

Financial Analysis - Apple Inc

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1 Introduction

The investing strategy is based on a multi-step analysis that increasingly looks more closely into the company. There will be 5 different phases all together:

1. Phase 1: First Impression
2. Phase 2: Management
3. Phase 3: Moat
4. Phase 4: Deep Dive (Ratio Analysis)
5. Phase 5: Intrinsic Value

2 Phase 1: First Impression

2.1 The Company

Apple Inc. designs, manufactures, and markets smartphones, personal computers, tablets, wearables, and accessories worldwide. It also sells various related services. In addition, the company offers iPhone, a line of smartphones; Mac, a line of personal computers; iPad, a line of multi-purpose tablets; AirPods Max, an over-ear wireless headphone; and wearables, home, and accessories comprising AirPods, Apple TV, Apple Watch, Beats products, HomePod, and iPod touch. Further, it provides AppleCare support services; cloud services store 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. Additionally, the company offers various services, such as Apple Arcade, a game subscription 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 incorporated in 1977 and is headquartered in Cupertino, California.

2.2 General Information

2.2.1 General Company Information

General Company Information	
Company Name	Apple Inc
Ticker Symbol	AAPL
ISIN	US0378331005
Address	One Apple Park Way, Cupertino, CA, United States, 95014
Sector	Technology
Industry	Consumer Electronics
Employees	154000
Fiscal Year Ends	September
IPO	1980-12-12

2.2.2 General Stock Information

General Stock Information	
Currency	USD
Market Capitalization	2226921668608.0
Dividend Share	0.88
Dividend Yield (in %)	0.0067

2.3 Stock Categories

2.4 Shareholder Structure

General Shareholder Information	
Shares Outstanding	16185199616
Shares Floating	16168348412
Float-to-Outstanding Ratio	0.999
Owned by Institutions (in %)	59.598
Owned by Insiders (in %)	0.073
Owned by Public (in %)	40.329

2.4.1 Institutions

Institutions			
Name	Total Shares (%)	Change (%)	Total Assets (%)
Vanguard Group Inc	7.7927	-0.4005	5.0848
BlackRock Inc	6.3009	-0.625	4.6097
Berkshire Hathaway Inc	5.4812	0	47.5985
State Street Corporation	3.9117	1.7603	5.3315
FMR Inc	2.1761	0.4524	4.6181
Geode Capital Management, LLC	1.6333	1.7149	5.6383
T. Rowe Price Associates, Inc.	1.3787	18.3876	3.5658
Northern Trust Corp	1.1793	-2.276	5.5526
Bank of New York Mellon Corp	0.894	-3.1364	4.6362
Morgan Stanley - Brokerage Accounts	0.8184	3.2604	2.9043

2.4.2 Funds

Funds			
Name	Total Shares (%)	Change (%)	Total Assets (%)
Vanguard Total Stock Mkt Idx Inv	2.7653	-0.1923	5.9285
Vanguard 500 Index Investor	2.095	0.1071	7.0394
SPDR00ae S&P 500 ETF Trust	1.0241	0.7717	6.9922
Fidelity00ae 500 Index	0.9951	0.9024	7.0471
Invesco QQQ Trust	0.8659	0.3336	12.8951
iShares Core S&P 500 ETF	0.8004	-0.0212	6.9775
Vanguard Growth Index Investor	0.764	-0.2289	12.7252
Vanguard Institutional Index I	0.7176	-0.3185	7.0487
Vanguard Information Technology ETF	0.4663	0.856	22.7698
State St S&P 50000ae Indx SL Cl III	0.436	-0.1385	6.9099

2.4.3 Insider Trading

Insider Trading					
Name		Date	Amount	Price	Acquired or Disposed
Katherine Adams	L	2022-05-04	25000	161.72	D
Deirdre O'Brien		2022-04-18	8000	164.91	D
Deirdre O'Brien		2022-04-04	29198	177.77	D
Jeffrey Williams	E.	2022-04-04	105901	177.75	D
Katherine Adams	L	2022-02-03	25000	174.78	D
Arthur Levinson	D	2022-02-01	1986	173.29	D
Chris Kondo		2021-11-12	9005	150	D
Katherine Adams	L	2021-11-01	25000	148.68	D
Luca Maestri		2021-10-19	165829	148.62	D
Deirdre O'Brien		2021-10-18	18247	146.35	D

