

# Apple Inc. (NASDAQ: AAPL)



Current Price

\$163.76

Price Objective

\$162.40

Holding Period

10 Years

Margin of Safety

N/A



1

## Robust Supply Chain & Operational Efficiency

As a global leader in operational excellence, Apple's unique model achieves near-optimal performance and reduces extraneous spending

2

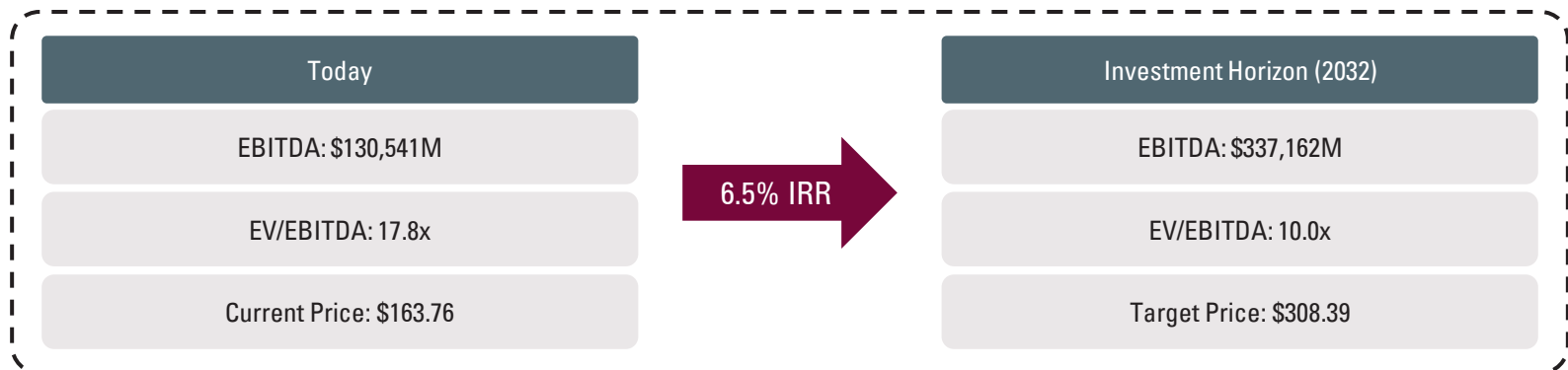
## Indian Market Opportunity

India's low smartphone penetration rate, increasing average wealth per adult, and underdeveloped market share has created a tangible pathway for Apple to create higher value

3

## Stickiness & Ecosystem Lock-In

Consumers continue to solidify themselves in Apple's integrated offerings of hardware, software, and service products



# COMPANY OVERVIEW

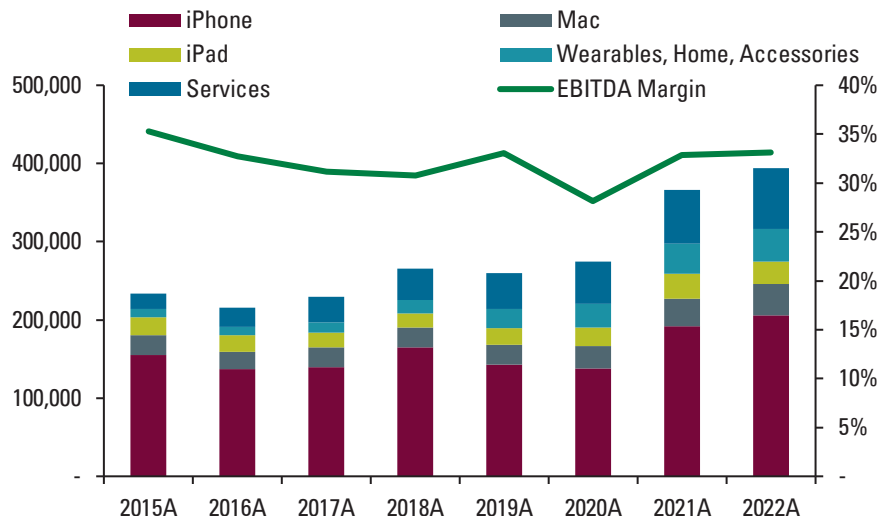


## Company Summary

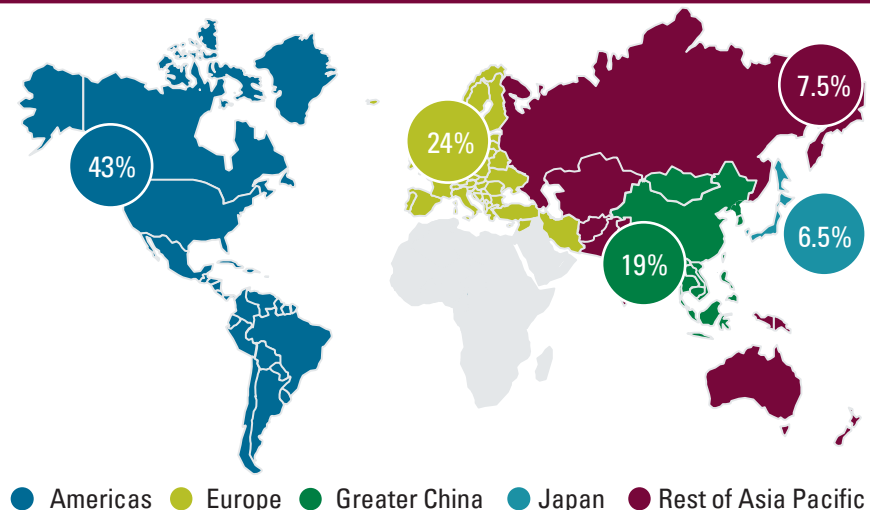
- Apple designs, manufactures, and markets a variety of products and services worldwide on a B2C & B2B basis
- The product segment offers consumer electronics under the iPhone, Mac, iPad, Wearables, and Home Accessory product lines
- The service segment offers Advertising, AppleCare, Cloud Services, Digital Content, and Payment Services (Apple Pay)
- Apple also offers a variety of subscription services through Apple Music, Apple News, and Apple TV

<b>Stock Price</b> \$163.76	<b>Market Cap</b> \$2.61T	<b>Enterprise Val</b> \$2.49T	<b>Dividend Yield</b> \$0.92 (0.56%)
<b>52 Week Range</b> \$124.17 - \$178.49	<b>TTM Revenue</b> \$387.50B	<b>Net Debt</b> \$121.00B	<b>Target Price</b> \$162.40

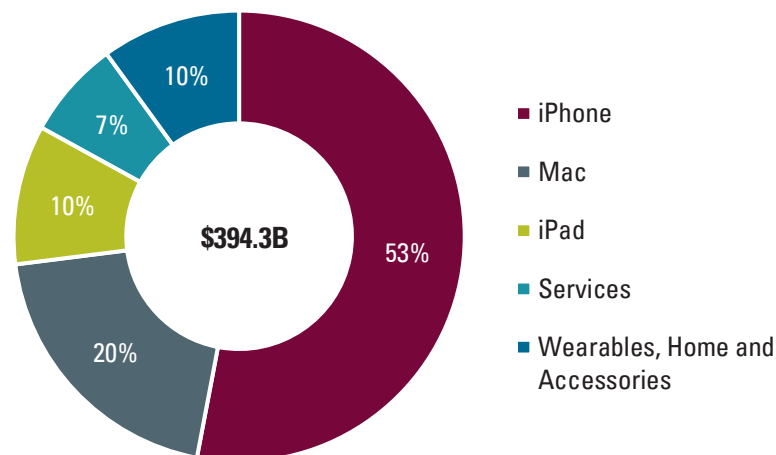
## Revenue & EBITDA Margin (\$M, %)



