	84.22
2023-08-01	131.96	13.63	145.59	145.57	143.40	2.17	101.40
2023-11-01	131.46	15.09	146.55	146.53	144.37	2.16	102.09
2024-01-01	145.86	16.56	162.42	162.40	159.90	2.51	113.07
2024-01-01	149.80	17.92	167.72	167.70	165.10	2.60	116.75
2024-01-01	174.78	19.51	194.29	3.54	0.00	0.00	2.50

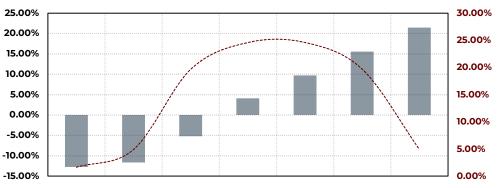




#### Apple Inc (AAPL:US) \$181.18

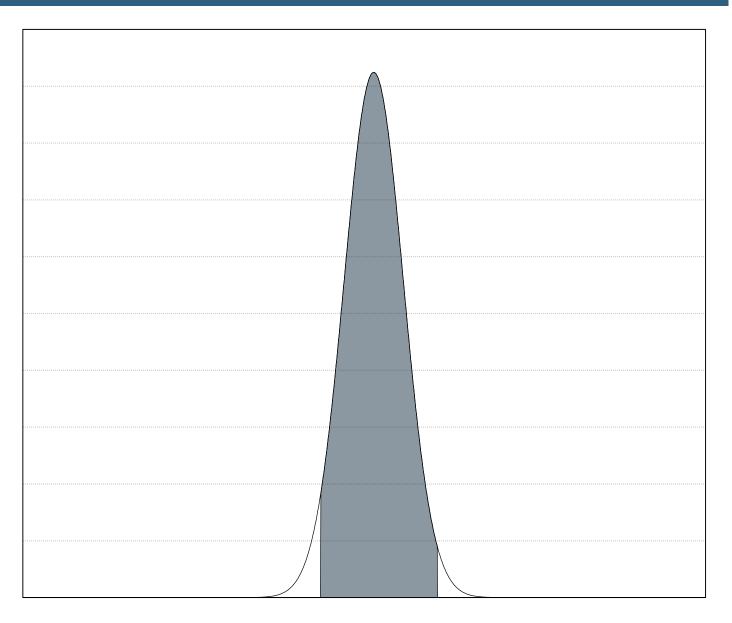
#### **Return Probabilities**

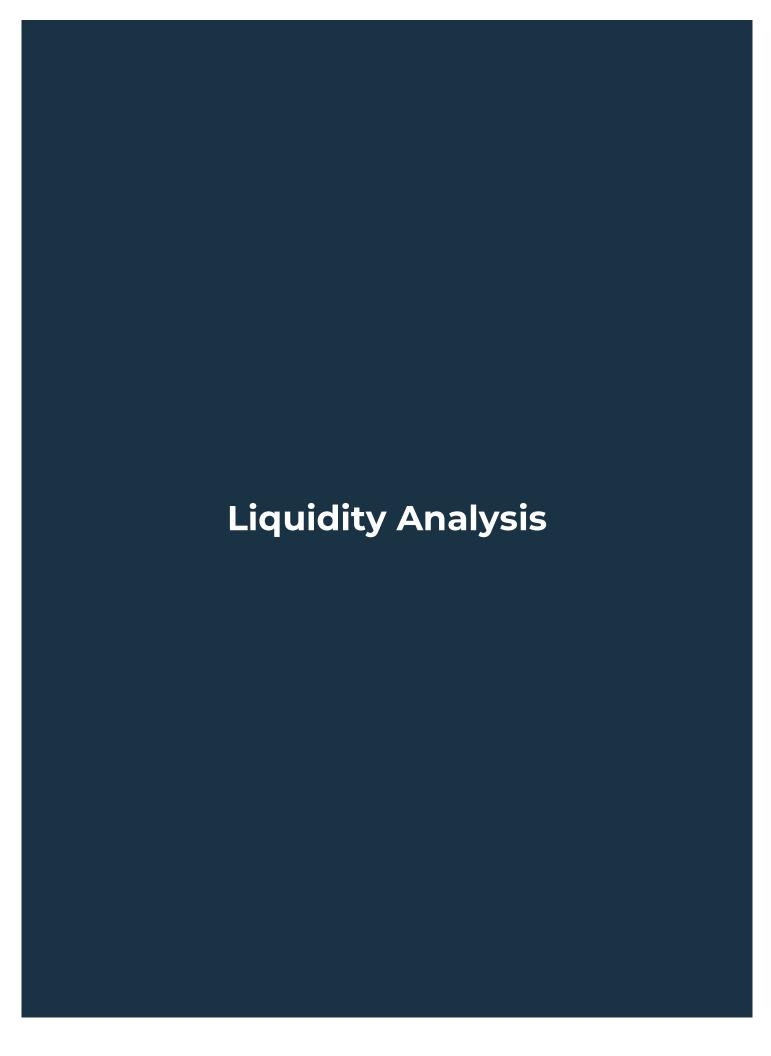
0.00	Return	Probability
0.00	-12.76%	1.64%
0.00	-11.68%	4.92%
0.00	-5.21%	19.67%
0.00	4.09%	24.59%
0.00	9.70%	24.59%
0.00	15.54%	19.67%
0.00	21.44%	4.92%



Boyko Data | boykowealth.com

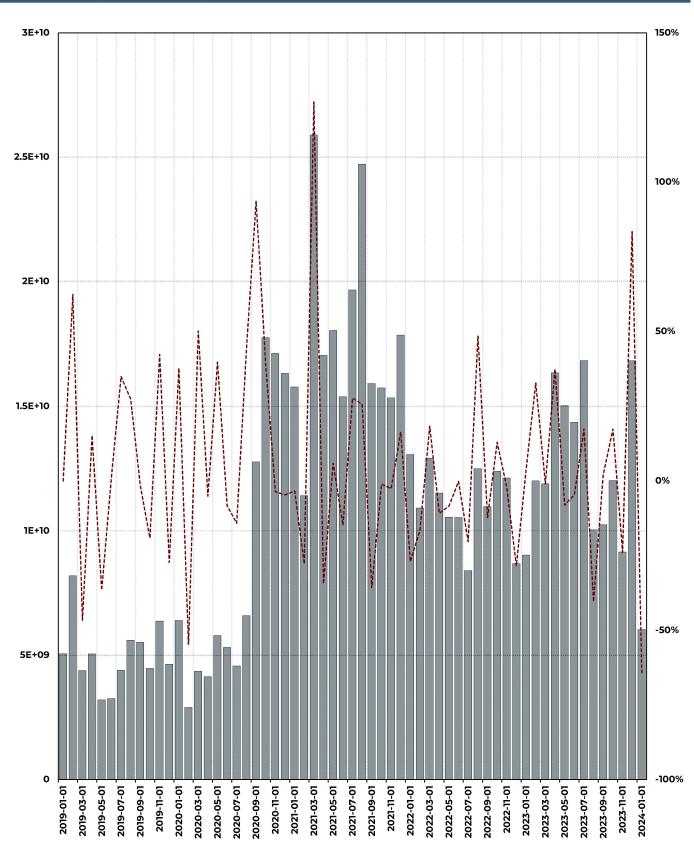
## **Return Distribution**





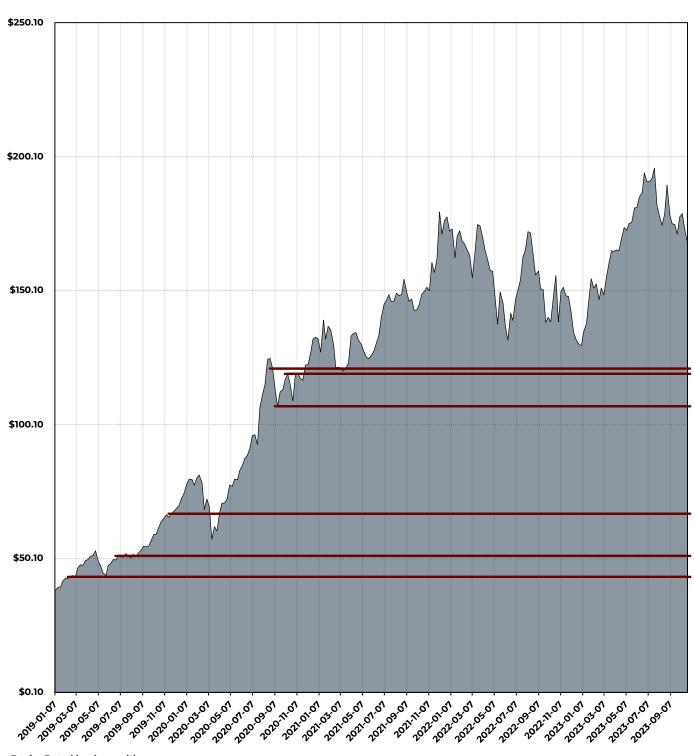


#### **Monthly Liquidity and Change**





#### **Key Liquidity Levels**



Boyko Data | boykowealth.com

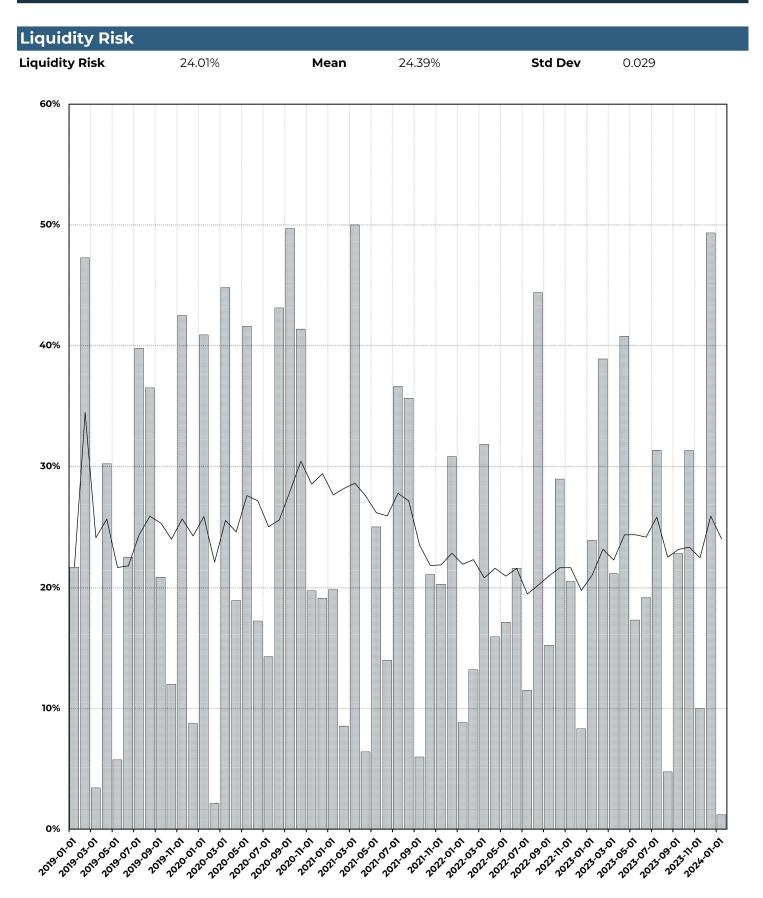
Price	N/A	N/A	N/A	N/A	N/A	N/A
Date	N/A	N/A	N/A	N/A	N/A	N/A
Liquidity Measure	HL1	HL2	HL3	LL1	LL2	LL3

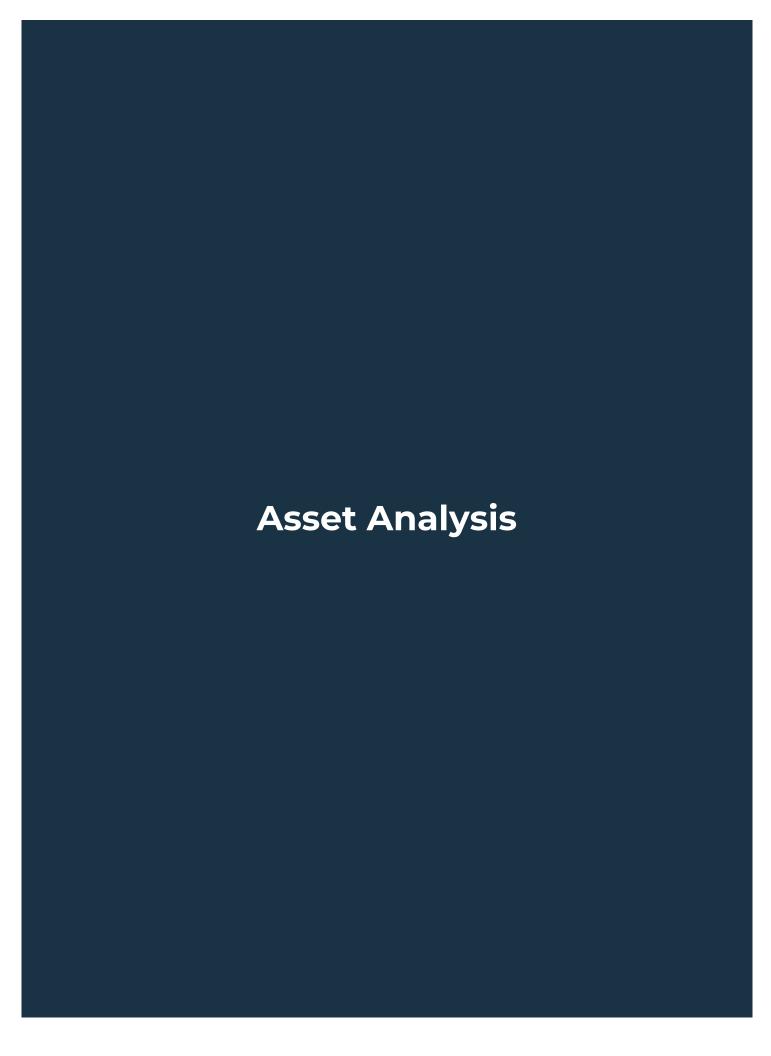
#### Boyko Data | Service By Boyko Wealth