2.5 Circle of Competence

2.6 Meaning

2.7 Moat

2.8 Management

Officers	
Title	Name
CEO & Director	Mr. Timothy D. Cook
CFO & Sr. VP	Mr. Luca Maestri
Chief Operating Officer	Mr. Jeffrey E. Williams
Sr. VP, Gen. Counsel & Sec.	Ms. Katherine L. Adams
Sr. VP of People & Retail	Ms. Deirdre O'Brien
Sr. Director of Corp. Accounting	Mr. Chris Kondo
Chief Technology Officer	Mr. James Wilson
Chief Information Officer	Ms. Mary Demby
Sr. Director of Investor Relations & Treasury	Ms. Nancy Paxton
Sr. VP of Worldwide Marketing	Mr. Greg Joswiak

2.9 Competition

2.10 Future

2.11 Invert the story

2.12 Analyst Ratings

Analyst Ratings	
Rating	4.3333
Target Price	169.88
Strong Buy	28
Buy	7
Hold	8
Sell	1
Strong Sell	1

2.13 First Decision

3 Phase 2: Management

3.1 Rule 1: Low Debt

3.1.1 Rule 1.1: Debt-to-Equity (D/E) Ratio

Debt-to-Equity (D/E)			
Year	2010	2011	2012
Long Term Debt	0.0	0.0	0.0
Notes Payable	None	None	None
Equity	47791000000.0	76615000000.0	118210000000.0
D/E	0.0	0.0	0.0

Year	2013	2014	2015
Long Term Debt	16960000000.0	28987000000.0	53463000000.0
Notes Payable	None	6308000000.0	10999000000.0
Equity	123549000000.0	111547000000.0	119355000000.0
D/E	0.1373	0.3164	0.5401

Year	2016	2017	2018
Long Term Debt	75427000000.0	97207000000.0	93735000000.0
Notes Payable	11605000000.0	18473000000.0	20748000000.0
Equity	128249000000.0	134047000000.0	107147000000.0
D/E	0.6786	0.863	1.0685

Year	2019	2020	2021
Long Term Debt	91807000000.0	98667000000.0	109106000000.0
Notes Payable	16240000000.0	13769000000.0	15613000000.0
Equity	90488000000.0	65339000000.0	63090000000.0
D/E	1.194	1.7208	1.9768

3.1.2 Rule 1.2: Debt-to-FCF (D/FCF) Ratio

Debt-to-FCF (D/FCF)			
Year	2010	2011	2012
Long Term Debt	0.0	0.0	0.0
Notes Payable	None	None	None
FCF	16474000000.0	30077000000.0	41454000000.0
D/FCF	0.0	0.0	0.0

Year	2013	2014	2015
Long Term Debt	16960000000.0	28987000000.0	53463000000.0
Notes Payable	None	6308000000.0	10999000000.0
FCF	44590000000.0	49900000000.0	69778000000.0
D/FCF	0.3804	0.7073	0.9238

Year	2016	2017	2018
Long Term Debt	75427000000.0	97207000000.0	93735000000.0
Notes Payable	11605000000.0	18473000000.0	20748000000.0
FCF	52276000000.0	50803000000.0	64121000000.0
D/FCF	1.6649	2.277	1.7854
Year	2019	2020	2021
Long Term Debt	91807000000.0	98667000000.0	109106000000.0
Notes Payable	16240000000.0	13769000000.0	15613000000.0
FCF	58896000000.0	73365000000.0	92953000000.0
D/FCF	1.8345	1.5326	1.3417

3.1.3 Rule 1.3: Liabilities-to-Equity (L/E) Ratio

Liabilities-to-Equity (L/E)			
Year	2010	2011	2012
Liabilities	27392000000.0	39756000000.0	57854000000.0
Equity	47791000000.0	76615000000.0	118210000000.0
L/E	0.5732	0.5189	0.4894
Year	2013	2014	2015
Liabilities	83451000000.0	120292000000.0	171124000000.0
Equity	123549000000.0	111547000000.0	119355000000.0
L/E	0.6754	1.0784	1.4337
Year	2016	2017	2018
Liabilities	193437000000.0	241272000000.0	258578000000.0
Equity	128249000000.0	134047000000.0	107147000000.0
L/E	1.5083	1.7999	2.4133
Year	2019	2020	2021
Liabilities	248028000000.0	258549000000.0	287912000000.0
Equity	90488000000.0	65339000000.0	63090000000.0
L/E	2.741	3.957	4.5635