## Geographic Breakdown



## 2022 Revenue by Significant Product



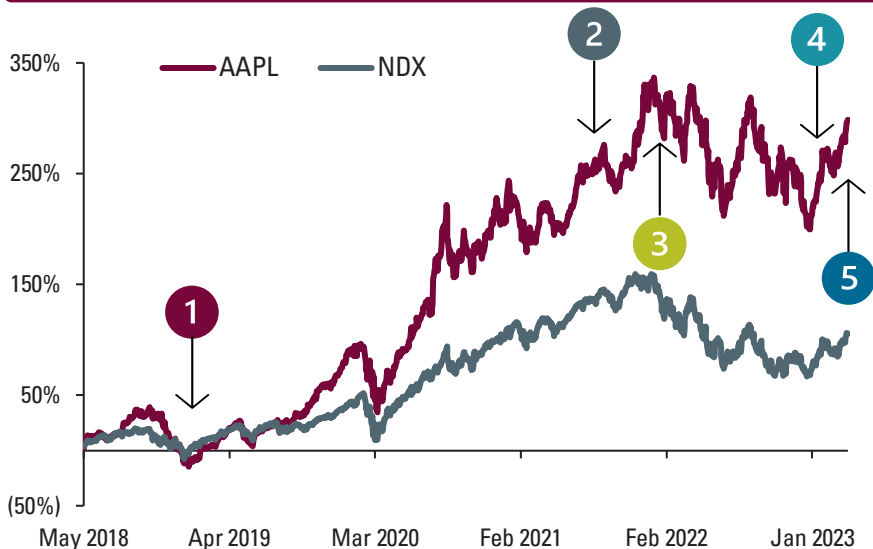
**Apple has stable and recurring revenue through diverse product lines, while being the most dominant consumer electronics company in the world**

Source: Refinitiv, Mergent, Apple Investor Relations, Yahoo Finance.  
Note: All figures in USD\$.

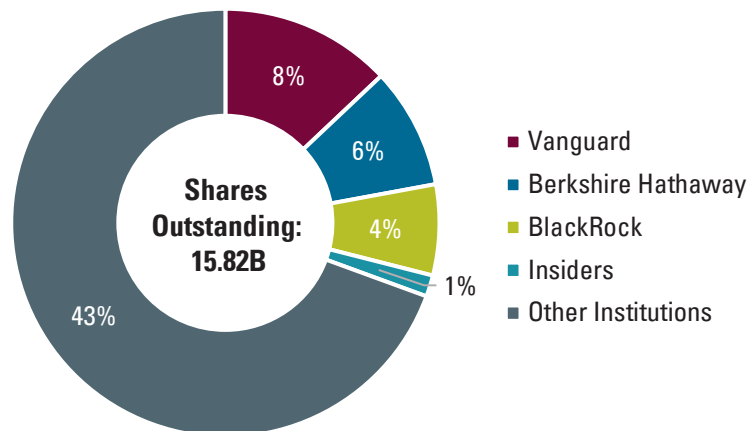
# FURTHER ANALYSIS



## Apple vs NASDAQ 100 Index (Last 5 years)



## Stock Ownership Structure



Date	Headline
1 Feb 2019	Apple & Goldman Sachs team up on a credit card to pair with the Apple products
2 Oct 2021	Apple announces the M1 Pro & M1 Max chips
3 Feb 2022	Apple introduces "Tap To Pay" contactless payment on iPhones
4 Feb 2023	Berkshire Hathaway increases stake in Apple by over \$3 billion
5 Mar 2023	Apple introduces "Apple Pay Later"

## M&A Pipeline

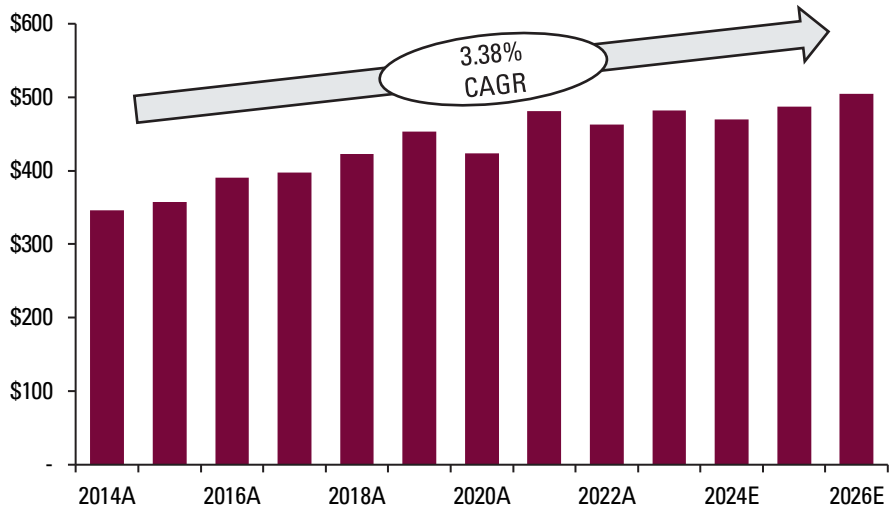
	<b>AI Music Limited – Feb 2022 Acquisition</b> By acquiring Music AI Limited, Apple gained access to a new AI platform for "Apple Music" which uses AI to shift songs based on time, patterns, and more. For example, your song changing based on heart rate
	<b>Primephonic B.V. – Aug 2021 Acquisition</b> In order to boost listeners and sales in Apple Music's "Classical" category, Apple acquired Primephonic; a classical music streaming service with premium audio features
	<b>Spaces – Aug 2020 Acquisition</b> Originally part of DreamWorks Animation, Spaces is an American VR startup that blends Avatars into platforms like Zoom, Skype, and more
	<b>Mobeewave Inc – Aug 2020 Acquisition</b> Apple acquires Mobeewave, a mobile payment startup that allows users to conduct transactions through NFC chips in smartphones. This acquisition helped Apple integrate "Apple Pay" into iPhones