The Following Data Is Believed To Be Accurate As Of:

January 6, 2024

# W



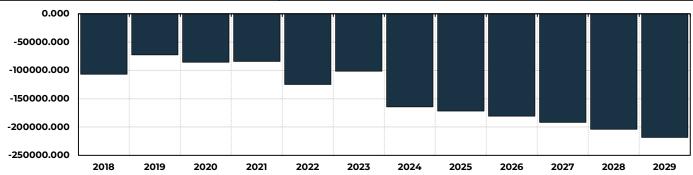


Cash Burn Analysis						
Date	2018	2019	2020	2021	2022	2023
Financial Inflows	59531	55256	57411	94680	99803	96995
Cash	25913	48844	38016	34940	23646	29965
Current Financial Obligations	-115929	-105718	-105392	-125481	-153982	-145308
Return Of Capital	-85781	-80235	-85559	-99333	-104243	-92575
Total Capital To Cover ROC & Oblig.	-201710	-185953	-190951	-224814	-258225	-237883
Starting Balance	85444	104100	95427	129620	123449	126960
Cash (Post Current Obligations)	-30485	-1618	-9965	4139	-30533	-18348
Cash (Post Return Of Capital)	-337	23865	9868	30287	19206	34385
Cash (Post ROC & Oblig.)	-116266	-81853	-95524	-95194	-134776	-110923
Cash (Post 10% of LT Oblig.)	76070.5	76263.3	75577.3	74533.4	75548.1	75915.9
Cash (Total Oblig. & ROC)	-106893	-72672.3	-85657.3	-84283.4	-124880	-101395
Date	2024	2025	2026	2027	2028	2029
Financial Inflows	33986	34367.8	34617.02	34144.54	32597.38	30066.16
Cash	35878.1	38588.94	41881.17	45358.75	49743.88	54749.02
Current Financial Obligations	-149757	-157822	-167861	-179353	-191885	-206410

Date	2024	2025	2026	2027	2028	2029
Financial Inflows	33986	34367.8	34617.02	34144.54	32597.38	30066.16
Cash	35878.1	38588.94	41881.17	45358.75	49743.88	54749.02
Current Financial Obligations	-149757	-157822	-167861	-179353	-191885	-206410
Return Of Capital	-94335	-96987.1	-99813	-102410	-104895	-107624
Total Capital To Cover ROC & Oblig.	-244092	-254810	-267674	-281763	-296780	-314034

Starting Balance	69864.1	72956.75	76498.19	79503.29	82341.25	84815.18
Cash (Post Current Obligations)	-79892.6	-84865.7	-91362.8	-99849.5	-109544	-121595
Cash (Post Return Of Capital)	-24470.9	-24030.4	-23314.8	-22906.9	-22553.8	-22809.1
Cash (Post ROC & Oblig.)	-174228	-181853	-191176	-202260	-214439	-229219
Cash (Post 10% of LT Oblig.)	75729.99	75529.63	75338.74	75180.15	75006.73	74816.11

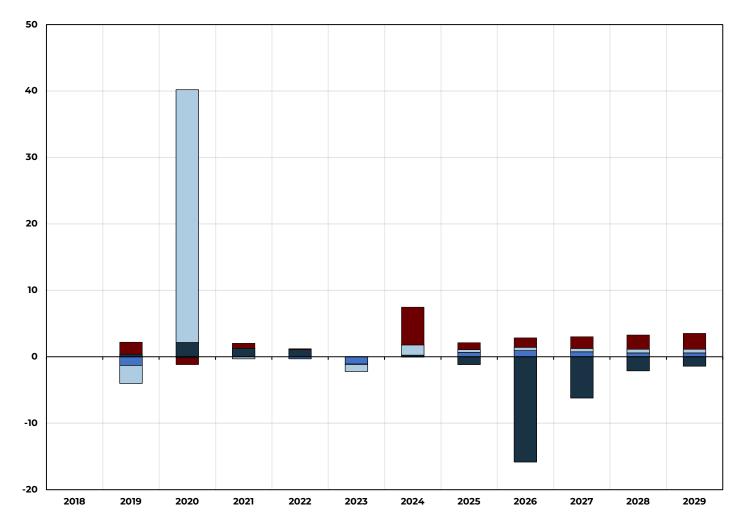








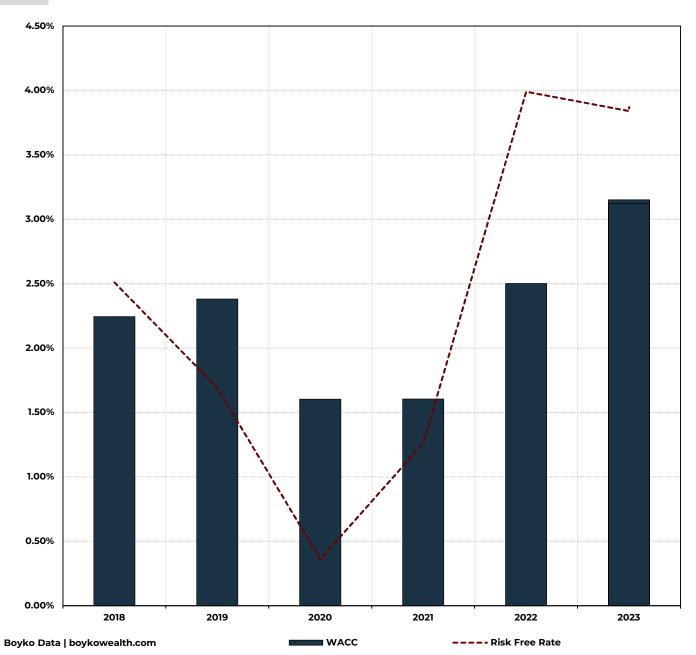
Balance Sheet Coverage (Deviation Multiples)										
Item	2018	2019	2020	2021	2022	2023	Average			
Short Term Debt Coverage	0.00	-1.29	-0.15	0.00	-0.31	-1.12	-0.48			
Accounts Coverage	0.00	0.38	2.14	1.27	1.07	-0.04	0.80			
Current Liabilities Coverage	0.00	-2.72	38.05	-0.32	0.02	-1.07	5.66			
Non-Measurable Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Total Liabilities Coverage	0.00	1.82	-1.02	0.74	0.10	0.01	0.28			
Item	2024	2025	2026	2027	2028	2029	Average			
Short Term Debt Coverage	-0.02	0.64	0.92	0.75	0.57	0.59	0.57			
Accounts Coverage	0.23	-1.18	-15.84	-6.22	-2.12	-1.42	-4.42			
Current Liabilities Coverage	1.54	0.43	0.50	0.50	0.55	0.55	0.68			
Non-Measurable Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Total Liabilities Coverage	5.68	1.04	1.42	1.76	2.14	2.38	2.40			



■Total Liabilities Coverage ■Non-Measurable Value ■Current Liabilities Coverage ■Accounts Coverage ■Short Term Debt Coverage



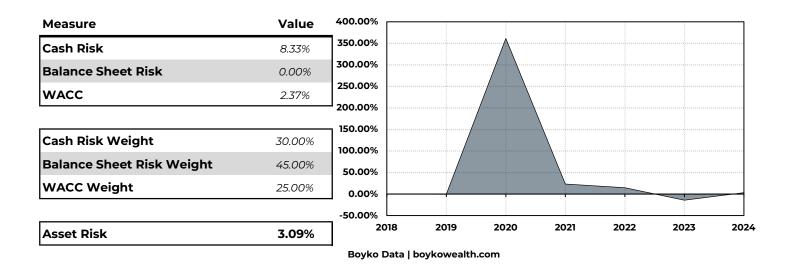
Weighted Average Cost Of Capital (WACC)									
Inputs Italicized	2018	2019	2020	2021	2022	2023	2024		
Tax Rate	18.34%	15.94%	14.43%	13.30%	16.20%	14.72%	13.53%		
Debt Weight	74.01%	70.52%	68.89%	68.50%	64.93%	60.08%	57.28%		
Common Equity Weight	25.99%	29.48%	31.11%	31.50%	35.07%	39.92%	42.72%		
Preferred Equity Weight	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
Cost of Debt	2.83%	3.31%	2.56%	2.12%	2.44%	3.54%	3.47%		
Cost of Common Equity	2.51%	1.69%	0.36%	1.26%	3.99%	3.84%	3.87%		
Cost of Preferred Equity	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
WACC	2.24%	2.38%	1.60%	1.60%	2.50%	3.12%	3.15%		



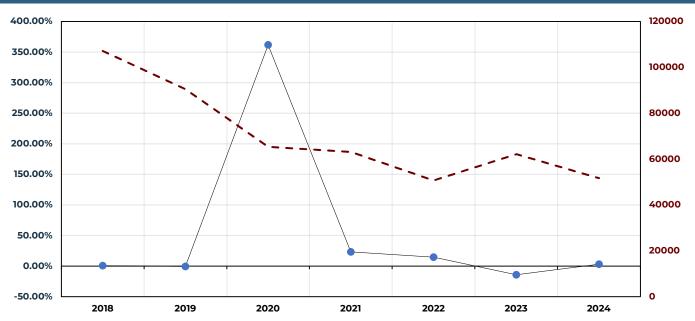


#### **Asset Risk**

Boyko Wealth measures asset risk as the general stability of a companies balance sheet. A strong balance sheet is analyzed through a variety of risks. Cash risk demonstrates the companies ability to meet financial obligations and return capital to shareholders, while remaining cash positive. Balance Sheet risk quantifies the key liability coverage by select assets. Finally, WACC demonstrates the cost of capital for each of debt, common stock, and preferred stock. WACC works to provide a framework for understanding risks surounding the cpaital structure of a business. Boyko Wealth's asset model works to combine these indiviudal risks, into one general measure.



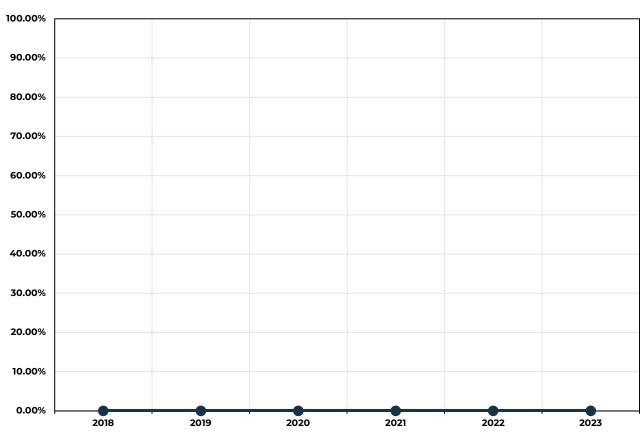
#### **Asset Risk Compared To Valuation**







#### **Trailing Default Probability**



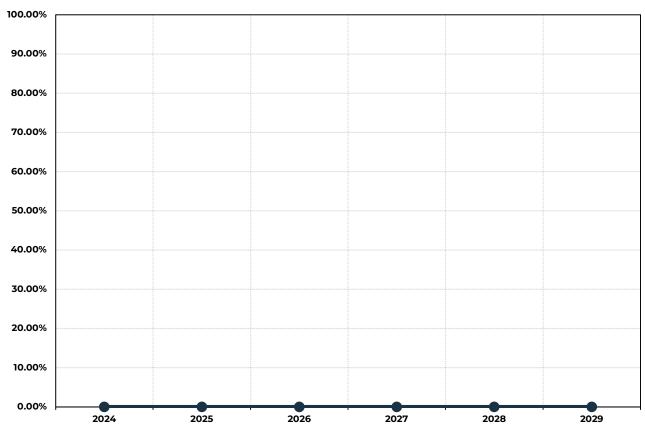
Boyko Data | boykowealth.com

Date	2018	2019	2020	2021	2022	2023
Total Current Assets	131339.00	162819.00	143713.00	134836.00	135405.00	143566.00
Total Current Liabilities	115929.00	105718.00	105392.00	125481.00	153982.00	145308.00
Working Capital	15410.00	57101.00	38321.00	9355.00	-18577.00	-1742.00
Total Assets	365725.00	338516.00	323888.00	351002.00	352755.00	352583.00
Retained Earnings	70400.00	45898.00	14966.00	5562.00	-3068.00	-214.00
Pre-Tax Profit	72903.00	65737.00	67091.00	109207.00	119103.00	113736.00
Valuation	1073483.16	995104.67	1966083.21	2324392.20	2203377.88	2676731.38
Total Liabilities	258578.00	248028.00	258549.00	287912.00	302083.00	290437.00
Sales	265595.00	260174.00	274515.00	365817.00	394328.00	383285.00
0	0.00	0.00	0.00	0.00	0.00	0.00
1.2 x (Working Capital/Total Assets)	0.05	0.20	0.14	0.03	-0.06	-0.01
1.4 x (Retained Earnings/Total Assets)	0.27	0.19	0.06	0.02	-0.01	0.00
3.3 x (Pre-Tax Profit /Total Assets)	0.66	0.64	0.68	1.03	1.11	1.06
0.6 x (Valuation/ Total Liabilities)	2.49	2.41	4.56	4.84	4.38	5.53
1.0* (Sales/Total Assets)	0.73	0.77	0.85	1.04	1.12	1.09
Altman Z-Score	4.19	4.21	6.30	6.97	6.53	7.67
2-Yr Defualt Probability Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%