3.2 Rule 2: High Current Ratio

Current Ratio			
Year	2010	2011	2012
Current Assets	41678000000.0	44988000000.0	57653000000.0
Current Liabilities	20722000000.0	27970000000.0	38542000000.0
Current Ratio	2.0113	1.6084	1.4958
Year	2013	2014	2015
Current Assets	73286000000.0	68531000000.0	89378000000.0
Current Liabilities	43658000000.0	63448000000.0	80610000000.0
Current Ratio	1.6786	1.0801	1.1088

Year	2016	2017	2018
Current Assets	106869000000.0	128645000000.0	131339000000.0
Current Liabilities	79006000000.0	100814000000.0	116866000000.0
Current Ratio	1.3527	1.2761	1.1238
Year	2019	2020	2021
Current Assets	162819000000.0	143713000000.0	134836000000.0
Current Liabilities	105718000000.0	105392000000.0	125481000000.0
Current Ratio	1.5401	1.3636	1.0746

3.3 Rule 3: Strong and consistent Return on Equity (ROE)

Return-on-Equity (ROE)			
Year	2010	2011	2012
Net Income	14013000000.0	25922000000.0	41733000000.0
Equity	47791000000.0	76615000000.0	118210000000.0
ROE	0.2932	0.3383	0.353
Year	2013	2014	2015
Net Income	37037000000.0	39510000000.0	53394000000.0
Equity	123549000000.0	111547000000.0	119355000000.0
ROE	0.2998	0.3542	0.4474
Year	2016	2017	2018
Net Income	45687000000.0	48351000000.0	59531000000.0
Equity	128249000000.0	134047000000.0	107147000000.0
ROE	0.3562	0.3607	0.5556
Year	2019	2020	2021
Net Income	55256000000.0	57411000000.0	94680000000.0
Equity	90488000000.0	65339000000.0	63090000000.0
ROE	0.6106	0.8787	1.5007

3.4 Character Traits

3.5 Red Flags

4 Phase 3: Moat

4.1 Return-on-Invested-Capital (ROIC)

Return-on-Invested-Capital (ROIC)			
Year	2010	2011	2012
Net Income	14013000000.0	25922000000.0	41733000000.0
Invested Capital	47791000000.0	76615000000.0	118210000000.0
ROIC	0.2932	0.3383	0.353

Year	2013	2014	2015
Net Income	37037000000.0	39510000000.0	53394000000.0
Invested Capital	140509000000.0	146842000000.0	183817000000.0
ROIC	0.2636	0.2691	0.2905
Year	2016	2017	2018
Net Income	45687000000.0	48351000000.0	59531000000.0
Invested Capital	215281000000.0	249727000000.0	221630000000.0
ROIC	0.2122	0.1936	0.2686
Year	2019	2020	2021
Net Income	55256000000.0	57411000000.0	94680000000.0
Invested Capital	198535000000.0	177775000000.0	187809000000.0
ROIC	0.2783	0.3229	0.5041

4.2 Equity Growth Rate

Equity Growth Rates			
Year	2010	2011	2012
Equity	47791000000.0	76615000000.0	118210000000.0
Equity Growth Rate	0.7171	0.6031	0.5429
Year	2013	2014	2015
Equity	123549000000.0	111547000000.0	119355000000.0
Equity Growth Rate	0.0452	-0.0971	0.07
Year	2016	2017	2018
Equity	128249000000.0	134047000000.0	107147000000.0
Equity Growth Rate	0.0745	0.0452	-0.2007
Year	2019	2020	2021
Equity	90488000000.0	65339000000.0	63090000000.0
Equity Growth Rate	-0.1555	-0.2779	-0.0344
n-year Equity Growth Rate			
n	Growth Rate		
1-year	-0.0344		
3-year	-0.1618		
5-year	-0.1323		
9-year	-0.0674		

4.3 Earnings-Per-Share (EPS) Growth Rate

Earnings-per-Share (EPS) Growth Rate			
Year	2010	2011	2012
Earnings	14013000000.0	25922000000.0	41733000000.0
Shares	25891936000.0	26226060000.0	26469940000.0
EPS	0.5412	0.9884	1.5766
EPS Growth Rate	1.4096	0.8263	0.5951