**Apple has consistently outperformed the Nasdaq 100 with many significant developments in their products and services**

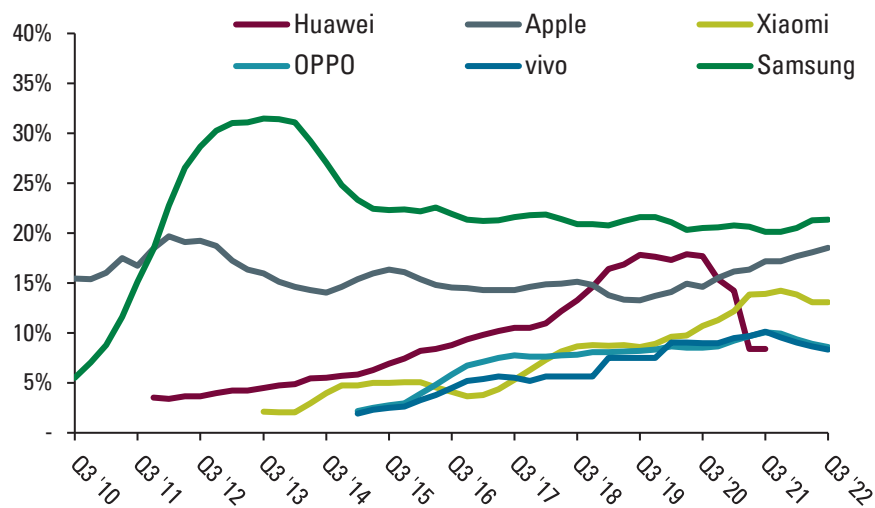
# CELLPHONE INDUSTRY OVERVIEW



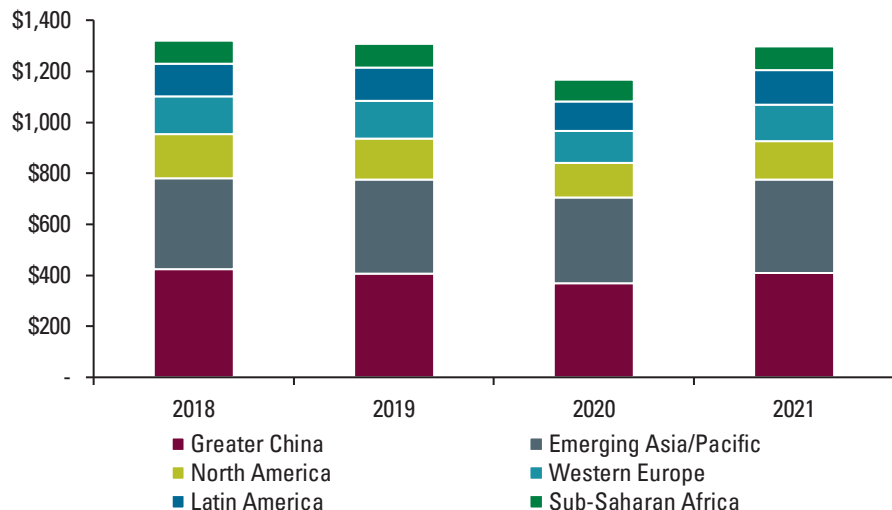
## Global Smartphone Market Revenue (\$B)



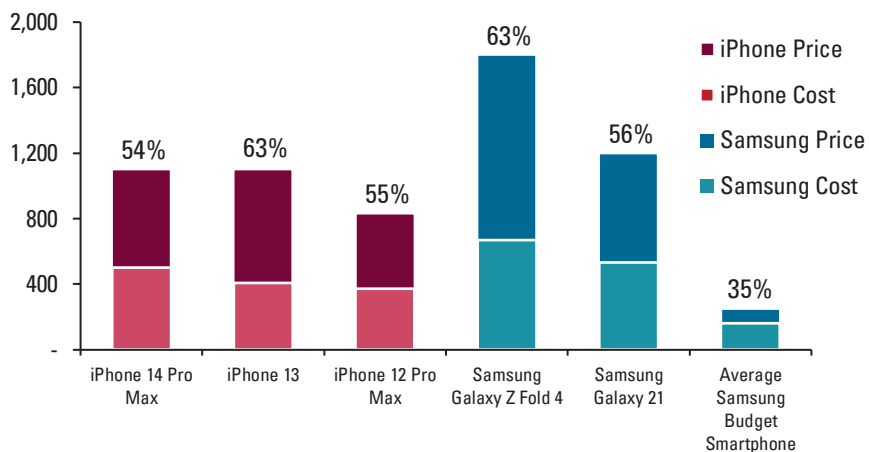
## Global Smartphone Market Share (Market Leaders in Unit Shipments)



## Global Smartphone Sales by Region (top 6 regions)



## Margin Analysis vs. Peers



**Apple has a strong hold on the smartphone market in established markets with opportunities for expansion to developing countries**

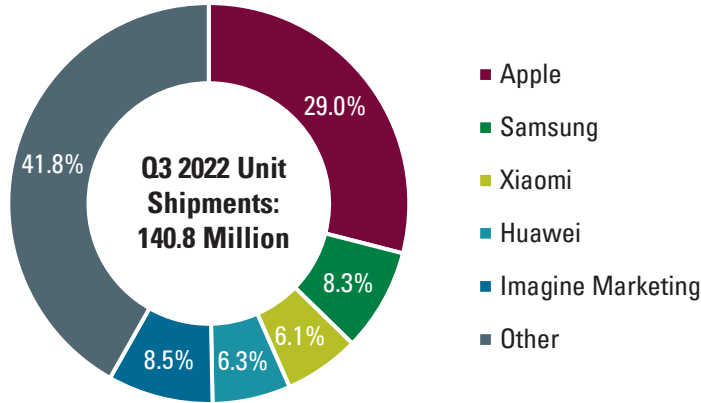
Source: Statista, IBISWorld, Techwalls.

Note: Global smartphone market share excludes companies who are not currently part of the market.