#### Apple Inc (AAPL:US) \$181.18

#### **Forward Default Probability**



Bovko	Data	boykowealth.com
DOYNO	Dutu	DOY KOWCUICI II.COIII

Date	2024	2025	2026	2027	2028	2029
Total Current Assets	150344.83	153863.91	158768.39	164187.14	170534.37	177621.09
Total Current Liabilities	149756.66	157822.43	167860.95	179352.77	191884.78	206409.96
Working Capital	588.17	-3958.52	-9092.56	-15165.63	-21350.41	-28788.86
Total Assets	404349.39	419892.01	444439.84	478072.51	524079.33	585761.29
Retained Earnings	-121.10	-44.50	-17.46	-6.60	-2.07	-0.83
Pre-Tax Profit	122275.62	133224.14	145958.04	158311.64	170786.71	183843.61
Valuation	3244934.32	4031360.38	########	########	7322566.38	8956129.25
Total Liabilities	297940.72	308928.21	321631.97	335436.29	350536.68	367865.31
Sales	409038.42	441982.23	479508.41	517989.56	558645.25	602966.39

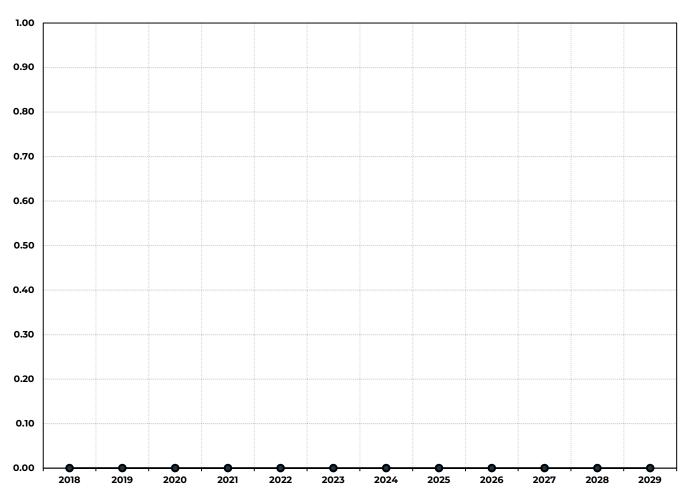
1.2 x (Working Capital/Total Assets)	0.00	-0.01	-0.02	-0.04	-0.05	-0.06
1.4 x (Retained Earnings/Total Assets)	0.00	0.00	0.00	0.00	0.00	0.00
3.3 x (Pre-Tax Profit /Total Assets)	1.00	1.05	1.08	1.09	1.08	1.04
0.6 x (Valuation/ Total Liabilities)	6.53	7.83	9.19	10.72	12.53	14.61
1.0* (Sales/Total Assets)	1.01	1.05	1.08	1.08	1.07	1.03
Altman Z-Score	8.55	9.92	11.32	12.86	14.63	16.61
2-Yr Defualt Probability Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%





Debt Defualt Analysis						
Date	2018	2019	2020	2021	2022	2023
2-Yr Defualt Probability Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Short Term Debt ( > 1-Yr Expiration)	20748.00	16240.00	13769.00	15613.00	21110.00	15807.00
10% Long Term Debt ( < 1-Yr Expiration)	9373.50	9180.70	9866.70	10910.60	9895.90	9528.10
Capital Available	85444.00	104100.00	95427.00	129620.00	123449.00	126960.00
Debt Weight Relative To Capital	35.25%	24.42%	24.77%	20.46%	25.12%	19.96%
Debt Risked For Defualt	0.00	0.00	0.00	0.00	0.00	0.00

Date	2024	2025	2026	2027	2028	2029
2-Yr Defualt Probability Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Short Term Debt ( > 1-Yr Expiration)	14285.33	13280.82	12459.46	11695.87	10883.52	10129.33
10% Long Term Debt ( < 1-Yr Expiration)	9714.01	9914.37	10105.26	10263.85	10437.27	10627.89
Capital Available	69864.10	72956.75	76498.19	79503.29	82341.25	84815.18
Debt Weight Relative To Capital	34.35%	31.79%	29.50%	27.62%	25.89%	24.47%
Debt Risked For Defualt	0.00	0.00	0.00	0.00	0.00	0.00



Boyko Data | boykowealth.com

**─** Debt Risked For Defualt

# V

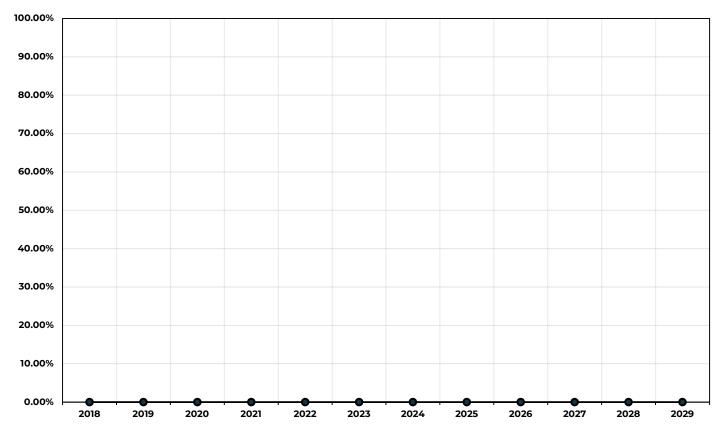
### Apple Inc (AAPL:US) \$181.18

#### **Default Risk**

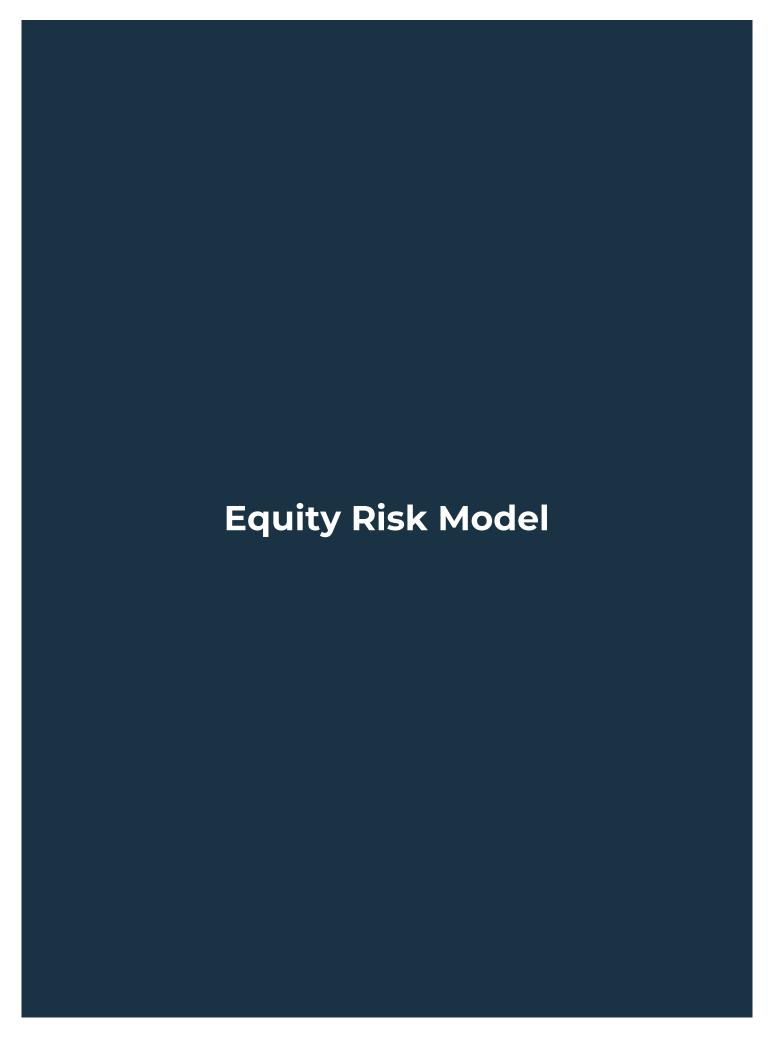
Boyko Wealth measures defualt risk through a quntitative model based upon the popular Altman Z-Score. The model works to first anticpate the forward two year defualt risk of the company, then analyzes those results against forward debt-to-capital levels. The model works to allow accurate anticaption of defualt risks and their affects on the companies long-term, and short-term debt. Finally, defualt risk is calculated as the percentage of debt anticpated to be defualted on in the next five years. A company can have a maxiumn defualt risk of 100.00% and a minimum defualt risk of 0.00%

Date	2018	2019	2020	2021	2022	2023
Anticipated Total Debt	0	0	0	0	0	0
Debt Risked For Default	0.00	0.00	0.00	0.00	0.00	0.00
Default Risk	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Date	2024	2025	2026	2027	2028	2029
Anticipated Total Debt	0	0	0	0	0	0
Debt Risked For Default	0.00	0.00	0.00	0.00	0.00	0.00
Default Risk	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

#### **Current Default Risk: 0%**

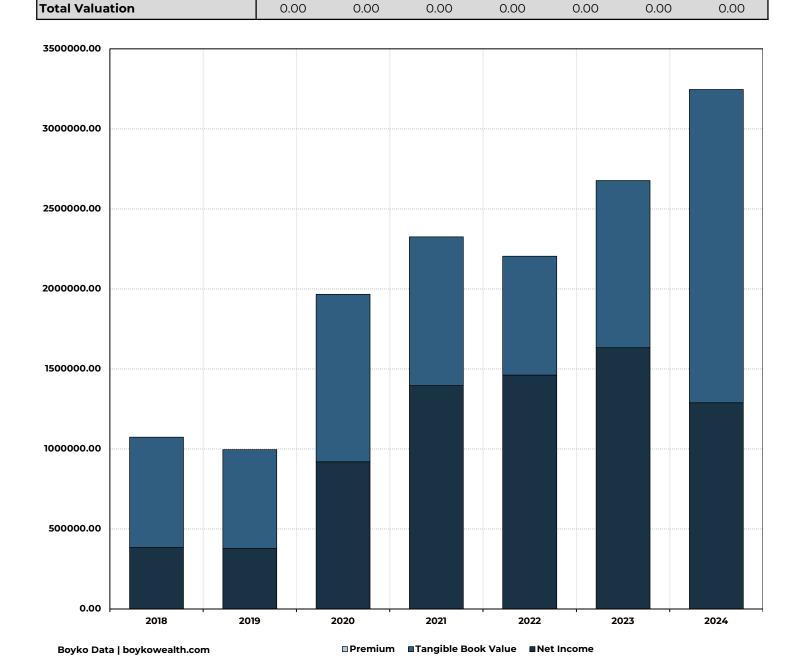


Boyko Data | boykowealth.com





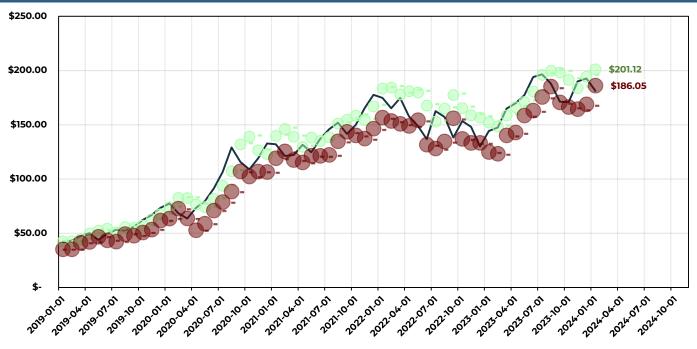
Valuation Breakdown (In Millions of USD Unless Stated)											
Date	2018	2019	2020	2021	2022	2023	2024				
Net Income	35.72%	37.91%	46.77%	60.01%	66.33%	60.95%	39.69%				
Tangible Book Value	64.28%	62.09%	53.23%	39.99%	33.67%	39.05%	60.31%				
Premium	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
Net Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Tangible Book Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Premium	0.00	0.00	0.00	0.00	0.00	0.00	0.00				