Year	2013	2014	2015
Earnings	37037000000.0	39510000000.0	53394000000.0
Shares	26086536000.0	24490652000.0	23172276000.0
EPS	1.4198	1.6133	2.3042
EPS Growth Rate	-0.0995	0.1363	0.4283

Year	2016	2017	2018
Earnings	45687000000.0	48351000000.0	59531000000.0
Shares	22001124000.0	21006768000.0	20000436000.0
EPS	2.0766	2.3017	2.9765
EPS Growth Rate	-0.0988	0.1084	0.2932

Year	2019	2020	2021
Earnings	55256000000.0	57411000000.0	94680000000.0
Shares	18595652000.0	17528214000.0	16864919000.0
EPS	2.9714	3.2753	5.614
EPS Growth Rate	-0.0017	0.1023	0.714

n-year EPS Growth Rate	
n	Growth Rate
1-year	0.714
3-year	0.2355
5-year	0.2201
9-year	0.1516

4.4 Sales/Revenue Growth Rate

Sales/Revenue Growth Rate			
Year	2010	2011	2012
Sales/Revenue	65225000000.0	108249000000.0	156508000000.0
Sales/Revenue Growth Rate	0.7852	0.6596	0.4458

Year	2013	2014	2015
Sales/Revenue	170910000000.0	182795000000.0	233715000000.0
Sales/Revenue Growth Rate	0.092	0.0695	0.2786

Year	2016	2017	2018
Sales/Revenue	215639000000.0	229234000000.0	265595000000.0
Sales/Revenue Growth Rate	-0.0773	0.063	0.1586
Year	2019	2020	2021
Sales/Revenue	260174000000.0	274515000000.0	365817000000.0
Sales/Revenue Growth Rate	-0.0204	0.0551	0.3326
n-year Sales/Revenue Growth Rate			
n	Growth Rate		
1-year	0.3326		
3-year	0.1126		
5-year	0.1115		
9-year	0.0989		

4.5 Free Cash Flow (FCF) Growth Rate

Free-Cash-Flow (FCF) Growth Rate			
Year	2010	2011	2012
Operating Cash Flow	18595000000.0	37529000000.0	50856000000.0
CAPEX	2121000000.0	7452000000.0	9402000000.0
FCF	16474000000.0	30077000000.0	41454000000.0
FCF Growth Rate	0.8415	0.8257	0.3783
Year	2013	2014	2015
Operating Cash Flow	53666000000.0	59713000000.0	81266000000.0
CAPEX	9076000000.0	9813000000.0	11488000000.0
FCF	44590000000.0	49900000000.0	69778000000.0
FCF Growth Rate	0.0757	0.1191	0.3984
Year	2016	2017	2018
Operating Cash Flow	65824000000.0	63598000000.0	77434000000.0
CAPEX	13548000000.0	12795000000.0	13313000000.0
FCF	52276000000.0	50803000000.0	64121000000.0
FCF Growth Rate	-0.2508	-0.0282	0.2621

Year	2019	2020	2021
Operating Cash Flow	69391000000.0	80674000000.0	104038000000.0
CAPEX	10495000000.0	7309000000.0	11085000000.0
FCF	58896000000.0	73365000000.0	92953000000.0
FCF Growth Rate	-0.0815	0.2457	0.267
n-year FCF Growth Rate			
n	Growth Rate		
1-year	0.267		
3-year	0.1318		
5-year	0.122		
9-year	0.0939		

5 Phase 4: Deep-Dive (Ratio Analysis)

5.1 Income Statement - Ratio Analysis

5.1.1 Gross-Profit Margin Ratio (GPMR)

Gross Profit Margin Ratio (GPMR)			
Year	2010	2011	2012
Gross Profit	25684000000.0	37529000000.0	50856000000.0
Revenue	65225000000.0	108249000000.0	156508000000.0
GPMR	0.3938	0.4048	0.4387
Year	2013	2014	2015
Gross Profit	64304000000.0	59713000000.0	81266000000.0
Revenue	170910000000.0	182795000000.0	233715000000.0
GPMR	0.3762	0.3859	0.4006
Year	2016	2017	2018
Gross Profit	84263000000.0	63598000000.0	77434000000.0
Revenue	215639000000.0	229234000000.0	265595000000.0
GPMR	0.3908	0.3847	0.3834
Year	2019	2020	2021
Gross Profit	98392000000.0	80674000000.0	104038000000.0
Revenue	260174000000.0	274515000000.0	365817000000.0
GPMR	0.3782	0.3823	0.4178