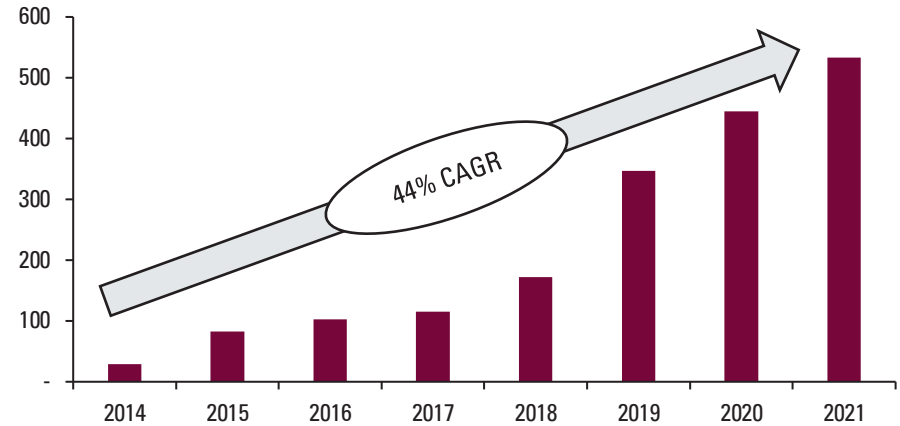
# HARDWARE AND WEARABLES INDUSTRY OVERVIEW



## Market Share of Wearables Global Unit Shipments

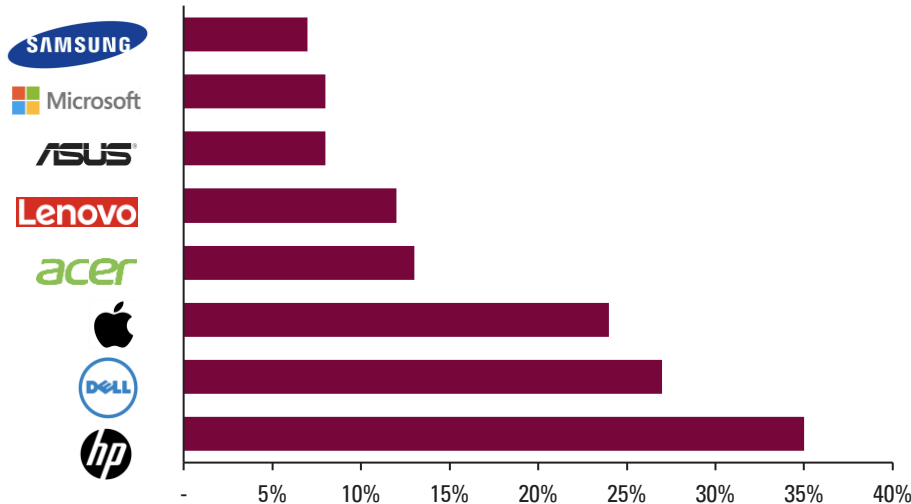


## Wearables Unit Shipments Worldwide (M)



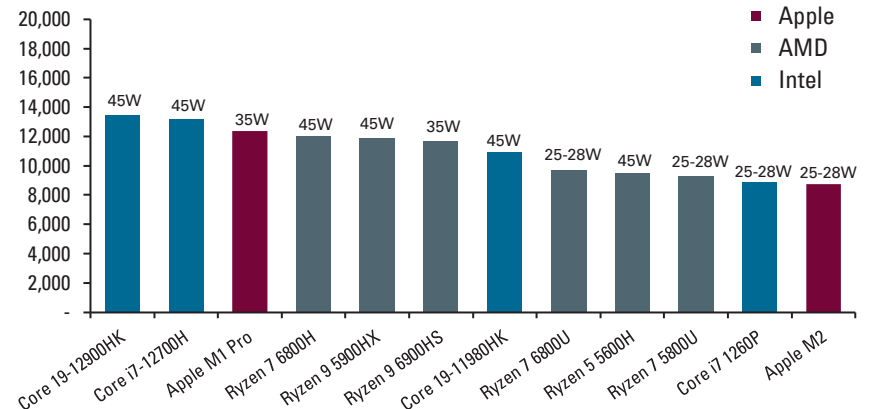
Apple is the most used wearable brand with a user share of 54%

## Share of U.S. Laptop Ownership by Brand



## CPU Performance (Cinebench R23 Multi Threader Render Test)

Apple's premium chips outpace many of the top CPUs on lower watts



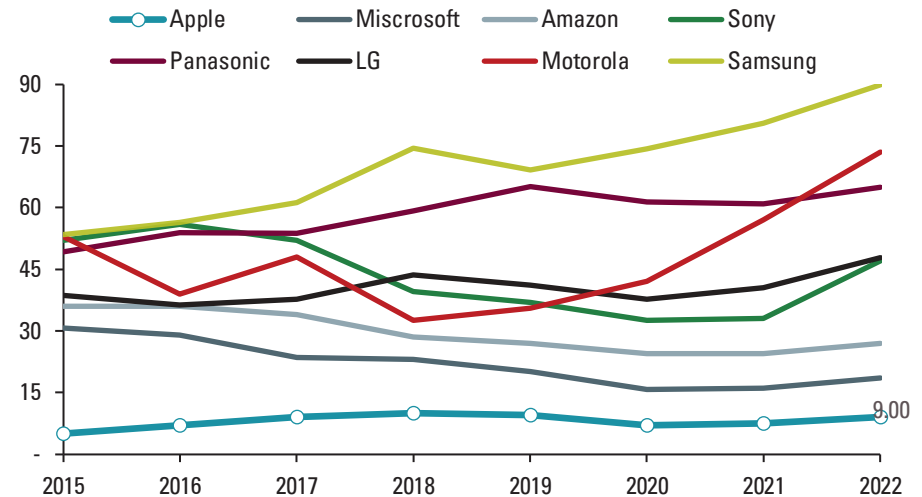
Apple is establishing strong market share and product competitiveness in emerging and existing markets

# ROBUST SUPPLY CHAIN AND OPERATIONAL EFFICIENCY

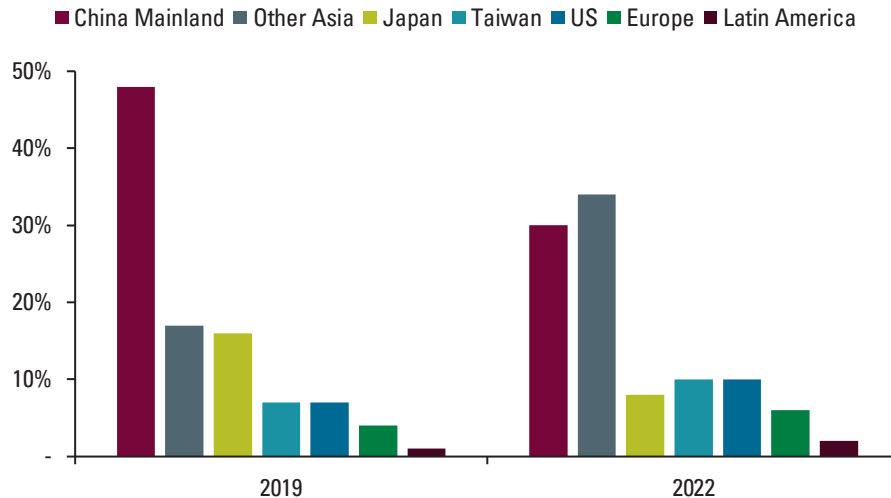
## Overview

<b>Sourcing</b>	China, US, Other APAC
<b>Manufacturing</b>	China, Czech, Malaysia, South Korea
<b>Warehousing</b>	Air Freight to California, International Assembly
<b>Distribution</b>	Online, Retail Stores, Network Carriers
<b>Returns</b>	Warranties, Trade-In, Recycle/Reuse

