

The Henry Fund

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MICROSOFT CORPORATION (MSFT)

September 19, 2022

Information Technology – Software

Stock Rating

HOLD

Investment Thesis

We recommend a HOLD rating on Microsoft with a target price range of \$270-310 representing a 7% - 23% upside from its current price of \$252. Microsoft is currently the Fund's second-largest holding at 7.0% just behind Apple at 7.6% of the portfolio. We believe Microsoft will have strong growth long-term with lower growth in the short run as the United States continues to raise rates to combat high inflation. We anticipate Microsoft's cloud contract growth to slow in the short run as businesses scale down production and staffing to cut costs and adjust for slowing demand.

Drivers of Thesis

- The \$69 billion acquisition of Activision Blizzard will increase Microsoft's gaming industry share by 64% to 10.5% of the total industry. It will add popular franchises like Call of Duty and Overwatch to its portfolio.
- The software industry is projected to grow 9.9% annually over the next 5 years through 2027 driven by cloud contracts and hardware sales. As companies collect more and more data they transition to a cloud-based software application with more computing power.

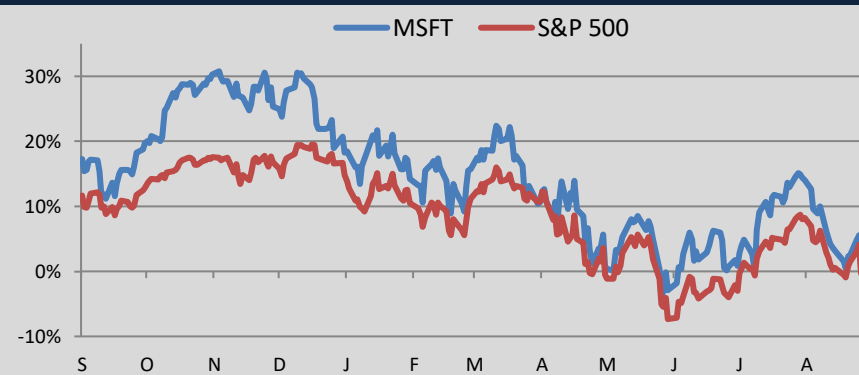
Risks to Thesis

- Government regulation could limit Microsoft's growth whether it be by blocking the \$69B acquisition of Activision Blizzard or targeting its dominance in the software space.
- The global chip shortage has caused supply chain disruptions which have directly impacted Microsoft and could become more challenging as input costs are expected to increase 19% YoY.

Earnings Estimates

Year	2020	2021	2022	2023E	2024E	2025E
EPS	\$5.82	\$8.12	\$9.70	\$10.10	\$11.90	\$14.27
HF est. growth	13.9%	39.5%	19.5%	3.8%	21.3%	16.5%

12 Month Performance



Target Price

\$270 - 310

Henry Fund DCF	\$329
Henry Fund DDM	\$173
Relative Multiple	\$237

Price Data

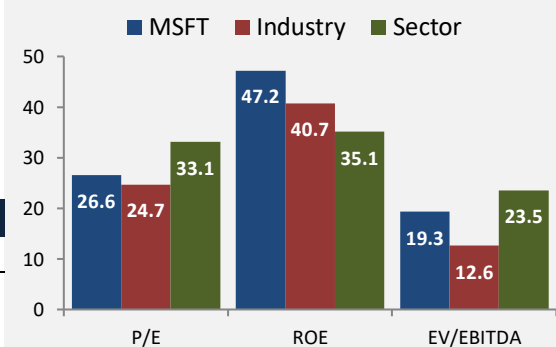
Current Price	\$252
52wk Range	\$242 – 350
Consensus 1yr Target	\$327

Key Statistics

Market Cap (B)	\$1,879
Shares Outstanding (M)	\$7,551
Institutional Ownership	72.3%
Beta	1.17
Dividend Yield	0.96%
Est. 5yr Growth	15.41%
Price/Earnings (TTM)	9.6
Price/Earnings (FY1)	9.7
Price/Sales (TTM)	9.8
Price/Book (mrq)	11.5

Profitability

Operating Margin	42.1%
Profit Margin	68.4%
Return on Assets (TTM)	20.8%
Return on Equity (TTM)	47.2%