5.1.2 EBITDA Margin Ratio (EBITDA Margin)

EBITDA Margin			
Year	2010	2011	2012
EBITDA	19567000000.0	36019000000.0	59040000000.0
Revenue	65225000000.0	108249000000.0	156508000000.0
EBITDA Margin	0.3	0.3327	0.3772

Year	2013	2014	2015
EBITDA	57048000000.0	61813000000.0	84505000000.0
Revenue	170910000000.0	182795000000.0	233715000000.0
EBITDA Margin	0.3338	0.3382	0.3616

Year	2016	2017	2018
EBITDA	73333000000.0	76569000000.0	87046000000.0
Revenue	215639000000.0	229234000000.0	265595000000.0
EBITDA Margin	0.3401	0.334	0.3277

Year	2019	2020	2021
EBITDA	81860000000.0	81020000000.0	123136000000.0
Revenue	260174000000.0	274515000000.0	365817000000.0
EBITDA Margin	0.3146	0.2951	0.3366

5.1.3 Operating Margin Ratio (OMR)

Operating Margin Ratio (OMR)			
Year	2010	2011	2012
Operating Income	18385000000.0	33790000000.0	55241000000.0
Revenue	65225000000.0	108249000000.0	156508000000.0
OMR	0.2819	0.3122	0.353

Year	2013	2014	2015
Operating Income	48999000000.0	52503000000.0	71230000000.0
Revenue	170910000000.0	182795000000.0	233715000000.0
OMR	0.2867	0.2872	0.3048

Year	2016	2017	2018
Operating Income	60024000000.0	61344000000.0	70898000000.0
Revenue	215639000000.0	229234000000.0	265595000000.0
OMR	0.2784	0.2676	0.2669

Year	2019	2020	2021
Operating Income	63930000000.0	66288000000.0	108949000000.0
Revenue	260174000000.0	274515000000.0	365817000000.0
OMR	0.2457	0.2415	0.2978

5.1.4 Net Income Margin Ratio (NIMR)

Net Income Margin Ratio (NIMR)			
Year	2010	2011	2012
Net Income	14013000000.0	25922000000.0	41733000000.0
Revenue	65225000000.0	108249000000.0	156508000000.0
NIMR	0.2148	0.2395	0.2667

Year	2013	2014	2015
Net Income	37037000000.0	39510000000.0	53394000000.0
Revenue	170910000000.0	182795000000.0	233715000000.0
NIMR	0.2167	0.2161	0.2285

Year	2016	2017	2018
Net Income	45687000000.0	48351000000.0	59531000000.0
Revenue	215639000000.0	229234000000.0	265595000000.0
NIMR	0.2119	0.2109	0.2241

Year	2019	2020	2021
Net Income	55256000000.0	57411000000.0	94680000000.0
Revenue	260174000000.0	274515000000.0	365817000000.0
NIMR	0.2124	0.2091	0.2588

5.1.5 Interest Coverage Ratio (ICR)

Interest Coverage Ratio (ICR)			
Year	2010	2011	2012
Operating Income	18385000000.0	33790000000.0	55241000000.0
Interest Expense	0.0	0.0	0.0
ICR	-	-	-

Year	2013	2014	2015
Operating Income	48999000000.0	52503000000.0	71230000000.0
Interest Expense	136000000.0	384000000.0	733000000.0
ICR	360.2868	136.7266	97.176

Year	2016	2017	2018
Operating Income	60024000000.0	61344000000.0	70898000000.0
Interest Expense	1456000000.0	2323000000.0	3240000000.0
ICR	41.2253	26.4072	21.8821

Year	2019	2020	2021
Operating Income	63930000000.0	66288000000.0	108949000000.0
Interest Expense	3576000000.0	2873000000.0	2645000000.0
ICR	17.8775	23.0727	41.1905

5.2 Balance Sheet - Ratio Analysis

5.2.1 Profitability Ratios

Return-on-Equity (ROE)