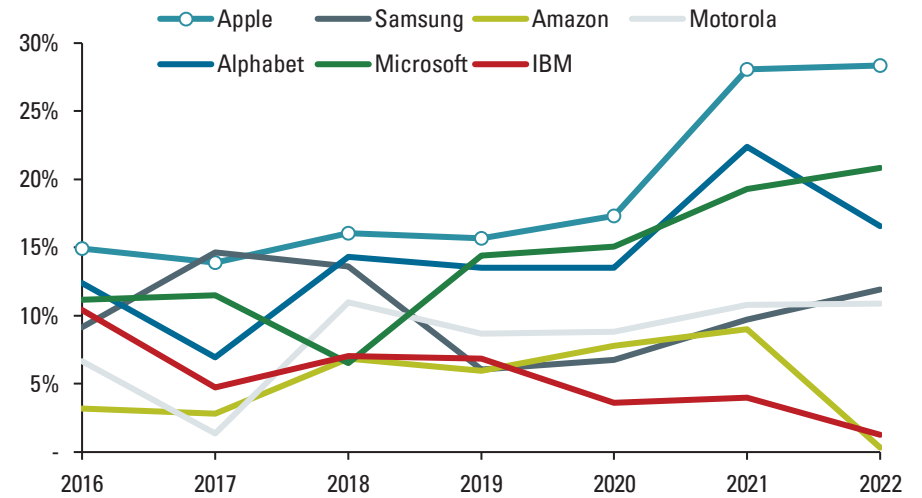
## Days Inventory Comparison to Peers



## Supply Chain Geographic Diversification



## Return on Assets

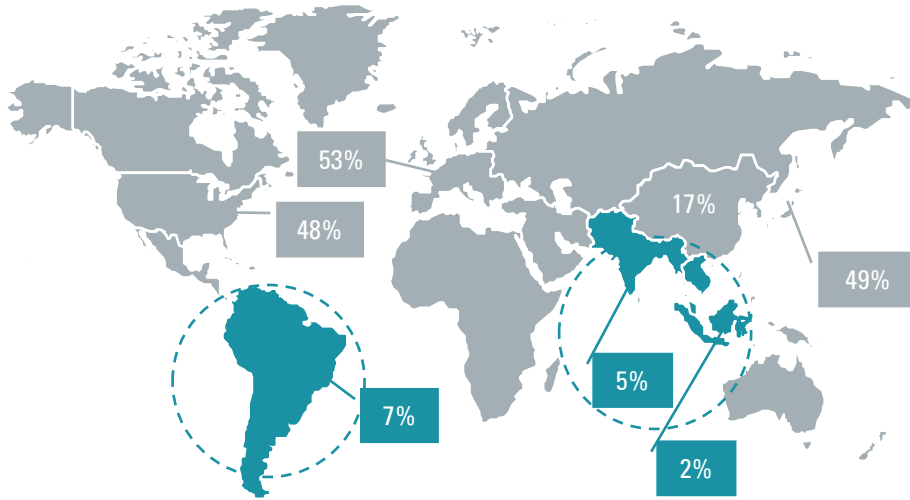


As a global leader in operational excellence, Apple's track record of performance has reduced extraneous spending

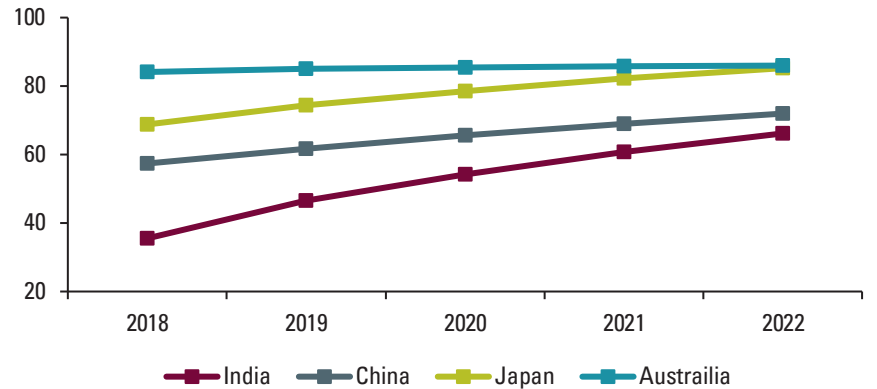
# INDIAN MARKET OPPORTUNITY



## iPhone Geographic Market Share

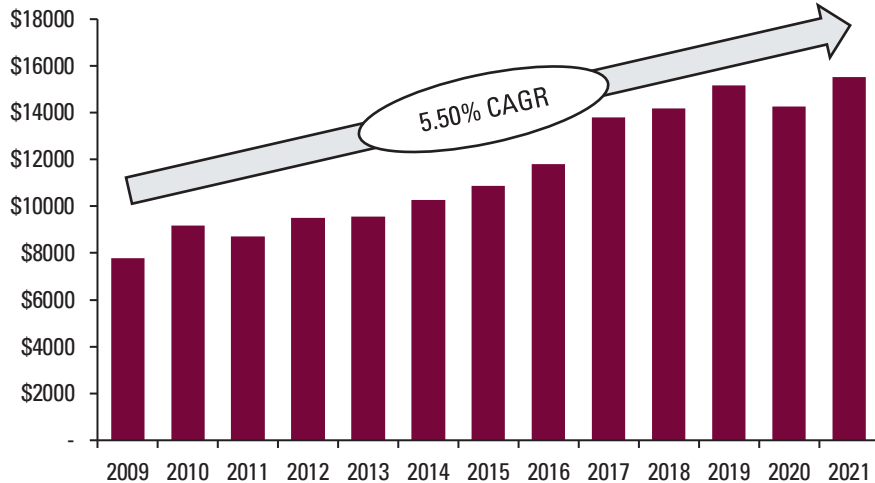


## APAC Smartphone Penetration Rates



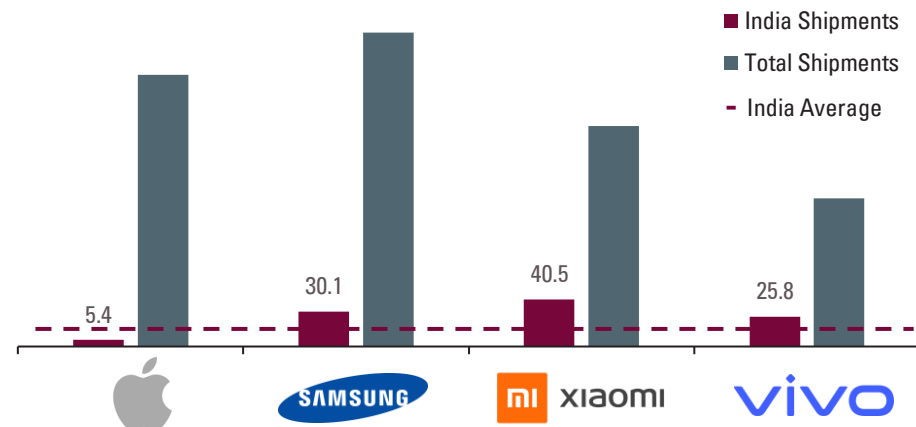
Among the major APAC countries, India currently has the lowest penetration rate of smartphones with the highest growth over the last 5 years, implying the best market opportunity for Apple to pursue

## Average Wealth Per Adult in India (US\$)



## Underdeveloped India Segment vs Peers

On average, India accounts for roughly 17.5% of competitors shipments (million units), compared to Apple's 2.3%