Company Description

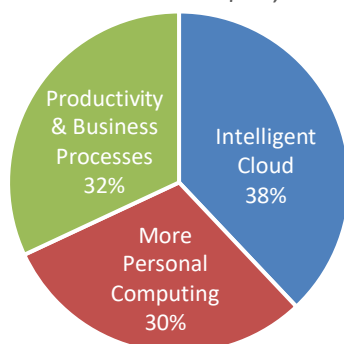
Microsoft was founded by Bill Gates and Paul Allen in 1975 and is headquartered in Redmond, WA. It operates through three business segments: Productivity and Business Processes, Intelligent Cloud, and More Personal Computing. Microsoft is most well known for its Windows operating systems and software products such as Word, PowerPoint, and Excel. Microsoft owns Xbox, LinkedIn, Skype, and GitHub, and operates in the cloud services space through Azure.

COMPANY DESCRIPTION

Microsoft was founded in 1975 by Bill Gates and Paul Allen and is headquartered in Redmond Washington. It develops and supports software, services, devices, and solutions that deliver new value for customers and help people and businesses realize their full potential. Microsoft offers an array of services, including cloud-based solutions that provide customers with software, services, platforms, and content, and provide solution support and consulting services. It also delivers relevant online advertising to a global audience. Microsoft's products include operating systems, cross-device productivity and collaboration applications, server applications, business solution applications, desktop and server management tools, software development tools, and video games. It also designs and sells devices, including PCs, tablets, gaming and entertainment consoles, other intelligent devices, and related accessories. Microsoft reports three major business segments: Intelligent Cloud, More Personal Computing, and Productivity & Business Processes. Revenues are evenly distributed across the three segments with Intelligent Cloud accounting for the largest portion of revenues at 38% followed by Productivity & Business Processes and More Personal Computing representing 32% and 30%, respectively. We expect the Intelligent Cloud segment to continue to grow as more companies use cloud-based applications such as Azure to host their operations. Most of Microsoft's revenues come from the Americas, accounting for 56% in 2022. Asia/Pacific and Europe account for 24% and 15%, respectively. ¹

2022 Business Segments

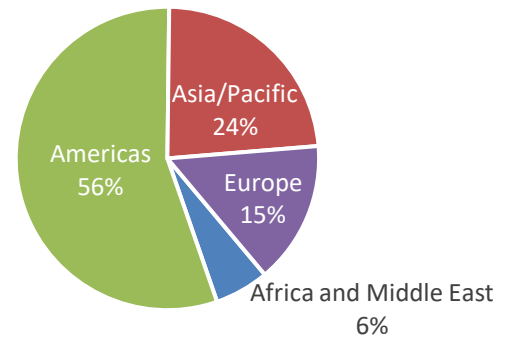
Total Revenue: \$50,122B



Source: FactSet

2022 Revenue by Region

Total Revenue: \$50,122B



Source: FactSet

Intelligent Cloud

Intelligent Cloud was the largest segment in 2022 accounting for 38% of total revenues. It includes server products and cloud services that power modern businesses and developers. It consists of two main sub-segments: Server products and cloud services, and Enterprise Services. Server products and cloud services include Azure and cloud services: SQL Server, Windows Server, Visual Studio, Nuance, and GitHub. Azure faces competition from companies such as Amazon, Google, IBM, and Oracle. Revenue for this sub-segment is driven by purchases through volume licensing programs, licenses sold to original equipment manufacturers (OEM), and retail packaged products. The Enterprise Services sub-segment includes Enterprise Support Services, Microsoft Consulting Services, and Nuance Professional Services which assist customers in developing, deploying and managing Microsoft server solutions. Enterprise Services competes with several companies including multinational consulting firms and small niche businesses focused on specific technologies. ⁴