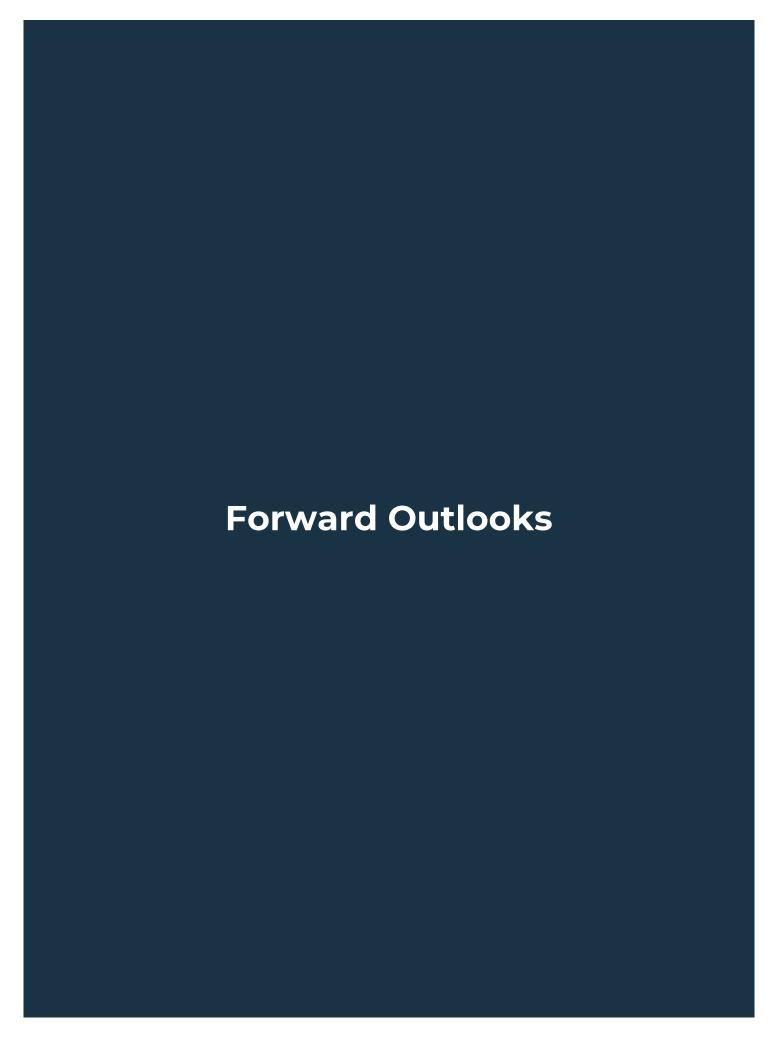


Risk Model							
Risks	Value			Values Rep	resent The Weighte	d Risk Of Each	Category
Liquidty Risk	24.01%	-					
Trading Risk	0.30%	Earnings Risk	0.00%				
Asset Risk	3.09%	Earnings Risk	0.00%				
Default Risk	0.00%						
Earnings Risk	0.01%						
		Default Risk	0.00%				
Valuation Segment	Value						
Earnings Segment	39.69%						
Tangible Book Value	60.31%	Asset Risk					0.75%
Premium Segment	0.00%						
Weights	Value	Trading Risk	0.00%				
Liquidty Risk	0.00%	Trading Risk	0.0076				
Trading Risk	0.00%						
Asset Risk	24.12%						
Default Risk	36.18%	Liquidty Risk	0.00%				
Earnings Risk	39.69%						
		0.0	0% 0.	.20% 0.	40% 0.	60%	0.80%
Risk	0.75%	Boyko Data   boy	kowealth.com				

# **Trailing Risk Sensitivity Model Monthly**



Boyko Data | boykowealth.com



The Following Data Is Believed To Be Accurate As Of:

January 6, 2024



Growth						
Analytic Measure	2024	2025	2026	2027	2028	2029
Revenue Growth	-1.68%	-0.67%	-0.27%	-0.08%	-0.02%	-0.01%
Gross Profit Growth	-0.65%	-0.34%	-0.17%	-0.07%	-0.03%	-0.01%
EBITDA Growth	-2.05%	-0.83%	-0.36%	-0.10%	-0.03%	-0.01%
Operating Income Growth	-2.55%	-1.13%	-0.50%	-0.15%	-0.04%	-0.02%
Pretax Income Growth	-2.59%	-1.12%	-0.50%	-0.15%	-0.04%	-0.02%
Net Income Growth	-1.49%	-0.56%	-0.21%	-0.05%	-0.01%	0.00%
Diluted EPS Growth	0.24%	0.17%	0.13%	0.09%	0.06%	0.04%
Diluted Shares Growth	-3.24%	-3.09%	-2.95%	-2.83%	-2.73%	-2.65%
Shares Outstanding (End of Period) Growth	-1.55%	-1.21%	-0.95%	-0.75%	-0.59%	-0.46%
Cash and Equivalents Growth	24.38%	16.00%	11.01%	9.27%	7.29%	5.62%
PPE Growth	2.28%	1.70%	1.16%	0.80%	0.55%	0.38%
Total Assets Growth	-0.03%	-0.01%	0.00%	0.00%	0.00%	0.00%
Total Equity Growth	15.54%	4.63%	1.21%	0.28%	0.04%	0.01%
Cash from Operations Growth	-5.55%	-2.21%	-0.80%	-0.22%	-0.05%	-0.02%
Capital Expenditures Growth	-1.43%	-1.56%	-1.54%	-1.37%	-1.24%	-1.13%
Free Cash Flow Growth	-6.52%	-2.64%	-0.95%	-0.27%	-0.06%	-0.02%
Revenue 10-Period CAGR	7.11%	5.92%	4.93%	4.11%	3.43%	2.86%
Diluted EPS 10-Period CAGR	13.50%	11.64%	10.07%	8.69%	7.53%	6.50%
Total Assets 10-Period CAGR	4.17%	3.12%	2.33%	1.73%	1.29%	0.97%
Total Equity 10-Period CAGR	-1.86%	0.00%	0.00%	0.00%	0.00%	0.00%
Cash from Operations 10-Period CAGR	6.09%	4.85%	3.87%	3.10%	2.48%	1.99%
Free Cash Flow 10-Period CAGR	6.78%	5.54%	4.52%	3.71%	3.05%	2.50%

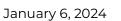
Margins						
Margin Measure	2024	2025	2026	2027	2028	2029
Gross Margin	44.88%	45.94%	47.10%	48.24%	49.38%	50.52%
EBITDA Margin	32.72%	32.91%	33.23%	33.47%	33.68%	33.88%
Operating Margin	29.81%	30.25%	30.82%	31.30%	31.74%	32.18%
Pretax Margin	29.45%	29.67%	30.01%	30.26%	30.47%	30.66%
Net Margin	25.55%	26.08%	26.72%	27.27%	27.82%	28.38%
Free Cash Margin	26.47%	27.21%	27.83%	28.50%	29.13%	29.82%



Key Metrics						
Key Metrics	2024	2025	2026	2027	2028	2029
EBITDA	134015.5	145773.1	159787	173975.4	188966.9	205332.7
Capital Expenditures	-9664.99	-8822.15	-8176.67	-7534.16	-6924.27	-6334.92
Free Cash Flow	108378.1	120331.1	133559.5	147822.7	163004	180135
Dividends Per Share	1.014696	1.089576	1.170253	1.256474	1.3494	1.450185
Payout Ratio	14.59%	13.50%	12.40%	11.49%	10.67%	9.91%
Income Tax Rate	13.53%	12.63%	11.84%	11.13%	10.42%	9.74%
Net Debt	76208.94	74874.36	73428.96	71770.16	69821.22	67942.5

Returns						
Key Returns	2024	2025	2026	2027	2028	2029
Return on Equity	226.05%	300.90%	402.91%	533.68%	705.73%	937.06%
Return on Assets	30.59%	34.57%	39.27%	44.23%	49.78%	56.12%
Return on Invested Capital	66.36%	79.20%	95.05%	113.09%	134.44%	160.13%
Return on Invested Capital (Legacy)	82.27%	101.48%	125.53%	153.87%	188.78%	232.40%
Return on Capital Employed	58.66%	68.11%	79.60%	92.33%	106.86%	123.81%
Return on Tangible Capital Employed	58.66%	68.11%	79.60%	92.33%	106.86%	123.81%
Debt to Equity	215.44%	257.24%	305.16%	360.96%	425.93%	506.44%
Debt to Assets	32.48%	33.31%	34.07%	34.79%	35.54%	36.39%
Equity to Assets	15.10%	12.99%	11.22%	9.70%	8.42%	7.26%
Assets to Equity	663.14%	771.81%	894.78%	1036.11%	1196.06%	1388.33%
Current Ratio	103.53%	102.74%	101.92%	101.34%	101.40%	101.60%

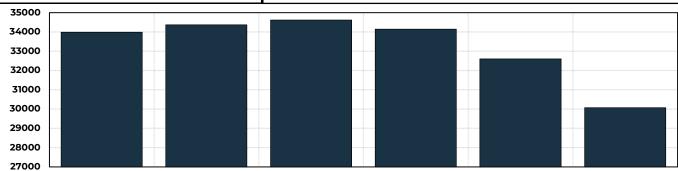
Long Term Median						
Key Data	2024	2025	2026	2027	2028	2029
Operating Income Per Share	8.191845	9.490704	11.07832	12.83016	14.82233	17.14134
Pretax Income Per Share	8.084079	9.289639	10.75733	12.3607	14.16829	16.25549
Free Cash Flow Per Share	7.262182	8.506661	9.954484	11.61338	13.50366	15.7453
Book Value Per Share	3.460243	3.081456	2.759771	2.471683	2.21943	1.980966
Tangible Book Value Per Share	3.460243	3.081456	2.759771	2.471683	2.21943	1.980966
Growth						
Revenue Growth	-1.68%	-0.67%	-0.27%	-0.08%	-0.02%	-0.01%
Gross Profit Growth	-0.65%	-0.34%	-0.17%	-0.07%	-0.03%	-0.01%
EBITDA Growth	-2.05%	-0.83%	-0.36%	-0.10%	-0.03%	-0.01%
Operating Income Growth	-2.55%	-1.13%	-0.50%	-0.15%	-0.04%	-0.02%
Pretax Income Growth	-2.59%	-1.12%	-0.50%	-0.15%	-0.04%	-0.02%



# Income Statement (In Millions of USD)

The Following Data Is Believed To Be Accurate As Of:

income Statement (in Millions of C	•					
Income Statement	2024	2025	2026	2027	2028	2029
Revenue	409038.4	441982.2	479508.4	517989.6	558645.3	602966.4
Cost of Goods Sold	225782	240039.7	255960.3	271915	288518.3	306456.6
Gross Profit	183256.4	201942.5	223548.1	246074.6	270126.9	296509.8
Sales, General, & Administrative	27340.12	29920.01	32763.2	35865.79	39215.42	42935.63
Research & Development	34542.11	39996.65	46335.24	53689	62163.47	71972.83
Special Charges	0	0	0	0	0	0
Other Operating Expense	0	0	0	0	0	0
Total Operating Expense	61882.23	69916.66	79098.43	89554.8	101378.9	114908.5
Operating Profit	121374.1	132025.8	144449.6	156519.8	168748	181601.3
Interest Income	3134.558	2665.258	2272.907	1953.093	1678.745	1430.924
Interest Expense	-3870.34	-3801.63	-3758.17	-3734.65	-3713.17	-3671.4
Net Interest Income (Non-financial)	-101.416	-30.8101	-9.63356	-2.81181	-0.61992	-0.20561
Other Income (Expense)	-64.2788	-31.1161	-13.5123	-7.4621	-3.62604	-1.61318
Pre-Tax Profit	122275.6	133224.1	145958	158311.6	170786.7	183843.6
Income Tax	-16375.3	-16683.9	-17188.4	-17649.4	-17984.5	-18308.2
Earnings from Continuing Operations	104664.9	115540.2	128529.4	141816.5	156173.9	172085.7
Earnings from Discontinued Operations	0	0	0	0	0	0
Minority Interest Income	0	0	0	0	0	0
Other Income Statement Items	0	0	0	0	0	0
Net Income	33986	34367.8	34617.02	34144.54	32597.38	30066.16
Preferred Dividends	0	0	0	0	0	0
Net Income Available to Shareholders	104664.9	115540.2	128529.4	141816.5	156173.9	172085.7
Basic EPS	7.041638	8.201536	9.619344	11.18654	12.9895	15.1019
Diluted EPS	7.003623	8.154185	9.560905	11.1164	12.90474	14.99864
Basic Shares Outstanding	14860.17	14085.79	13361.43	12677.86	12024.27	11396.55
Diluted Shares Outstanding	14918.29	14136.2	13402.97	12710.62	12049.3	11415.09
Shares Outstanding (End of Period)	14858.86	14188.69	13553.29	12949.23	12368.42	11805.52
Shares Outstanding Change	-232.402	-171.201	-126.793	-94.1309	-69.7048	-51.7209
Depreciation & Amortization	11857.35	11984.81	12168.09	12350.54	12551.94	12759.15