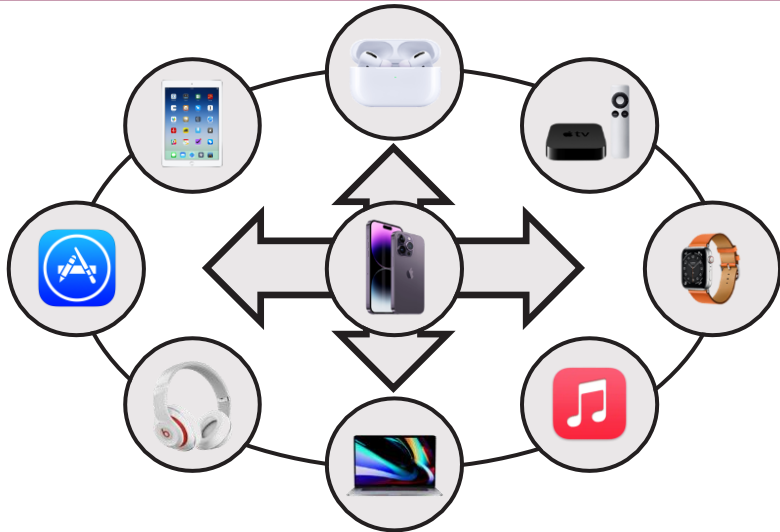
**Capturing market share in India is a tangible pathway for Apple to create higher value**



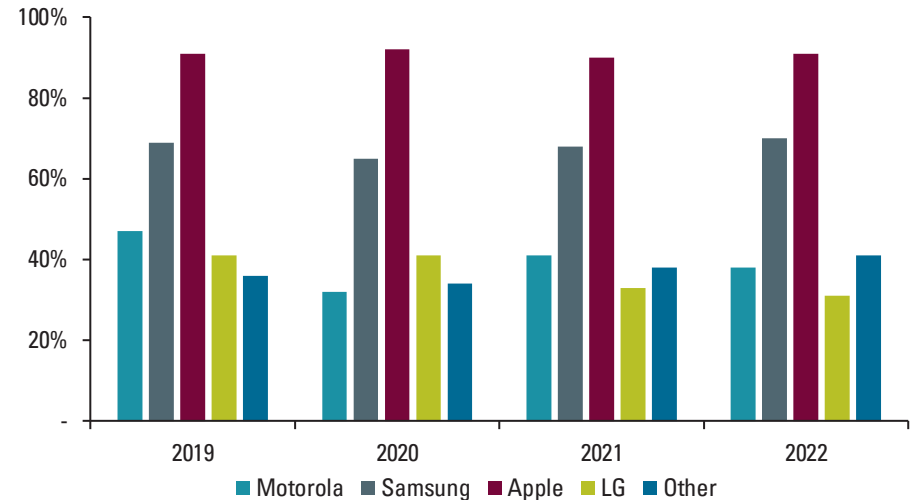
# STICKINESS AND ECOSYSTEM LOCK-IN



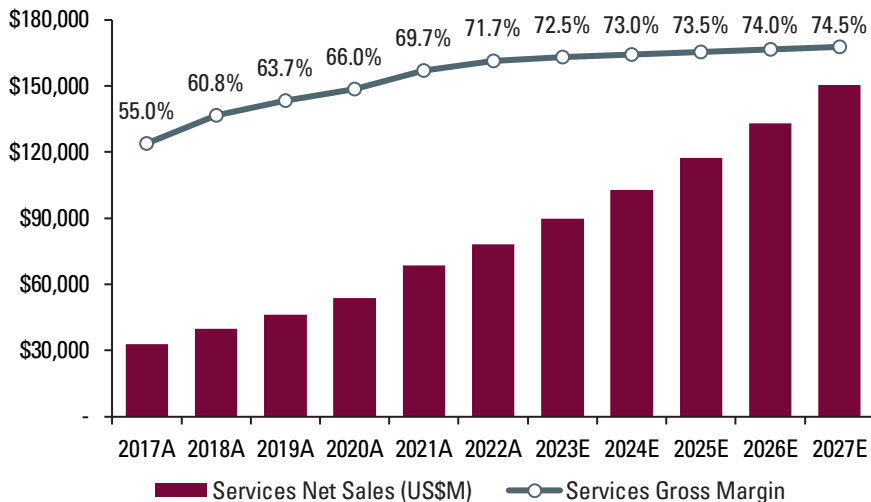
## Ecosystem Overview



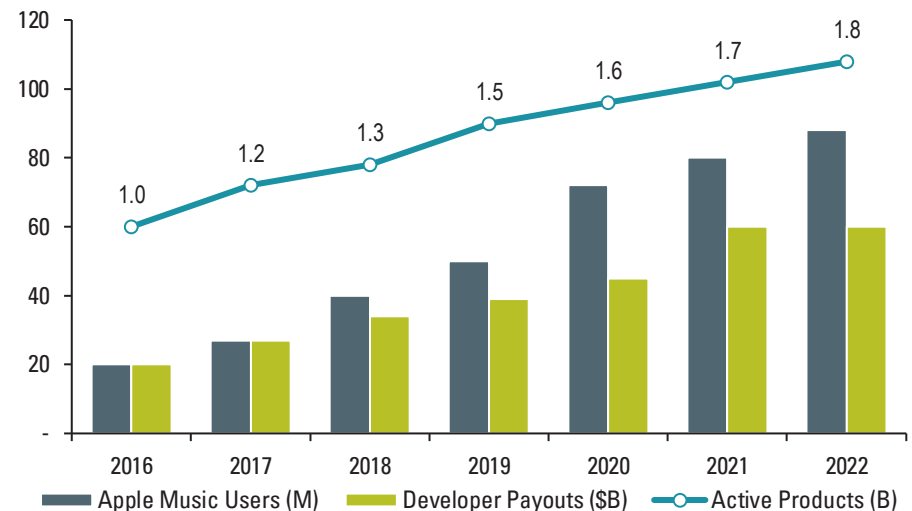
## Recurring Cellphone Purchases By Brand<sup>1</sup>



## Growth in Service Offering Drives Customer and Cash Retention



## Higher Switching Costs For Consumers



Consumers continue to solidify themselves in Apple's integrated offerings of hardware, software, and service products

Source: Company Filings, Consumer Intelligence Research Partners.  
Note: 1 - Used within 90 days prior.