Return-on-Equity (ROE)			
Year	2010	2011	2012
Net Income	14013000000.0	25922000000.0	41733000000.0
Equity	47791000000.0	76615000000.0	118210000000.0
ROE	0.2932	0.3383	0.353
Year	2013	2014	2015
Net Income	37037000000.0	39510000000.0	53394000000.0
Equity	123549000000.0	111547000000.0	119355000000.0
ROE	0.2998	0.3542	0.4474
Year	2016	2017	2018
Net Income	45687000000.0	48351000000.0	59531000000.0
Equity	128249000000.0	134047000000.0	107147000000.0
ROE	0.3562	0.3607	0.5556
Year	2019	2020	2021
Net Income	55256000000.0	94680000000.0	94680000000.0
Equity	90488000000.0	63090000000.0	63090000000.0
ROE	0.6106	1.5007	1.5007

Return-on-Assets (ROA)

Return-on-Assets (ROA)			
Year	2010	2011	2012
Net Income	14013000000.0	25922000000.0	41733000000.0
Total Assets	75183000000.0	116371000000.0	176064000000.0
ROA	0.1864	0.2228	0.237
Year	2013	2014	2015
Net Income	37037000000.0	39510000000.0	53394000000.0
Total Assets	207000000000.0	231839000000.0	290479000000.0
ROA	0.1789	0.1704	0.1838
Year	2016	2017	2018
Net Income	45687000000.0	48351000000.0	59531000000.0
Total Assets	321686000000.0	375319000000.0	365725000000.0
ROA	0.142	0.1288	0.1628

Year	2019	2020	2021
Net Income	55256000000.0	57411000000.0	94680000000.0
Total Assets	338516000000.0	323888000000.0	351002000000.0
ROA	0.1632	0.1773	0.2697

5.2.2 Liquidity Ratios

Current Ratio (CR)

Current Ratio (CR)			
Year	2010	2011	2012
Current Assets	41678000000.0	44988000000.0	57653000000.0
Current Liabilities	20722000000.0	27970000000.0	38542000000.0
CR	2.0113	1.6084	1.4958
Year	2013	2013	2014
Current Assets	73286000000.0	73286000000.0	68531000000.0
Current Liabilities	43658000000.0	43658000000.0	63448000000.0
CR	1.6786	1.6786	1.0801
Year	2016	2017	2018
Current Assets	106869000000.0	128645000000.0	131339000000.0
Current Liabilities	79006000000.0	100814000000.0	116866000000.0
CR	1.3527	1.2761	1.1238
Year	2019	2020	2021
Current Assets	162819000000.0	143713000000.0	134836000000.0
Current Liabilities	105718000000.0	105392000000.0	125481000000.0
CR	1.5401	1.3636	1.0746

Acid Test Ratio (ATR)

Acid Test Ratio (ATR)			
Year	2010	2011	2012
Current Assets	41678000000.0	44988000000.0	57653000000.0
Inventory	1051000000.0	776000000.0	791000000.0
Current Liabilities	20722000000.0	27970000000.0	38542000000.0
ATR	1.9606	1.5807	1.4753
Year	2013	2014	2015
Current Assets	73286000000.0	68531000000.0	89378000000.0
Inventory	1764000000.0	2111000000.0	2349000000.0
Current Liabilities	43658000000.0	63448000000.0	80610000000.0
ATR	1.6382	1.0468	1.0796

Year	2016	2017	2018
Current Assets	106869000000.0	128645000000.0	131339000000.0
Inventory	2132000000.0	4855000000.0	3956000000.0
Current Liabilities	79006000000.0	100814000000.0	116866000000.0
ATR	1.3257	1.2279	1.09
Year	2019	2020	2021
Current Assets	162819000000.0	143713000000.0	134836000000.0
Inventory	4106000000.0	4061000000.0	6580000000.0
Current Liabilities	105718000000.0	105392000000.0	125481000000.0
ATR	1.5013	1.3251	1.0221

5.2.3 Efficiency Ratios

Inventory Turnover Ratio (ITR)

Inventory Turnover Ratio (ITR)			
Year	2010	2011	2012
Cost of Revenue	39541000000.0	64431000000.0	87846000000.0
Inventory	1051000000.0	776000000.0	791000000.0
ITR	37.6223	83.0296	111.0569
Year	2013	2014	2015
Cost of Revenue	106606000000.0	112258000000.0	140089000000.0
Inventory	1764000000.0	2111000000.0	2349000000.0
ITR	60.4342	53.1776	59.6377
Year	2016	2017	2018
Cost of Revenue	131376000000.0	141048000000.0	163756000000.0
Inventory	2132000000.0	4855000000.0	3956000000.0
ITR	61.621	29.0521	41.3943
Year	2019	2020	2021
Cost of Revenue	161782000000.0	169559000000.0	212981000000.0
Inventory	4106000000.0	4061000000.0	6580000000.0
ITR	39.4014	41.753	32.3679