Boyko Data | boykowealth.com

January 6, 2024



#### Apple Inc (AAPL:US) \$181.18

#### **Balance Sheet (In Millions of USD)** 2025 **Balance Sheet** 2024 2026 2027 2028 2029 Cash and Equivalents 35878.1 38588.94 41881.17 45358.75 49743.88 54749.02 Short-Term Investments 31649.01 30220.86 28502.2 27198.07 26117.31 25055.31 Accounts Receivable 60409.12 61072.46 62488.02 63775.63 64833.28 65767.81 6847.74 7471.191 Inventories 8199.278 8902.771 9719.087 10591.13 Other Current Assets 16510.45 20120.82 15560.87 17697.72 18951.91 21457.82 Total Current Assets 150344.8 153863.9 158768.4 164187.1 170534.4 177621.1 Equity & Other Investments 84285.69 74156.16 65550.34 57642.57 50474.83 44118.54 Gross PPF 121818.3 129117.3 136759.6 144756.1 153219.8 162354.5 Accumulated Depreciation -80245.4 -89217.8 -98964.8 -109652 -121644 -135368 40696.96 Net PPE 42544.47 42137.41 41823.44 41518.35 41144.67 Intangible Assets 0 0 0 0 0 0 Goodwill 0 0 0 0 0 0 Other Long-Term Assets 85601.48 109835 140502.9 179620 230349.9 296338.1 Total Assets 404349.4 419892 444439.8 478072.5 524079.3 585761.3 Accounts Payable 60054.63 59495.09 59408.01 59211.13 58748.17 58153.06 0 Tax Payable 0 0 0 0 0 Current Accrued Liabilities 0 0 0 0 0 0 Short-term Debt 14285.33 13280.82 12459.46 11695.87 10883.52 10129.33 Current Deferred Revenue 8457.382 9024.147 9604.214 10827.98 11495.52 10201.62 Current Deferred Tax Liability $\cap$ 0 0 $\cap$ $\cap$ $\cap$ Current Capital Lease Obligation 0 0 0 0 0 0 Other Current Liabilities 66959.32 76022.37 86389.27 111425.1 126632.1 98244.14 Total Current Liabilities 149756.7 157822.4 167861 179352.8 191884.8 206410 99143.74 101052.6 102638.5 106278.9 97140.08 104372.7 Long-term Debt Capital Lease Obligation 0 0 0 0 $\cap$ 0 Pension Liabilities 0 0 0 0 0 0 Noncurrent Deferred Revenue 0 0 0 0 0 0 Other Long-Term Liabilities 51043.98 51962.05 52718.43 53444.99 54279.19 55176.46 **Total Liabilities** 297940.7 308928.2 321632 335436.3 350536.7 367865.3 Common Stock 83097.94 93638.03 105530 118942.3 134055.4 151056.8 Preferred Stock 0 0 0 0 0 0 Retained Earnings -121.104 -44.4996 -17.4637 -6.60492 -2.07089 -0.83106 -6097.41 -4563.67 -3495.45 -3108.49 -2495.95 -1917.2 Accumulated Other Comprehensive Income 0 Ω 0 Ω Ω Additional Paid-in Capital 0 Treasury Stock 0 0 0 0 0 0 Other Equity 51634.52 43590.14 37027.73 31461.29 26790.63 22661.86 312048.9 **Total Liabilities & Equity** 335595.6 342085.8 330061.7 324255.9 318258

January 6, 2024

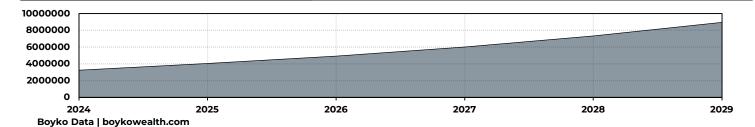


#### Apple Inc (AAPL:US) \$181.18

#### **Cash Flow Statement Cash Flow Statement** 2024 2025 2026 2027 2028 2029 Net Income (Cash Flow Statement) 104664.9 115540.2 128529.4 141816.5 156173.9 172085.7 Depreciation, Depletion, & Amortization 11857.35 11984.81 12168.09 12350.54 12551.94 12759.15 Change in Receivables -309.847 -249.888 -190.949 -141.566 -103.148 -78.2964 Change in Inventory -20.0157 3.942183 -1.14816 0.161015 -0.05147 0.009491 Change in Prepaid Assets 0 0 0 0 0 0 Change in Other Working Capital -2148.39 -646.199 -156.517 -32.3623 -5.47627 -1.48194 Change in Working Capital 44.10276 -6.67984 1.258122 -0.18202 0.039632 -0.00569 Change in Deferred Tax 0 0 0 0 0 0 Stock Compensation 12338.05 14092.65 16107.53 18413.77 21053.28 24049.44 Other Cash from Operations -2059.44 -1987.62 -2229.13 -2244.08 -2033.06 -2132.95 Cash from Operations 116956.1 126536.2 137127.5 148140.4 159442.2 171836.1 Cash from Purchases of PPE -9664.99 -8822.15 -8176.67 -7534.16 -6924.27 -6334.92 Cash from Sales of PPF Ω 0 0 0 0 0 Net Purchases of PPE -9664.99 -8822.15 -8176.67 -7534.16 -6924.27 -6334.92 Cash from Acquisitions 0 0 0 0 0 $\cap$ Cash from Divestitures 0 Net Cash From Acquisitions and Divestitures 0 0 0 0 Ω 0 Cash from Purchases of Investments -30326.5 -29714.5 -29920.1 -29177 -28450 -28218.2 Cash from Sales of Investments 43837.22 41105.44 34935.24 32265.95 30047.8 38028.41 Net Purchases of Investments 10214.69 5590.152 3331.362 2361.153 1524.588 962.6138 Net Purchases of Intangible Assets 0 0 0 0 0 0 Other Cash from Investing -2182.88 -2409.79 -1494.86 -1616.41 -1761.97 -1980.85 Cash from Investing 2820.364 1428.123 317.4646 195.2947 743.0909 515.2541 0 Common Stock Issued 0 0 0 0 0 Common Stock Repurchased -79017.4 -90819.8 -81392.5 -83922.6 -86219.9 -88400.9 Net Issuance of Common Stock -79017.4 -81392.5 -83922.6 -86219.9 -88400.9 -90819.8 Preferred Stock Issued 0 0 Ω 0 0 0 Preferred Stock Repurchased 0 0 0 0 Net Issuance of Preferred Stock 0 0 0 0 0 0 Total Debt Issued 7716.448 6457.222 8949.514 10147.21 11656.29 13629 Total Debt Repaid -20441.3 -24559 -29626 -36151.9 -44536.2 -54949.3 Net Issuance of Debt -13984.1 -16842.6 -20676.5 -26004.7 -32879.9 -41320.3 Cash Paid for Dividends -15317.6 -15594.6 -15890.4 -16190.4 -16494.1 -16804.5 -18665 -9528.42 -12013 Other Cash from Financing -7576.91 -14960.7 -23408.2 Cash from Financing -111888 -115704 -120162 -124904 -129495 -134243 Foreign Exchange Adjustments 0 0 0 0 0 0 1792.53 Net Change in Cash 5923.38 3719.024 2566.791 2221.362 1420.925



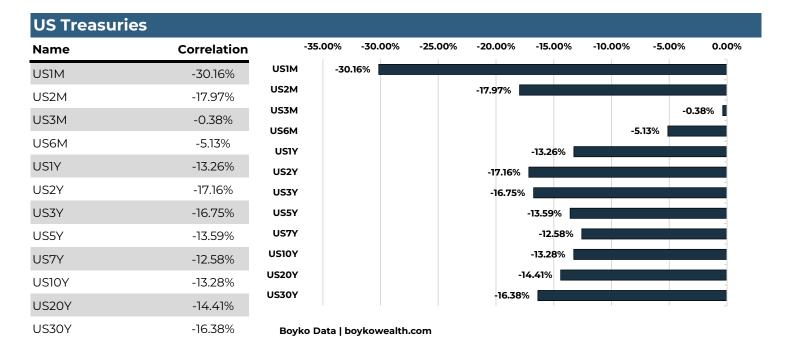
#### Valuation Metrics **Valuation Metrics** 2024 2025 2026 2027 2028 2029 Market Capitalization (Latest) 2817856 2817856 2817856 2817856 2817856 2817856 Market Capitalization 3244934 4031360 4924260 5995608 7322566 8956129 Period End Price 218.3001 284.085 363.2682 462.9407 591.9522 758.5217 Available Float Shares 15535 15535 15535 15535 15535 15535 **Enterprise Value (Latest)** 2851582 2851582 2851582 2851582 2851582 2851582 Enterprise Value 3262395 4038089 4915054 5961346 7250342 8830025 Book Value 43590.14 37027.73 31461.29 26790.63 22661.86 51634.52 Tangible Book Value 51634.52 43590.14 37027.73 31461.29 26790.63 22661.86 Price to Earnings 31.10021 35.16497 38.68124 42.80078 47.59614 52.99048 Price to Book 93.16747 134.331 193.1243 277.9625 403.2651 63.05738 Price to Sales 7.931587 9.133687 10.28501 11.59915 13.14144 14.89992 Price to Tangible Book 63.05738 93.16747 134.331 193.1243 277.9625 403.2651 Price to Free Cash Flow 33.50544 29.91294 36.87803 40.58597 44.95905 49.77207 Price to Pretax Income 26.98166 30.93629 34.4792 38.63436 43.5445 49.15204 Price to Earnings Growth 2.309128 3.033655 4.955099 6.373064 8.235338 3.861986 Enterprise Value to Earnings 31.24286 35.18628 38.5552 42.48201 47.02679 52.11221 Enterprise Value to Book 63.39394 93.30915 134.0538 191.9701 275.1257 397.419 Enterprise Value to Tangible Book 93.30915 63.39394 134.0538 191.9701 275.1257 397.419 **Enterprise Value to Sales** 9.143585 7.970761 10.25792 11.52182 12.9967 14.66977 Enterprise Value to Free Cash Flow 30.05179 33.53166 36.76627 40.29556 44.43759 48.96892 Enterprise Value to Pretax Income 27.10365 30.95231 34.36279 38.34076 43.01551 48.32646 Price to Earnings (Latest) 29.1 29.1 29.1 29.1 29.1 29.1 Price to Book (Latest) 45.3 45.3 45.3 45.3 45.3 45.3 7.4 7.4 7.4 7.4 7.4 Price to Sales (Latest) 7.4 Price to Pretax Income (Latest) 24.8 24.8 24.8 24.8 24.8 24.8 Price to Earnings Growth (Latest) 1.8 1.8 1.8 1.8 1.8 1.8 Enterprise Value to Sales (Latest) 7.4 7.4 7.4 7.4 7.4 7.4 Enterprise Value to EBITDA (Latest) 22.7 22.7 22.7 22.7 22.7 22.7 24.9 24.9 Enterprise Value to EBIT (Latest) 24.9 24.9 24.9 24.9 EV to Pretax Income (Latest) 25.1 25.1 25.1 25.1 25.1 25.1 EV to Free Cash Flow (Latest) 28.6 28.6 28.6 28.6 28.6 28.6

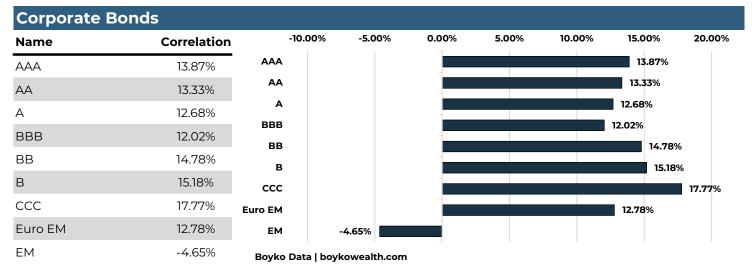




## January 6, 2024

# Apple Inc (AAPL:US) \$181.18





#### **Major Currency Pairs** -45.00% -40.00% -35.00% -30.00% -25.00% -20.00% -15.00% -10.00% -5.00% Name Correlation 0.00% CADUSD **CADUSD** -38.88% -38.88% **GBPUSD** -23.41% **GBPUSD** -23.41% **JPYUSD** -11.84% **JPYUSD** -11.84% **CNYUSD** -9.96% **CNYUSD** -9.96% **CHFUSD** -2.86% -2.86% **CHFUSD AUDUSD** -31.21% **AUDUSD** -31.21% ZARUSD -27.05% **ZARUSD** -27.05% Boyko Data | boykowealth.com





Rice, Viet Namese 5%

#### **Commodities** Name Correlation -100% -50% 0% 50% 100% 150% Stock 100.00% Stock 100.00% Crude oil, average 79.00% Crude oil, average 79.00% Crude oil, Brent 78.44% Crude oil. Brent 78,44% Crude oil, Dubai 79.00% Crude oil, Dubai 79.00% Crude oil, WTI 79.40% Crude oil, WTI 79.40% Coal, Australian 56.52% Coal, Australian 56.52% Coal, South African \*\* 63.16% Coal, South African \*\* 63.16% Natural gas, US 48.58% Natural gas, US 48.58% Natural gas, Europe 62.20% Natural gas, Europe 62.20% Liquefied natural gas, Japan 57.00% 57.00% Liquefied natural gas, Japan Natural gas index 60.74% 60.74% Natural gas index Cocoa 47.95% Cocoa 47.95% Coffee, Arabica 82.06% Coffee, Arabica 82.06% Coffee, Robusta 87.40% Coffee, Robusta 87.40% Tea, avg 3 auctions 30.69% Tea, avg 3 auctions 30.69% Tea, Colombo 11.90% Tea, Colombo 11.90% Tea, Kolkata -1.71% Tea, Kolkata -1.71% Tea. Mombasa 72.60% Tea, Mombasa 72.60% 61.98% Coconut oil Coconut oil 61.98% Groundnuts -63.44% Groundnuts -63.44% Fish meal 38.16% Fish meal 38.16% Groundnut oil \*\* 86.60% Groundnut oil \*\* 86.60% Palm oil 68.82% Palm oil 68.82% Palm kernel oil 66.95% Palm kernel oil 66.95% Soybeans 72.81% Soybeans 72.81% Soybean oil 69.92% Soybean meal Soybean oil 69.92% 66.37% Rapeseed oil 69.11% Soybean meal 66.37% Sunflower oil 57.58% Rapeseed oil 69.11% Barlev -43.34% Sunflower oil 57.58% Maize 72.50% -43.34% Barley Sorghum 71.01% Maize 72.50% Rice, Thai 5% -67.94% Sorghum 71.01% Rice, Thai 25% -64.94% Rice, Thai 5% -67.94% Rice, Thai A.1 -68.74% Rice, Thai 25% -64.94% Rice, Viet Namese 5% -44.59% Rice, Thai A.1 -68.74% 0.00%