More Personal Computing

The More Personal Computing segment consists of four main sub-segments: Windows, Devices, Gaming, and Search & news advertising. The Windows sub-segment is comprised of the Windows operating system which is designed to deliver a consistent user experience across all applications and devices. Windows revenue is directly impacted by the number of Windows operating system licenses purchased by OEMs which they pre-install on the

devices they sell. The Devices sub-segment includes the sale of Surface and PC accessories. Growth in Devices is dependent on total PC shipments, the ability to attract new customers, and expansion into new categories. The Gaming sub-segment is designed to provide entertainment through the combination of content, community, and cloud. Exclusive gaming content is created through Xbox Game Studios which offers a curated library of over 100 console and PC titles. Xbox and the cloud gaming services face competition from various online gaming ecosystems including Amazon, Apple, Meta, Google, and Tencent. Revenue for this sub-segment is dependent on the overall active user base through Xbox-enabled content, the availability of games, and the ability to create new experiences through first-party creators. The fourth sub-segment is Search and News Advertising which is designed to deliver relevant search and display advertising to a global audience. Microsoft partners with Yahoo to monetize search queries. Growth for this sub-segment is dependent on Microsoft’s ability to attract new users, understand intent, and match intent with relevant content and advertising offerings.⁴

Productivity & Business Process

The Productivity and Business Processes segment consists of products and services spanning a variety of devices and platforms. This business segment can be broken into four sub-categories: Office Commercial, Office Consumer, LinkedIn, and Dynamics. The Office Commercial sub-segment includes Office 365 subscriptions which encompass SharePoint, Teams, Exchange, and Skype for Business. Office Commercial revenue is affected by a combination of continued installed base growth and average revenue per user expansion, as well as the continued shift from licensed office products to Office-365. The Office Consumer sub-segment includes Microsoft 365 Consumer subscriptions, Skype, Outlook.com, and OneDrive. Major competitors to Office include software and global application vendors such as Apple, Cisco, Meta, Google, and IBM. This sub-segment is primarily driven by the demand for subscriptions, advertising, and the sale of minutes. The LinkedIn sub-segment included Talent Solutions, Marketing Solutions, Premium Subscriptions, and Sales Solutions. LinkedIn has over 850 million members with growth dependent on Microsoft’s ability to offer valuable services to its users. LinkedIn’s revenue is mainly affected by demand from enterprises and professional organizations for subscriptions. The fourth

sub-segment Dynamics provides cloud-based and on-premises business solutions for financial management, enterprise resource planning (ERP), customer relationship management (CRM), and supply chain management. Dynamics competes with business solution providers such as Oracle, Salesforce, and SAP. Its revenue is driven by the number of users licensed and applications consumed, the expansion of average revenue per user, and the shift to Dynamics 365.⁴

Debt Maturity Analysis

Microsoft currently has \$55.5B in total debt with long-term debt plus the current portion totaling \$50.9B in 2022. Cash paid on interest on the debt for the fiscal year 2022 was \$1.9B, down from \$2.0B and \$2.4B in 2021 and 2020, respectively. Microsoft has \$104.8B in cash and cash equivalents and a current ratio of 1.8x, therefore we do not expect them to refinance any debt. Microsoft is also one of the two AAA-rated companies in the US which is the highest corporate debt rating a firm can receive.¹

Five-Year Debt Maturity Schedule

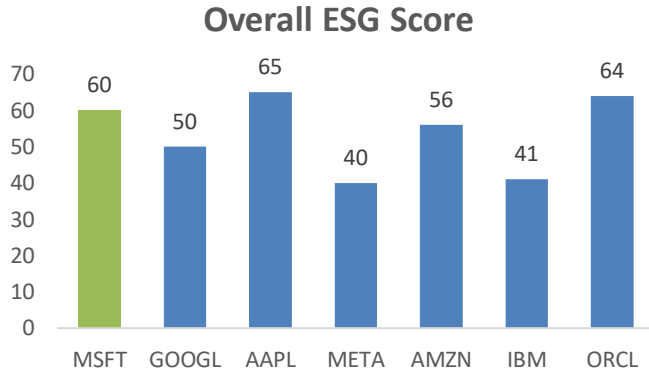
Fiscal Year	Coupon (%)	Payment (\$mil)
2023		\$2,750
2024		5,250
2025		2,250
2026		3,000
2027		8,000
Thereafter		34,261
Total		\$55,511

Source: MSFT 10-k

ESG Analysis

Microsoft’s business operations are not very environmentally friendly as its end products and services rely heavily on the mining of rare earth minerals and the use of large amounts of energy. To combat the negative environmental effects Microsoft’s operations, have on the environment, Microsoft has committed to being carbon negative by 2030. Furthermore, Microsoft is committed to removing all the carbon it has emitted since its founding by the year 2050. While Microsoft has taken tangible steps to improve the environment, like purchasing the removal of 1.4 million metric tons of carbon in 2021. Microsoft still struggles in the governance category as it has historically engaged in anti-competitive practices such as buying-out smaller competitors or copying designs. Even with historic anti-competitive practices, Microsoft received an average