Accounts Receivable Turnover Ratio (ARR)

Accounts Receivable Ratio (ARR)			
Year	2010	2011	2012
Turnover	65225000000.0	108249000000.0	156508000000.0
Accounts Receiv-ables	9924000000.0	11717000000.0	18692000000.0
ARR	6.5725	9.2386	8.373

Year	2013	2014	2015
Turnover Accounts Receiv- ables	17091000000.0 20641000000.0	18279500000.0 27219000000.0	23371500000.0 30343000000.0
ARR	8.2801	6.7157	7.7024
Year	2016	2017	2018
Turnover Accounts Receiv- ables	215639000000.0 29299000000.0	229234000000.0 35673000000.0	265595000000.0 48995000000.0
ARR	7.3599	6.426	5.4209
Year	2019	2020	2021
Turnover Accounts Receiv- ables	260174000000.0 45804000000.0	274515000000.0 37445000000.0	365817000000.0 51506000000.0
ARR	5.6802	7.3312	7.1024

Accounts Payable Turnover Ratio (APR)

Accounts Payable Ratio (APR)			
Year	2010	2011	2012
Cost of Revenue Accounts Payable	39541000000.0 12015000000.0	64431000000.0 14632000000.0	87846000000.0 21175000000.0
APR	3.291	4.4034	111.0569
Year	2013	2014	2015
Cost of Revenue Accounts Payable	106606000000.0 22367000000.0	112258000000.0 30196000000.0	140089000000.0 35490000000.0
APR	4.7662	3.7176	59.6377
Year	2016	2017	2018
Cost of Revenue Accounts Payable	131376000000.0 37294000000.0	141048000000.0 49049000000.0	163756000000.0 55888000000.0
APR	3.5227	2.8757	41.3943
Year	2019	2020	2021
Cost of Revenue Accounts Payable	161782000000.0 46236000000.0	169559000000.0 42296000000.0	212981000000.0 54763000000.0
APR	3.499	4.0089	32.3679

5.2.4 Solvency Ratios

Debt-to-Equity Ratio (D/E)

Debt-to-Equity (D/E)			
Year	2010	2011	2012
Long Term Debt	0.0	0.0	0.0
Notes Payable	None	None	None
Equity	47791000000.0	76615000000.0	118210000000.0
D/E	0.0	0.0	0.0
Year	2013	2014	2015
Long Term Debt	16960000000.0	28987000000.0	53463000000.0
Notes Payable	None	6308000000.0	10999000000.0
Equity	123549000000.0	111547000000.0	119355000000.0
D/E	0.1373	0.3164	0.5401
Year	2016	2017	2018
Long Term Debt	75427000000.0	97207000000.0	93735000000.0
Notes Payable	11605000000.0	18473000000.0	20748000000.0
Equity	128249000000.0	134047000000.0	107147000000.0
D/E	0.6786	0.863	1.0685
Year	2019	2020	2021
Long Term Debt	91807000000.0	98667000000.0	109106000000.0
Notes Payable	16240000000.0	13769000000.0	15613000000.0
Equity	90488000000.0	65339000000.0	63090000000.0
D/E	1.194	1.7208	1.9768

Liabilities-to-Equity Ratio (L/E)

Liabilities-to-Equity (L/E)			
Year	2010	2011	2012
Liabilities	27392000000.0	39756000000.0	57854000000.0
Equity	47791000000.0	76615000000.0	118210000000.0
L/E	0.5732	0.5189	0.4894
Year	2013	2014	2015
Liabilities	83451000000.0	120292000000.0	171124000000.0
Equity	123549000000.0	111547000000.0	119355000000.0
L/E	0.6754	1.0784	1.4337
Year	2016	2017	2018
Liabilities	193437000000.0	241272000000.0	258578000000.0
Equity	128249000000.0	134047000000.0	107147000000.0
L/E	1.5083	1.7999	2.4133
Year	2019	2020	2021
Liabilities	248028000000.0	258549000000.0	287912000000.0
Equity	90488000000.0	65339000000.0	63090000000.0
L/E	2.741	3.957	4.5635