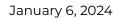
Boyko Data | boykowealth.com

-44.59%





#### **Commodities** Name Correlation -60% -40% -20% 60% 80% 100% 20% 40% Wheat, US SRW 48.19% Wheat, US SRW 48.19% Wheat, US HRW 74.26% Wheat, US HRW 74.26% Banana, Europe 29.38% Banana, Europe 29.38% Banana, US 26.38% Banana, US 26.38% Orange 47.11% Orange 47.11% Beef 72.40% Beef 72.40% Chicken 73.09% Chicken 73.09% Lamb \*\* 76.94% Lamb \*\* 76.94% Shrimps, Mexican 32.49% Shrimps, Mexican 32.49% Sugar, EU -25.00% Sugar, EU -25.00% Sugar, US 85.28% Sugar, US 85.28% Sugar, world 85.01% Sugar, world 85.01% Tobacco, US import u.v. -31.22% Logs, Cameroon -25.00% Tobacco, US import u.v. -31.22% -25.00% -51.04% Logs, Cameroon Logs, Malaysian Sawnwood, Cameroon 1.62% Logs, Malaysian51.04% Sawnwood, Malaysian 1.62% Sawnwood, Cameroon 1.62% -51.04% Plywood Sawnwood, Malaysian 1.62% Cotton, A Index 72.25% Plywood51.04% Rubber, TSR20 \*\* 56.48% Cotton, A Index 72.25% Rubber, RSS3 16.45% Rubber, TSR20 \*\* 56.48% Phosphate rock 59.44% Rubber, RSS3 16.45% DAP 82.60% Phosphate rock 59.44% **TSP** 80.35% DAP 82.60% Urea 73.15% **TSP** 80.35% Potassium chloride \*\* 68.96% 73.15% Urea Aluminum 81.66% Potassium chloride \*\* 68.96% Iron ore, cfr spot 11.48% Aluminum 81.66% Copper 76.81% Iron ore, cfr spot 11.48% Lead 80.86% Copper 76.81% Tin 71.03% Lead 80.86% Nickel 68.72% 71.03% Tin Zinc 79.89% Nickel 68.72% Gold 27.65% Zinc 79.89% Gold 27.65%

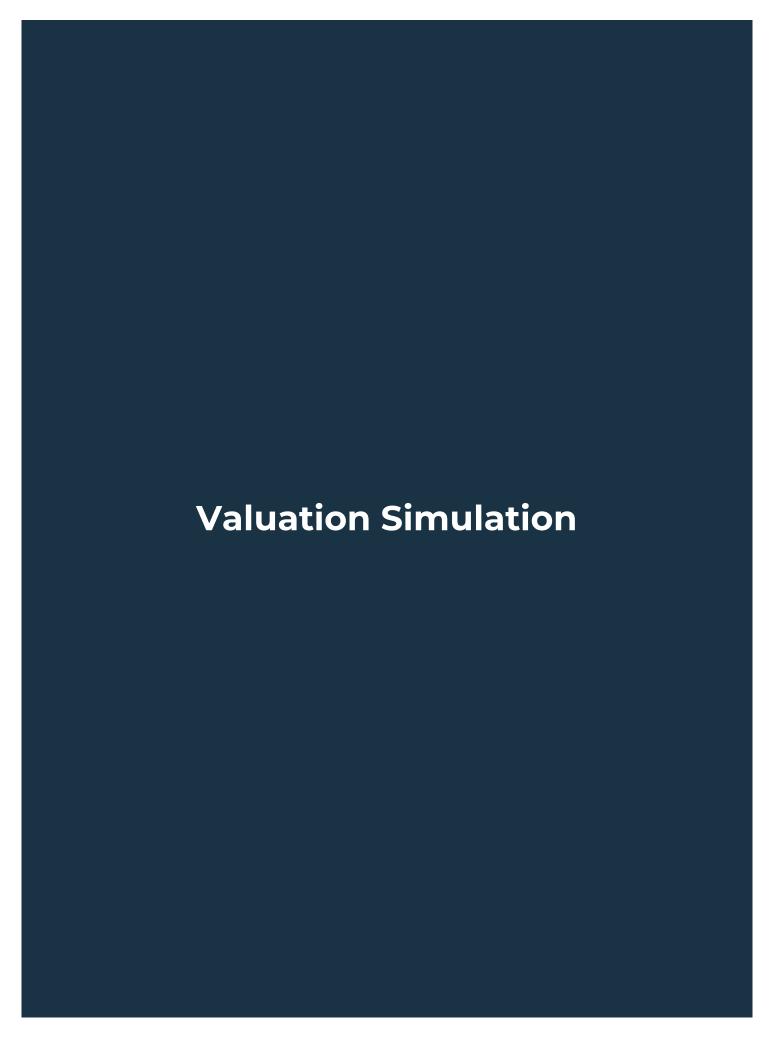




# Apple Inc (AAPL:US) \$181.18

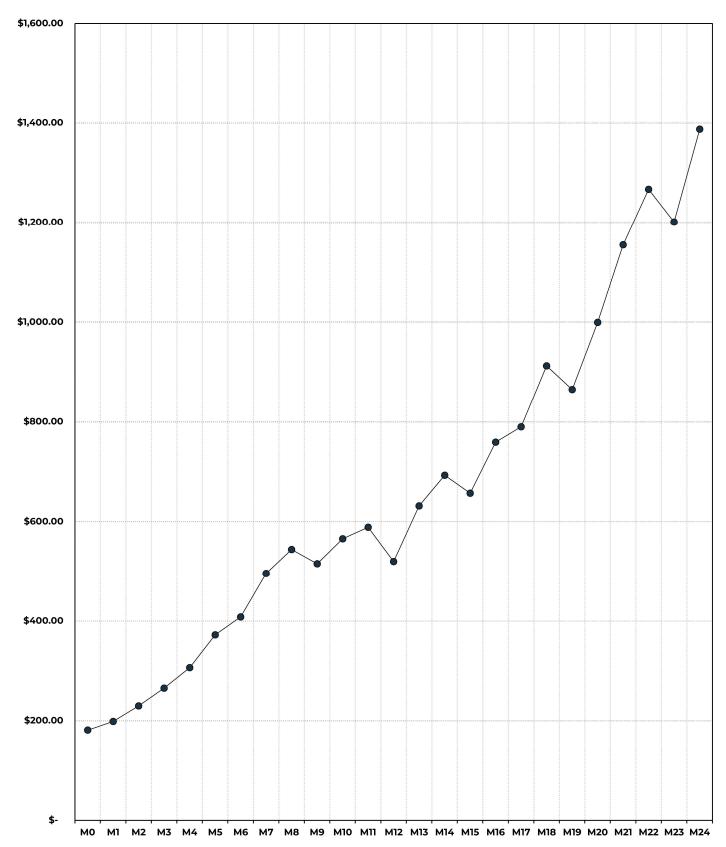
# Gamma Exposures (Significant Values Highlighted)

US3M	Туре	Gamma	Wheat, US SRW	 				:		_
Lest	US3M	0.589366	]"							
USEM	Tea, Kolkata	0.025006	Sorghum	 						
US2M	US6M	0.01679	1"							
USIM	US2M	0.007117	1""							
USTY	USIM	0.006611	в 🗔							
US2Y			7"							
US3Y			- T							
USSY			Groundnut oil **							
Coffee, Robusta			7							
Natural gas, US			. 1"	 						
Natural gas, Europe			T in							
USTY	Natural gas, US		1							
US10Y	Natural gas, Europe	0.000929								
Natural gas index	US7Y	0.000853								
Natural gas index	US10Y	0.000687	Gold							
Natural gas index	CHFUSD	0.000538	1"							
Usage	Natural gas index	0.000528	1							
Coal, South African **  Coal, Australian  Coal,	US20Y	0.000345	7							
Coal, Australian   O.000321   Wheat, US HRW   Soybean oil   Usayoy   O.000294   Orange   O.000294   Orange   Orange   O.000286   Palm oil   O.000231   Orange   Ora	Coal, South African **	0.000333	1							
Urea         0.000297         Soybean oil           US30Y         0.000294         Orange           Tea, Colombo         0.000286         Palm oil           Crude oil, WTI         0.000231         Crude oil, Brent           Rubber, RSS3         0.000221         Coconut oil           Sunflower oil         0.00022         Potassium chloride **           Sawnwood, Malaysian         0.000209         Sawnwood, Cameroon           Sawnwood, Cameroon         Sunflower oil         Crude oil, WTI           Silver         0.000188         Crude oil, WTI           Liquefied natural gas, Japan         US30Y           Coal, Australian         US20Y           Potassium chloride **         US20Y           Crude oil, average         0.000154           US20Y         US20Y           Tea, avg 3 auctions         0.000115           US3M	Coal, Australian	0.000321	7"							
Display	Urea		ı							
Tea, Colombo			Platinum							
Crude oil, WTI         0.000231         Crude oil, Brent Nickel Rubber, RSS3         0.000221         Coconut oil Coconut oil Sunflower oil Sawnwood, Malaysian         0.000229         Potassium chloride ** Liquefied natural gas, Japan Sawnwood, Cameroon Sawnwood, Cameroon Sunflower oil Silver         Liquefied natural gas, Japan Sawnwood, Cameroon Sunflower oil Us30Y Coal, Australian Palm kernel oil O.000159         Crude oil, WTI Coal, Australian Us20Y Coal, Australian Us20Y Coal, Australian Us20Y Coal, Australian Us20Y Corude oil, average O.000154         CHFUSD US20Y COAL COAL COAL COAL COAL COAL COAL COAL										
Rubber, RSS3			1							
Sunflower oil 0.00022  Sawnwood, Malaysian 0.000209  Sawnwood, Cameroon 0.000209  Silver 0.000188  Liquefied natural gas, Japan Sawnwood, Cameroon Sunflower oil Us30Y  Crude oil, WTI Us20Y  Crude oil, average 0.000154  Crude oil, average 0.000115  Nickel 0.000114  Crude oil, Dubai 0.000113			Nickel							
Sawnwood, Malaysian			1							
Sawnwood, Malaysian         0.000209         Sawnwood, Cameroon           Sawnwood, Cameroon         0.000209         Sunflower oil           Silver         0.000188         US30Y           Liquefied natural gas, Japan         0.000171         Coal, Australian           Palm kernel oil         0.000159         CHFUSD           Potassium chloride **         0.000154         US7Y           Crude oil, average         0.000135         Natural gas, US           Coconut oil         0.000121         US5Y           Tea, avg 3 auctions         0.000115         US1M           Nickel         0.000114         US6M           Crude oil, Dubai         0.01         0.2         0.3         0.4         0.5         0.6         0.7			7""							
Silver       0.000188       Crude oil, WTI US30Y       US30Y         Liquefied natural gas, Japan       0.000171       Coal, Australian US20Y         Palm kernel oil       0.000159       US20Y         Potassium chloride **       0.000154       US7Y         Crude oil, average       0.000135       Natural gas, US         Coconut oil       0.000115       US5Y         Tea, avg 3 auctions       0.000115       US6M         Nickel       0.000114       US6M         Crude oil, Dubai       0.01       0.2       0.3       0.4       0.5       0.6       0.7	Sawnwood, Malaysian		_ ·							
Liquefied natural gas, Japan 0.000171  Coal, Australian 92207  Potassium chloride ** 0.000154  Crude oil, average 0.000135  Coconut oil 0.000115  Tea, avg 3 auctions 0.000115  Nickel 0.000113  Crude oil, Dubai 0.000113	Sawnwood, Cameroon	0.000209	ı							
Liquefied natural gas, Japan       0.000171         Palm kernel oil       0.000159         Potassium chloride **       0.000154         Crude oil, average       0.000135         Coconut oil       0.000121         Tea, avg 3 auctions       0.000115         Nickel       0.000114         Crude oil, Dubai       0.000113	Silver	0.000188	]"							
Palm kernel oil 0.000159 US20Y CHFUSD US7Y Crude oil, average 0.000135 Natural gas, US US2Y Tea, avg 3 auctions 0.000115 Nickel 0.000113 US6M US3M 0 0.1 0.2 0.3 0.4 0.5 0.6 0.7	Liquefied natural gas, Japan	0.000171	7'''							
Crude oil, average 0.000135  Coconut oil 0.000115  Tea, avg 3 auctions 0.000115  Nickel 0.000113  Crude oil, Dubai 0.000113  US7Y  US5Y  US2Y  US1M  US3M  0 0.1 0.2 0.3 0.4 0.5 0.6 0.7	Palm kernel oil	0.000159								
Crude oil, average       0.000135       Natural gas, US         Coconut oil       0.000121       USSY         Tea, avg 3 auctions       0.000115       USIM         Nickel       0.000114       US6M         Crude oil, Dubai       0.000113	Potassium chloride **	0.000154	7							
Coconut oil 0.000121	Crude oil, average	0.000135	1""	 						
Tea, avg 3 auctions 0.000115  Nickel 0.000114  Crude oil, Dubai 0.000113  US1M  US6M  US3M  0 0.1 0.2 0.3 0.4 0.5 0.6 0.7	Coconut oil	0.000121								
Nickel 0.000114 US6M US6M US6M US6M US6M US6M US6M US6M			1							
Crude oil, Dubai 0.000113 US3M 0 0.1 0.2 0.3 0.4 0.5 0.6 0.7			Ti							
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7			- T	 						
				0.2	0.3	0.4	0	.5	0.6	0.7