ESG score of 60 which places it in the middle of its peers. The higher overall ESG score indicates a healthier and better-performing company.¹



Source: FactSet

RECENT DEVELOPMENTS

Recent Earnings Announcement

Microsoft reported FYE 2022 earnings on July 26th missing estimates for both EPS and revenues. It reported earnings of \$2.23 per share vs. the \$2.29 per share expected by analysts. Revenues came in at \$51.8 billion vs analysts' expectation of \$52.4 billion. Microsoft issued guidance for fiscal first-quarter revenue of \$49.25 billion to \$50.25 billion. The middle of this range, \$49.75 billion, represents a 10% growth in revenue indicating worsening PC sales and slower cloud infrastructure growth. The company's gross margin was slightly high than expected at 69.85% vs. the consensus of 69.30%.¹²

The Intelligent Cloud business segment which includes Azure, SQL Server, Windows Server, and Enterprise Services, generated \$20.91 billion in revenue vs consensus of \$21.10 billion. The Productivity and Business Processes segment which includes Dynamics and LinkedIn posted \$16.60 billion in revenue. This was a 13% increase but still slightly lower than the consensus of \$16.66 billion. The More Personal Computing segment which comprises Windows operating system, Xbox consoles, Bing, and Surface devices produced \$14.36 billion in revenue. This was a growth of 2% YoY but also slightly lower than the consensus of \$14.65 billion.¹²

COVID-19 Impact

The Covid-19 pandemic forced millions of workers to begin working remotely which spurred an increase in hardware purchases. Microsoft saw record revenues and net income

in 2021 and 2022 as people continue to spend on new devices and software programs. It also saw increased demand for cloud-based applications as people continue to work remotely and needed access to more computing power. The pandemic has caused some supply chain disruptions, but Microsoft has still been able to maintain an on-time delivery performance percentage in the mid-90s.¹³

Activision Blizzard Deal

On January 18, 2022, Microsoft announced it was acquiring the video game developer Activision Blizzard for \$69 billion. The all-cash deal would be the largest technology transaction in history if the acquisition is approved by regulators. The transaction would add iconic franchises like Overwatch, Call of Duty, Warcraft, and Candy Crush to Microsoft's growing portfolio of games. The deal is currently in the preliminary review stages by the FTC and the EU has not begun any formal review process. Microsoft expects to close on the deal in June of 2023.¹¹

INDUSTRY TRENDS

In 2021, total software revenue grew 9.9% while cloud revenue grew 20.7% YoY. This better-than-expected growth in traditional software stemmed from a "mini-surge" of "closeout sale" deals for licenses and maintenance contracts from software companies already well into their transition to a cloud business model and that have enough conservative customers that are not quite ready to make the move to the cloud.

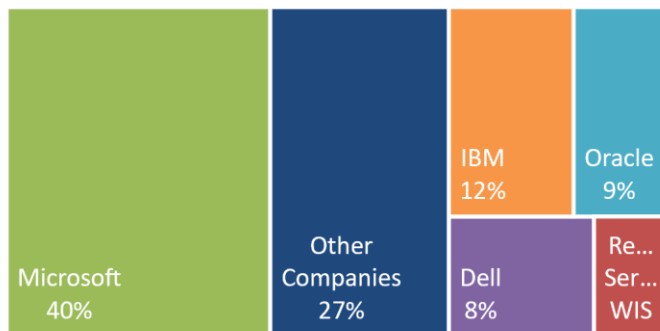
We see a considerable topline growth slowdown in 2022 for the software industry, following exceptional growth of 20% in 2021 in the wake of the pandemic and the accelerated migration to cloud computing and digital transformation projects among enterprise organizations to cut costs, support remote work, and attain greater operational agility to help alleviate many of the practical, logistical problems that originated with the pandemic. Slower growth, higher interest rates that discourage borrowing and investment in capital goods, and materially higher inflation for the first time in 40 years in the U.S. are combining to slow growth overall, although we do not see any slowdown in the underlying trends that are driving growth in software.