5.3 Cash Flow Statement - Ratio Analysis

5.3.1 FCF-to-Revenue Ratio (FCFR)

FCF-to-Revenue Ratio (FCFR)			
Year	2010	2011	2012
FCF	16474000000.0	30077000000.0	41454000000.0
Revenue	65225000000.0	108249000000.0	156508000000.0
FCFR	0.2526	0.2779	0.2649

Year	2013	2014	2015
FCF	44590000000.0	49900000000.0	69778000000.0
Revenue	170910000000.0	182795000000.0	233715000000.0
FCFR	0.2609	0.273	0.2986

Year	2016	2017	2018
FCF	52276000000.0	50803000000.0	64121000000.0
Revenue	215639000000.0	229234000000.0	265595000000.0
FCFR	0.2424	0.2216	0.2414

Year	2019	2020	2021
FCF	58896000000.0	73365000000.0	92953000000.0
Revenue	260174000000.0	274515000000.0	365817000000.0
FCFR	0.2264	0.2673	0.2541

5.3.2 Investing-Cash-Flow-to-Operating-Cash-Flow Ratio (ICFOCF)

ICF-to-OCF Ratio (ICFOCF)			
Year	2010	2011	2012
ICF	-13854000000.0	-40419000000.0	-48227000000.0
OCF	18595000000.0	37529000000.0	50856000000.0
ICFOCF	-0.745	-1.077	-0.9483

Year	2013	2014	2015
ICF	-33774000000.0	-22579000000.0	-56274000000.0
OCF	53666000000.0	59713000000.0	81266000000.0
ICFOCF	-0.6293	-0.3781	-0.6925

Year	2016	2017	2018
ICF	-45977000000.0	-46446000000.0	16066000000.0
OCF	65824000000.0	63598000000.0	77434000000.0
ICFOCF	-0.6985	-0.7303	0.2075

Year	2019	2020	2021
ICF	45896000000.0	-4289000000.0	-14545000000.0
OCF	69391000000.0	80674000000.0	104038000000.0
ICFOCF	0.6614	-0.0532	-0.1398

6 Phase 5: Intrinsic Value

6.1 Rule 1: Low Price-to-Earnings (P/E) ratio

Price-to-Earnings Ratio (P/E)	
Market Price Per Share	161.84
Earnings	94680000000.0
Shares	16864919000.0
EPS	5.614
P/E	28.8279

6.2 Rule 2: Low Price-to-Book (P/B) ratio

Price-to-Book Ratio (P/B)	
Market Price Per Share	161.84
Equity	63090000000.0
Shares	16864919000.0
BVPS	3.7409
P/B	43.2623

6.3 Rule 3: Sum-of-the-Parts (SOTP) Valuation Method

6.4 Rule 4: DCF Valuation Method

- Base Year Free Cash Flow (BYFCF): 92953000000.0
- Long-Term Growth Rate (LGR): 0.03
- Historical Growth Rate (GR): 0.1268
- Discount Rate (DR): The higher the DR, the more risk there is to the company.
- 10% discount rate: if low risk of investment

DCF Low Risk Estimates		
Growth Rates	Intrinsic Value Per Share	Margin Of Safety (MOS)
-15%	22.07	11.04
-10%	30.39	15.2
-5%	43.02	21.51
0%	62.29	31.14
5%	91.67	45.84
10%	136.22	68.11
15%	203.2	101.6
Historical Growth Rate	168.75	84.38

- 15% discount rate: if medium risk of investment

DCF Medium Risk Estimates		
Growth Rates	Intrinsic Value Per Share	Margin Of Safety (MOS)
-15%	16.56	8.28
-10%	21.32	10.66
-5%	28.09	14.04
0%	37.83	18.91
5%	51.96	25.98
10%	72.53	36.27
15%	102.42	51.21
Historical Growth Rate	87.16	43.58

- 20% discount rate: if high risk of investment

DCF High Risk Estimates		
Growth Rates	Intrinsic Value Per Share	Margin Of Safety (MOS)
-15%	13.71	6.86
-10%	17.01	8.51
-5%	21.48	10.74
0%	27.6	13.8
5%	36.12	18.06
10%	48.05	24.02
15%	64.85	32.42
Historical Growth Rate	56.34	28.17

7 Conclusion