# COMPARABLES ANALYSIS



	<u>Mkt Cap</u>	<u>Ent Value</u>	<u>EV/EBITDA</u>	<u>Price/ CF</u>		<u>EBITDA Growth</u>	<u>EBITDA Margin</u>		<u>FCF Yield</u>	<u>Div Yield</u>	<u>Debt/EBITDA</u>	<u>PE Ratio</u>
<i>Figures in US dollars</i>	<i>\$B</i>	<i>\$B</i>	<i>LTM</i>	<i>FY</i>	<i>5Y Avg</i>	<i>1Y</i>	<i>LTM</i>	<i>3Y Avg</i>	<i>Current</i>	<i>Current</i>	<i>Current</i>	<i>Current</i>
<b>Mega Caps</b>												
Alphabet Inc	\$1,322	\$1,236	11.2x	14.7x	16.8x	0.0%	3.3%	3.4%	0.4%	n.a.	0.3x	21.5x
Microsoft Corp	\$2,122	\$2,096	18.8x	25.2x	22.2x	2.0%	4.9%	4.9%	0.3%	0.1%	0.8x	31.3x
Amazon.com Inc	\$1,064	\$1,149	15.0x	22.7x	25.4x	(5.1%)	12.2%	13.4%	(1.6%)	n.a.	2.5x	140.6x
Average			15.0x	20.9x	21.5x	(1.0%)	6.8%	7.2%	(0.3%)	0.1%	1.2x	64.5x
Median			15.0x	22.7x	22.2x	0.0%	4.9%	4.9%	0.3%	0.1%	0.8x	31.3x
<b>Large Caps</b>												
Dell Technologies Inc	\$30	\$52	4.7x	8.2x	5.1x	(0.4%)	0.9%	1.0%	0.2%	0.4%	3.3x	6.8x
HP Inc	\$29	\$40	5.8x	10.7x	6.5x	(1.0%)	0.8%	0.9%	0.7%	0.4%	2.5x	8.1x
IBM Corp	\$120	\$165	8.8x	11.4x	8.5x	(0.3%)	2.0%	2.2%	0.8%	0.5%	4.4x	15.5x
Sony Group Corp	\$114	\$132	n.a.	n.a.	n.a.	2.3%	2.0%	1.8%	n.a.	n.a.	1.8x	n.a.
Intel Corp	\$137	\$153	7.6x	8.7x	7.0x	(5.1%)	2.4%	3.7%	(0.7%)	0.3%	1.8x	n.a.
Average			6.7x	9.8x	6.8x	(0.9%)	1.6%	1.9%	0.2%	0.4%	2.7x	10.2x
Median			6.7x	9.7x	6.7x	(0.4%)	2.0%	1.8%	0.5%	0.4%	2.5x	8.1x
<b>Related Businesses</b>												
Oracle Corp	\$252	\$336	12.7x	16.2x	14.6x	(2.1%)	3.9%	4.2%	0.3%	1.7%	n.a.	n.a.
Salesforce Inc	\$196	\$198	25.9x	27.3x	34.3x	1.8%	1.9%	1.9%	0.3%	n.a.	2.6x	178.2x
Asustek Computer Inc	\$7	\$6	12.2x	n.a.	n.a.	(7.1%)	0.3%	0.7%	(0.6%)	n.a.	3.3x	13.8x
Lenovo Group Ltd	\$13	\$105	3.0x	3.1x	n.a.	3.4%	0.7%	0.6%	2.3%	n.a.	1.1x	6.8x
Samsung Electronics Co Ltd	\$286	\$210	2.8x	6.1x	6.1x	(0.4%)	2.7%	2.9%	0.3%	2.3%	0.1x	7.9x
LG Electronics Canada Inc	\$13	\$21	3.6x	6.0x	0.0x	(0.5%)	0.8%	0.9%	(0.2%)	n.a.	1.9x	16.9x
Average			10.0x	11.7x	13.8x	(0.8%)	1.7%	1.9%	0.4%	2.0%	1.8x	44.7x
Median			7.9x	6.1x	10.4x	(0.5%)	1.2%	1.4%	0.3%	2.2%	1.8x	13.8x
Apple Inc	\$2,604	\$2,552	17.8x	24.3x	19.3x	0.9%	3.2%	3.2%	0.4%	0.56%	0.9x	28.1x

Based on comparable analysis of peers, Apple is trading at an EV/EBITDA of 17.8x and P/E of 28.1

# DCF VALUATION



US\$M	2020A	2021A	2022A	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	WACC
EBITDA	77,344	120,233	130,541	153,905	168,570	184,611	202,095	221,081	241,012	262,439	289,151	312,545	337,162	<b>Capital Structure</b> Debt Weight 4.2% Equity Weight 95.8% <b>Cost of Debt 2.99%</b> Borrowing Rate 4.16% Tax Rate 28% <b>Cost of Equity 9.69%</b> Risk Free Rate 3.36% Beta 1.29 Market Return 4.88% <b>WACC 9.4%</b>
Less: D&A	(11,056)	(11,284)	(11,104)	(17,325)	(18,613)	(19,997)	(21,479)	(23,063)	(24,748)	(26,536)	(28,424)	(30,412)	(32,495)	
EBIT	66,288	108,949	119,437	136,581	149,958	164,614	180,615	198,018	216,264	235,903	260,727	282,133	304,667	
Less: Tax	(9,680)	(14,527)	(19,300)	(27,574)	(32,190)	(37,530)	(43,578)	(50,415)	(57,960)	(66,364)	(76,747)	(86,838)	(94,574)	
NOPAT	56,608	94,422	100,137	109,007	117,768	127,084	137,037	147,603	158,304	169,540	183,980	195,295	210,093	
Add: D&A	11,056	11,284	11,104	17,325	18,613	19,997	21,479	23,063	24,748	26,536	28,424	30,412	32,495	
Less: CAPEX	(7,309)	(11,085)	(10,708)	(17,680)	(18,994)	(20,406)	(21,919)	(23,535)	(25,255)	(27,079)	(29,007)	(31,035)	(33,160)	
Less: NWC	5,690	(4,911)	1,200	10,815	(3,055)	(3,157)	(3,251)	(3,335)	(3,409)	(3,470)	(1,620)	(4,074)	(4,219)	
Net Interest	803	258	(334)	1,418	3,465	6,127	9,012	12,213	15,751	19,529	23,723	28,215	33,098	
<b>FCFE</b>	<b>66,848</b>	<b>89,968</b>	<b>101,399</b>	<b>120,885</b>	<b>117,797</b>	<b>129,644</b>	<b>142,358</b>	<b>156,008</b>	<b>170,140</b>	<b>185,055</b>	<b>205,500</b>	<b>218,813</b>	<b>238,307</b>	
Discount Factor				0.91x	0.83x	0.76x	0.69x	0.63x	0.57x	0.52x	0.48x	0.44x	0.40x	
<b>PV of UFCF</b>				<b>110,208</b>	<b>97,907</b>	<b>98,236</b>	<b>98,342</b>	<b>98,253</b>	<b>97,689</b>	<b>96,868</b>	<b>98,069</b>	<b>95,198</b>	<b>94,522</b>	

## Target Price Derivation

Exit Multiple Method	
Final Year FCFE	238,307
FCFE Multiple	15.0x
Terminal Value	3,574,602
Discount Rate	0.40
PV of Terminal Value	1,484,925
PV of Cash Flow	1,039,679
Equity Value (\$B)	2,524
Shares Outstanding	15,956
<b>Target Share Price</b>	<b>\$159.87</b>

Gordon Growth Method	
Final Year FCFE	238,307
LT Growth Rate	3.0%
Terminal Value	3,669,925
Discount Rate	0.41
PV of Terminal Value	1,524,523
PV of Cash Flow	1,039,679
Equity Value (\$B)	2,564
Shares Outstanding	15,956
<b>Target Share Price</b>	<b>\$162.40</b>

## Scenario Analysis

		Cost of Equity				
		8.50%	9.00%	9.69%	10.00%	10.50%
Terminal Growth Rate	2.50%	\$188.82	\$173.16	\$155.16	\$148.16	\$138.03
	2.75%	\$194.32	\$177.65	\$158.63	\$151.27	\$140.65
	3.00%	\$200.33	\$182.52	<b>\$162.40</b>	\$154.60	\$143.45
	3.25%	\$206.91	\$187.82	\$166.37	\$158.18	\$146.44
	3.50%	\$214.14	\$193.59	\$170.72	\$162.03	\$149.65