# 2-Yr Normal Distribution Price Simulation Model



The Following Data Is Believed To Be Accurate As Of:

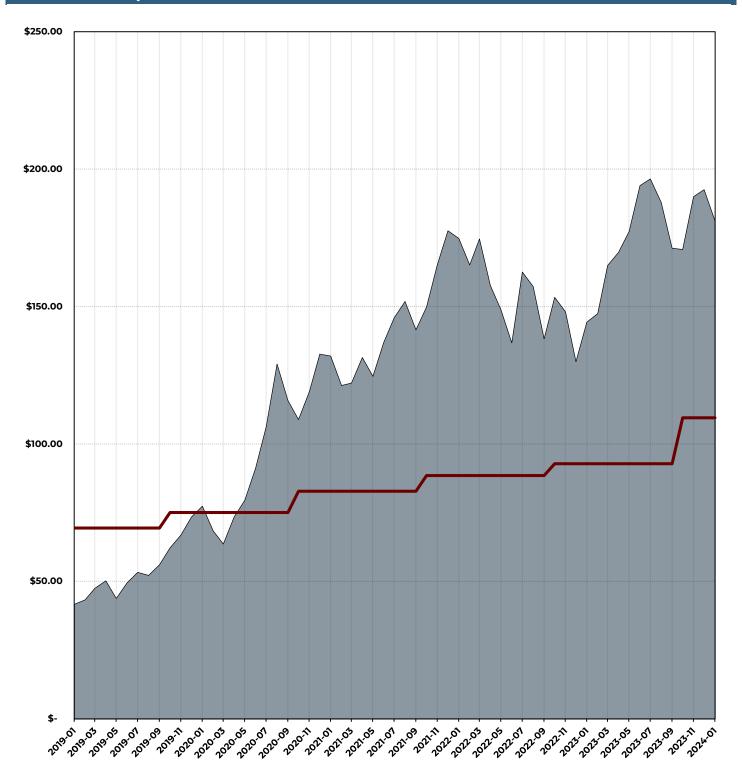
January 6, 2024



### Apple Inc (AAPL:US) \$181.18

DCF Model											
Fair Value	\$132.22	Price	\$	181.18	WACC	3.15%	Margin Of S	Safety	-27.02%		
Lieftime Ma	rgin Of Saft	ey		-21%	Standard D	eviation L	fetime	33.03%	Cor. Coef.	-92.59%	

### **Fair Value Compared To Price**



Value at Risk (VaR)

The Following Data Is Believed To Be Accurate As Of:

January 6, 2024



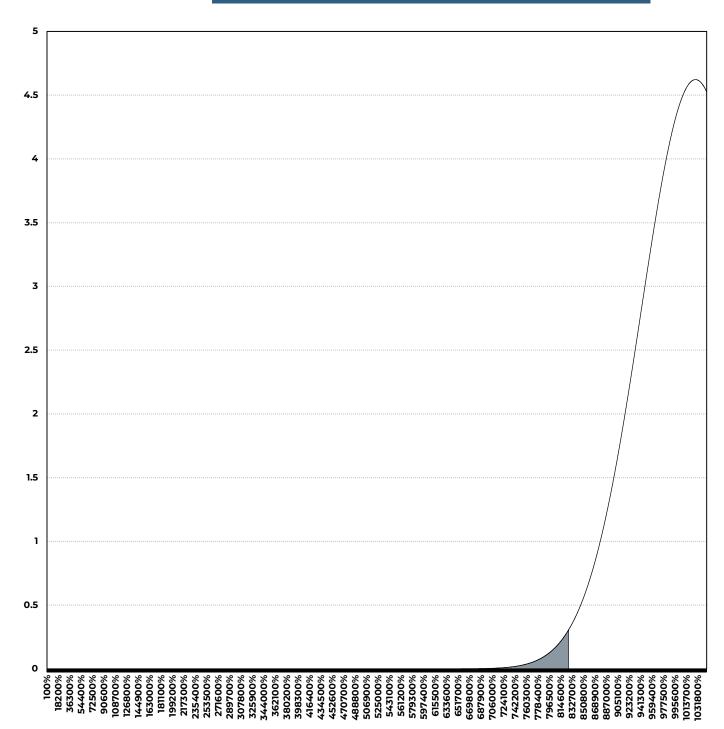
### Apple Inc (AAPL:US) \$181.18

2.80%

Mean

vak @	99% Confidence							
Item	Value	Conf.	Signif.	N(0,1) Dev	VaR	Loss	Price	
Lower	-12.76%	99%	1%	-2.32635	-17.28%	-31.3110	149.87	
Step	0.01%							

Sigma 8.63% Distribution Graph



The Following Data Is Believed To Be Accurate As Of:

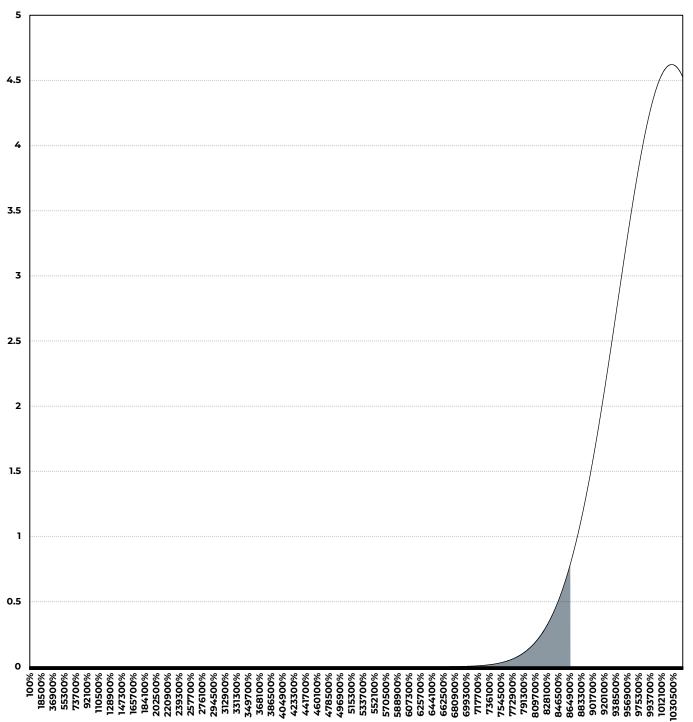
January 6, 2024



### Apple Inc (AAPL:US) \$181.18

## VaR @ 97% Confidence

Item	Value	Conf.	Signif.	N(0,1) Dev	VaR	Loss	Price
Lower	-12.76%	97%	3%	-1.88079	-13.44%	-24.3421	156.84
Step	0.01%						
Mean	2.80%						
Sigma	8.63%	Distribution Graph					



The Following Data Is Believed To Be Accurate As Of:

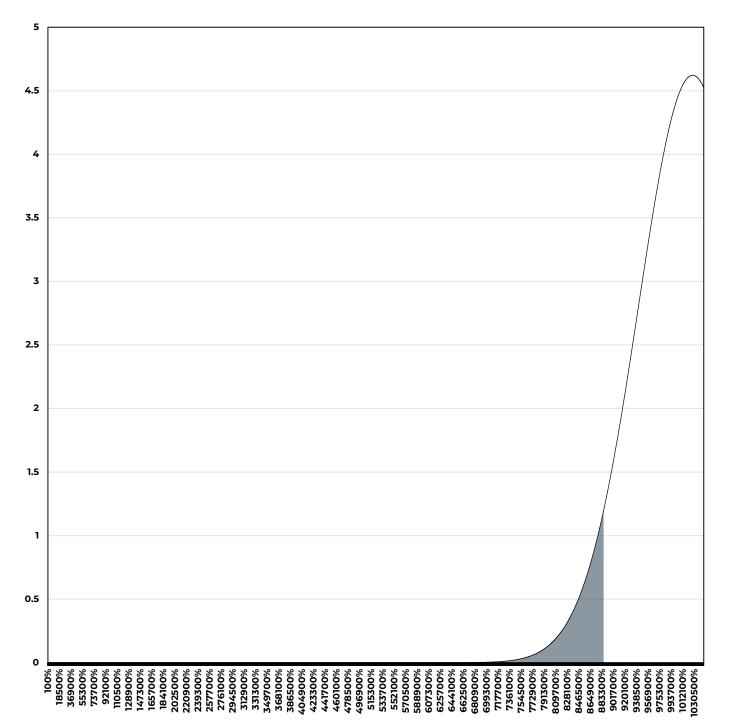
January 6, 2024



### Apple Inc (AAPL:US) \$181.18

## VaR @ 95% Confidence

Item	Value	Conf.	Signif.	N(0,1) Dev	VaR	Loss	Price
Lower	-12.76%	95%	5%	-1.64485	-11.40%	-20.6518	160.53
Step	0.01%						
Mean	2.80%						
Sigma	8.63%	Distribution Graph					



The Following Data Is Believed To Be Accurate As Of:

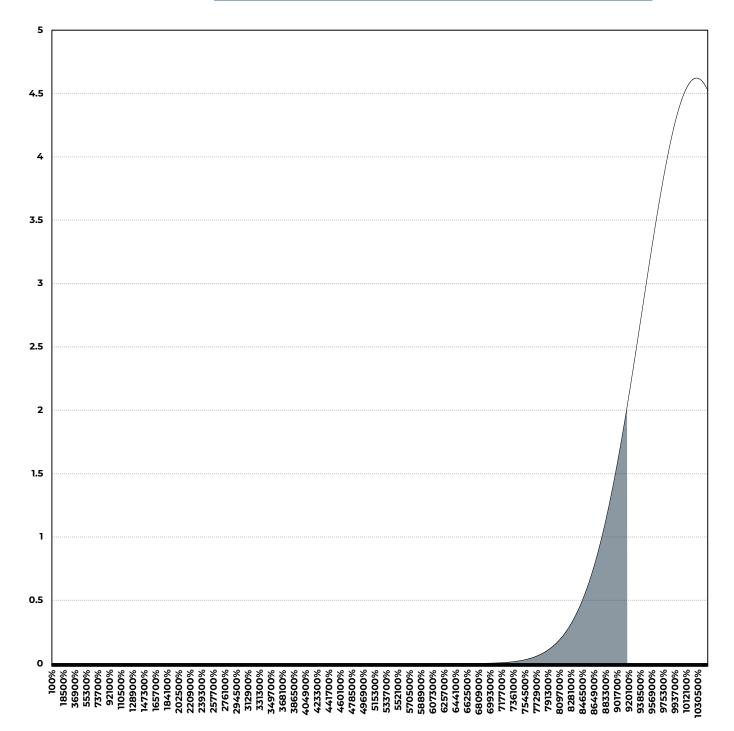
January 6, 2024



### Apple Inc (AAPL:US) \$181.18

## VaR @ 90% Confidence

Item	Value	Conf.	Signif.	N(0,1) Dev	VaR	Loss	Price
Lower	-12.76%	90%	10%	-1.28155	-8.26%	-14.9694	166.21
Step	0.01%						
Mean	2.80%						
Sigma	8.63%	Distribution Graph					



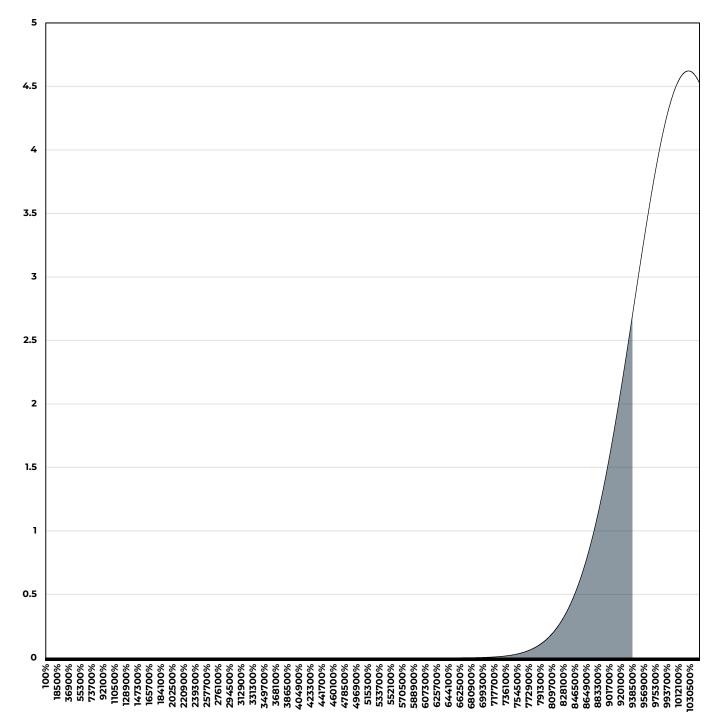
The Following Data Is Believed To Be Accurate As Of:

January 6, 2024



7/	$\overline{}$	0=0/				
Wald		94 L V/2	-c	tia	an	2
VaR (		UJ /U '	CULI		CII	$\overline{}$
	_					

Item	Value	Conf.	Signif.	N(0,1) Dev	VaR	Loss	Price
Lower	-12.76%	85%	15%	-1.03643	-6.15%	-11.1355	170.04
Step	0.01%						
Mean	2.80%						
Sigma	8.63%			Distribution	on Graph		



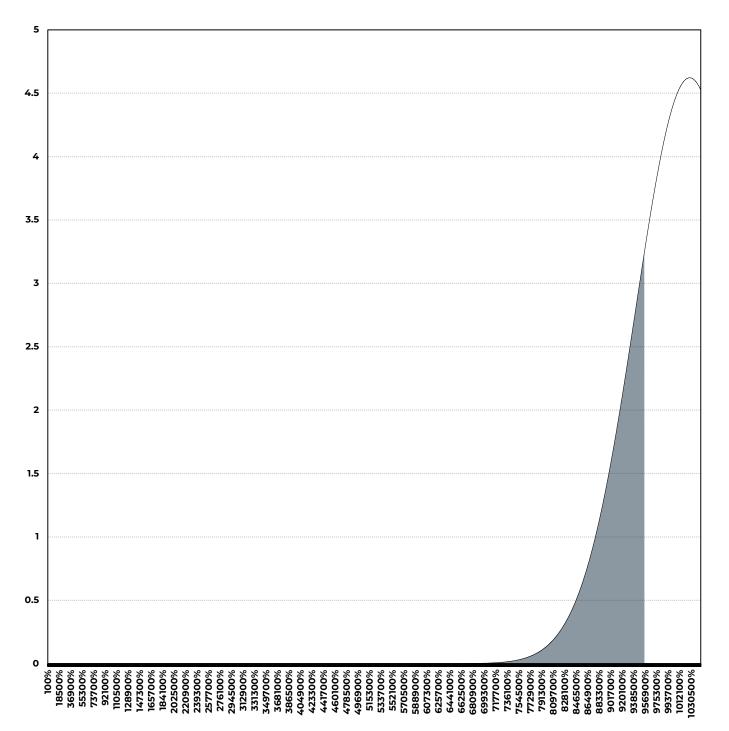
The Following Data Is Believed To Be Accurate As Of:

January 6, 2024



VaR@	80%	Confide	nce
------	-----	---------	-----

Item	Value	Conf.	Signif.	N(0,1) Dev	VaR	Loss	Price
Lower	-12.76%	80%	20%	-0.84162	-4.46%	-8.0885	173.09
Step	0.01%						
Mean	2.80%						
Sigma	8.63%	Distribution Graph					



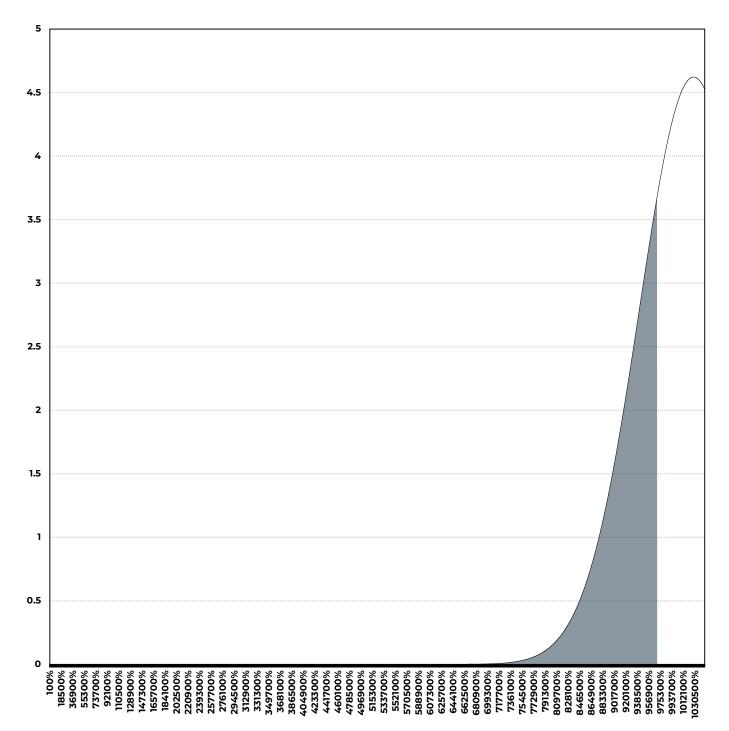
The Following Data Is Believed To Be Accurate As Of:

January 6, 2024



VaR @	<b>75%</b> (	Confid	ence
-------	--------------	--------	------

Item	Value	Conf.	Signif.	N(0,1) Dev	VaR	Loss	Price
Lower	-12.76%	75%	25%	-0.67449	-3.02%	-5.4744	175.71
Step	0.01%						
Mean	2.80%						
Sigma	8.63%	Distribution Graph					



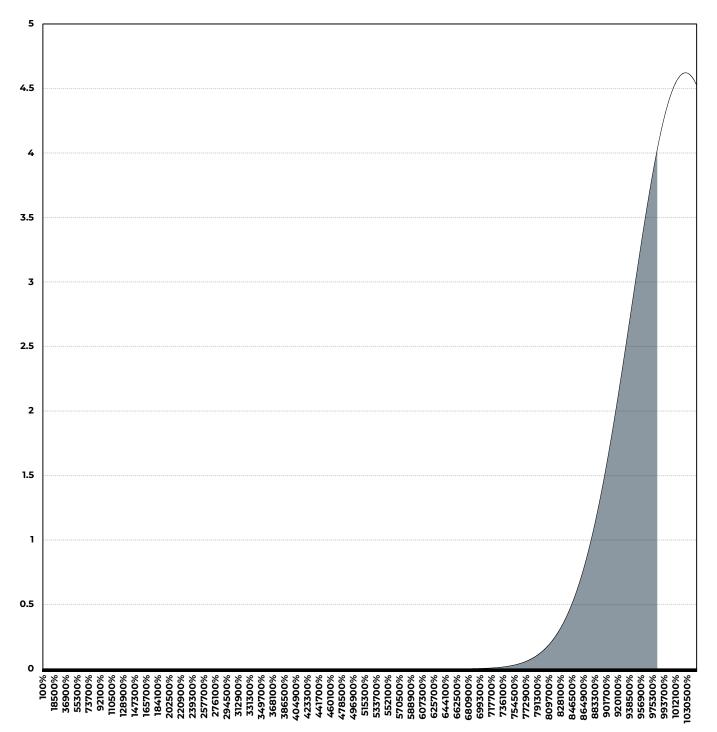
The Following Data Is Believed To Be Accurate As Of:

January 6, 2024



VaR	@7	0%	Confi	dence
-----	----	----	-------	-------

Item	Value	Conf.	Signif.	N(0,1) Dev	VaR	Loss	Price
Lower	-12.76%	70%	30%	-0.5244	-1.73%	-3.1268	178.05
Step	0.01%						
Mean	2.80%						
Sigma	8.63%			Distributio	n Graph		



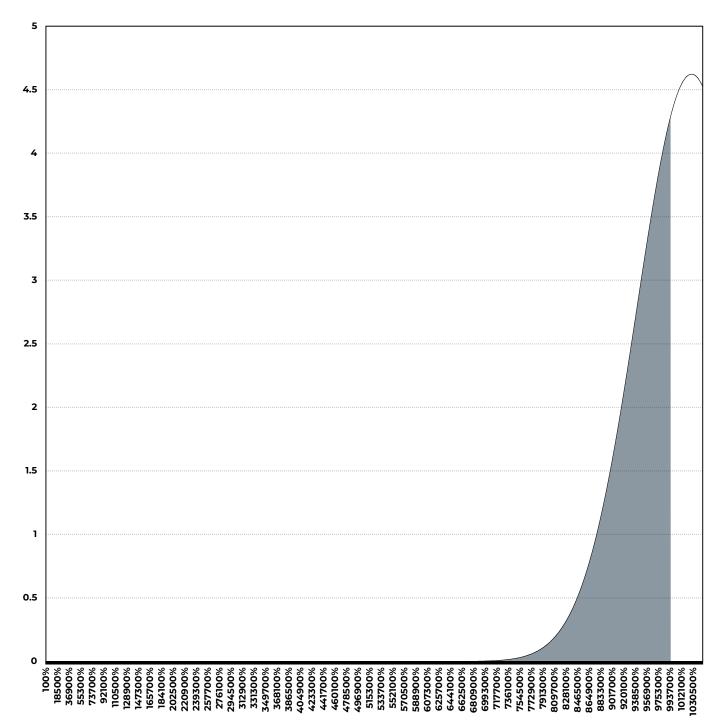
The Following Data Is Believed To Be Accurate As Of:

January 6, 2024



VaR	@ 65%	Confidence	١
-----	-------	------------	---

Item	Value	Conf.	Signif.	N(0,1) Dev	VaR	Loss	Price
Lower	-12.76%	65%	35%	-0.38532	-0.53%	-0.9515	180.23
Step	0.01%						
Mean	2.80%						
Sigma	8.63%			Distributio	on Graph		



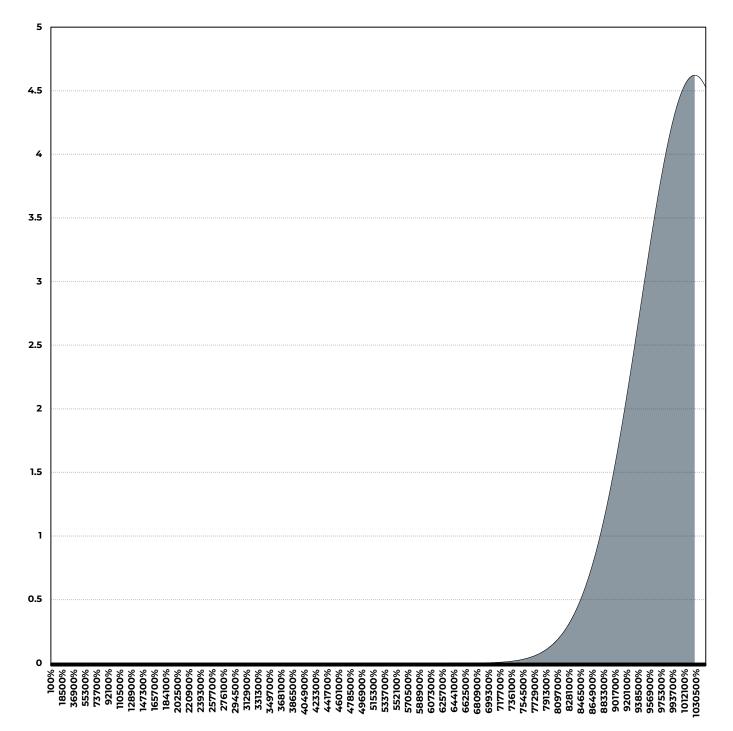
The Following Data Is Believed To Be Accurate As Of:

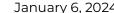
January 6, 2024



VaR	@ 50%	Confidence
-----	-------	------------

Item	Value	Conf.	Signif.	N(0,1) Dev	VaR	Loss	Price
Lower	-12.76%	50%	50%	0.0000	2.80%	5.0753	186.26
Step	0.01%						
Mean	2.80%						
Sigma	8.63%			Distributio	on Graph		







99%         97%         95%         90%         85%         80%         75%         70%           30 DTE         5537.33         3690.27         2857.29         1770.31         1170.55         770.44         479.76         247.74	71.69 64.98 62.15
<b>30 DTE</b> 5537.33 3690.27 2857.29 1770.31 1170.55 770.44 479.76 247.74	64.98 62.15
	62.15
<b>60 DTE</b> 6322.47 4069.80 3075.66 1813.39 1145.38 719.85 426.86 209.00	
<b>90 DTE</b> 7125.44 4512.67 3369.87 1935.70 1190.82 726.69 416.68 196.91	
<b>100 DTE</b> 7380.14 4656.78 3467.88 1979.63 1209.86 732.61 416.20 194.68	61.31
<b>125 DTE</b> 7987.28 5004.21 3706.56 2089.85 1260.14 750.65 417.79 190.81	59.09
<b>150 DTE</b> 8555.79 5332.97 3934.45 2197.80 1311.42 770.83 421.48 188.22	56.59
<b>200 DTE</b> 9597.08 5940.33 4358.51 2402.60 1411.45 812.42 430.96 184.27	50.62
<b>250 DTE</b> 10537.82 6492.57 4746.08 2592.24 1505.67 852.72 440.79 180.46	43.44
<b>1 YTE</b> 12433.40 7610.59 5533.57 2980.76 1700.39 936.74 460.72 169.79	23.40
<b>1.5 YTE</b> 14949.01 9099.14 6584.34 3501.13 1961.37 1048.15 483.85 147.68	-14.53
<b>2 YTE</b> 17090.59 10367.87 7480.42 3944.70 2182.74 1140.69 499.58 122.10	-55.85
<b>2.5 YTE</b> 18986.59 11491.49 8274.00 4337.02 2377.58 1220.69 510.79 95.38	-97.92
<b>3 YTE</b> 20705.92 12510.61 8993.75 4692.50 2553.56 1292.09 519.34 68.84	-139.29