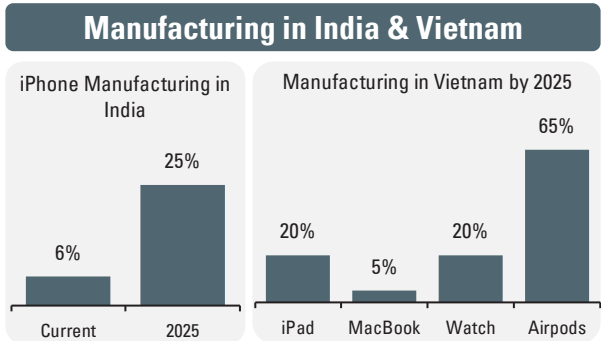
Based on our valuation AAPL looks fairly valued on both of our DCF methodologies implying it is not the right time to buy

# CATALYSTS & RISKS



Catalysts	Likelihood	Description
AR/VR	↑ ↑	<ul style="list-style-type: none"> <li>Apple has an exceptional history of releasing products; they look to unveil VR headsets similar to Meta Quest</li> <li>Already has the largest AR App offering in the world via ARKit-Integrated Apps</li> </ul>
Growing Middle Class in Emerging Markets	↑ ↑	<ul style="list-style-type: none"> <li>Developing and emerging economies are seeing growth in the middle class with more purchasing power</li> <li>A growing middle class in developing nations will increase spending on Apple's premium products</li> </ul>
Mobile Payments	↑ ↑ ↑	<ul style="list-style-type: none"> <li>The pandemic created increased demand for contactless payments and mobile payments</li> <li>Apple is the second leading service for mobile payments, followed by PayPal</li> </ul>

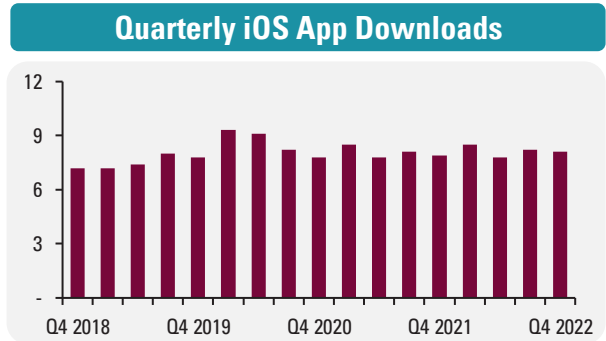
Risks	Likelihood	Description
Geopolitical Tensions	↓ ↓ ↓	<ul style="list-style-type: none"> <li>Changes to U.S legislation regarding trading with China creates many barriers for supply and sales</li> <li>Risk of countries moving away from USD and US trade as tensions rise between a number of countries</li> </ul>
Microchip Switching Cost	↓ ↓	<ul style="list-style-type: none"> <li>Switching from Broadcom and Qualcomm poses the risk of a decrease in quality with Apple's in-house chips</li> <li>Apple already failed to reach its goal of using in-house chips in iPhone SE; further setbacks impact the valuation</li> </ul>
Anti-Trust Regulations	↓ ↓ ↓	<ul style="list-style-type: none"> <li>Apples future performance depends in part on support from third-party software developers</li> <li>App store commissions may decrease due to federal and developer pushback</li> </ul>



### Eliminating Third-Party Risk

**\$4.5B Patent Settlement**

**Success of past transition of Bluetooth chips**



**Apple's diversified supply chain and strong app demand are helping reduce third-party risks**

Source: Statista, Company Website, Apple Inc 10-K Filings.  
 Note: Information as of April 11, 2022.

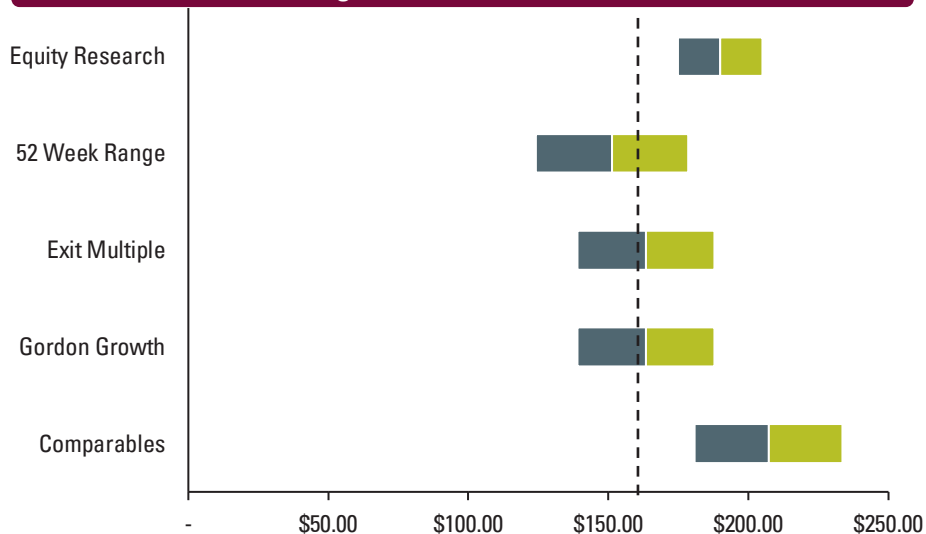
# CONCLUSION



## Investment Summary

<b>Industry Leading Efficiency</b>	Apple's continuous improvement in operating performance has reduced extraneous spending
<b>Ecosystem Stickiness</b>	Consumers continue to buy into Apple's integrated offerings of hardware, software, and service products
<b>India Market Capture</b>	Macro tailwinds quickly making India a more favorable market for Apple to drive value
<b>5G Catalyst</b>	5G is driving development, innovation and demand for premium, high-end hardware which Apple can offer
<b>Growing Markets</b>	Total addressable market for smartphones will continue to grow at strong pace as incomes rise

## Financial Valuation Target Price



Apple's solid fundamental metrics make it a solid long-term addition to the portfolio when the price is right

Note: All figures in USD\$.

## Equity Research Views

Firm	Rating	Price Target	Views
EVERCORE	OP	\$190	"Sizing up the Potential Upside from India"
WEDBUSH	BUY	\$205	"Looking Both Ways Before Crossing the Road; iPhone Demand Resilient"
WELLS FARGO SECURITIES	OW	\$185	"Lifting iPhone 14 Pro/Pro Max Constraints + Services Monetization"
CREDIT SUISSE	OP	\$184	"F1Q23 10-Q Review; Demand was Stronger than Reported"
J.P.Morgan	OW	\$175	"F1Q23 Review: Deeper Demand Down-Cycle"
<b>Average</b>		<b>\$188</b>	
DFIC	NT	\$162	

## Path to Unlocking Value

- 2023** **Expanding Product Offering**  
*New VR/AR release highly awaited by consumers*
- 2024** **Continued Vertical Integration**  
*Apple plans to create displays in-house*
- 2026** **Apple Car**  
*Potential to revolutionize the car industry*
- 2030** **India Presence**  
*Widespread consumer adoption of Apple products*
- LT** **Emerging Markets Growth**  
*The key driver long-term will be found in new markets*