Following the pandemic-driven surge in working from home that contributed to faster cloud adoption in 2020 and 2021, the pace of cloud adoption has remained elevated in 2022, despite a slowdown in other areas of IT spending. Assuming equity prices remain depressed in 2022, we expect the largest players in enterprise software to ramp up their M&A activity and shift focus away from smaller start-ups and private companies and toward small- and mid-cap public companies.

Software Publishing

Microsoft is the leader in software publishing in the US with a 40% market share. This industry includes database management, data storage & backup along with software publishing. Microsoft's main product in this industry is Office 365. Office 365 is a web-based system that is integrated with all of Microsoft's offerings including Word, PowerPoint, Excel, Outlook, and many more. Office 365 stores information on the cloud enabling users to access their projects from anywhere. Microsoft earned an estimated \$28 billion in revenue from this industry in 2021. Revenues from this industry have grown 21% annually for the last five years. We anticipate this growth to decline slightly in the short run but to continue to be a strong source of revenue in the long run.¹⁶

Software Publishing Market Share (2022)



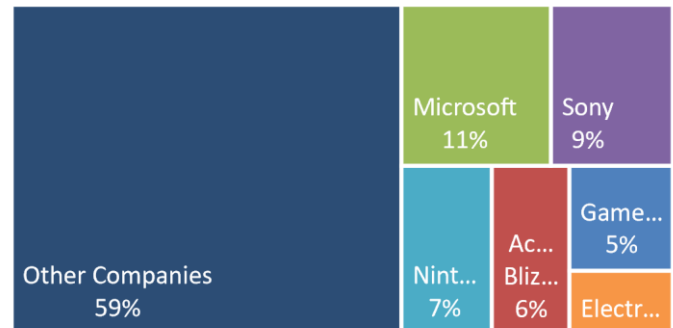
Source: IBIS World

Gaming

Microsoft is a major player in the gaming industry with a current 11% market share. It sells the Xbox gaming console and owns popular names such as Age of Empires, Forza, Halo, Fallout, Minecraft, DOOM, and The Elder Scrolls. In total, Microsoft owns 23 gaming studios and is in the process of buying Activision Blizzard for \$69 billion. The deal faces intense regulatory approval from both the European Union (EU) and the United States' Federal Trade Commission. If approved, Microsoft would add popular

names such as Call of Duty, Candy Crush, Hearthstone, Overwatch, and World of Warcraft. Activision Blizzard stock is currently trading 22% below the buyout price of \$95 indicating the market is pessimistic about the deal. We believe the deal will go through since it would only add 6% to Microsoft's gaming market share and there are still several major players in the industry.¹⁶

Gaming Market Share (2021)



Source: IBIS World

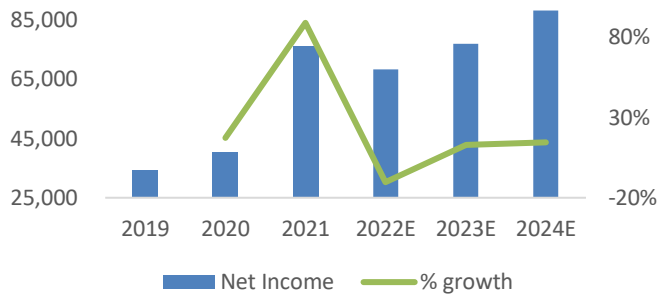
PEER COMPARISONS

Alphabet (GOOGL)

Google was originally founded by Sergey Brin and Larry Page in 1998 in Menlo Park, CA. In 2015 Alphabet became the parent company of Google and Sundar Pichai was appointed as CEO. Alphabet engages in the business of acquisition and operation of different companies. It operates through the Google and Other Bets segments. The Google segment consists of major internet products such as ads, Android, Chrome, hardware, Google Cloud, Google Maps, Google Play, Search, and YouTube. Microsoft competes with Google in several segments including operating systems, gaming, search & news advertising, messaging, and productivity suites. Alphabet's Google Cloud is the third largest cloud infrastructure accounting for 8% of the market share.¹

In 2021 Alphabet reported \$76.0B in net income on \$257.6B in revenues. This was an 88.8% YoY increase in net income and a 41.2% YoY increase in revenues. Alphabet is projected to see revenue increase an average of 12.0% each of the next 3 years. Net income however is projected to average only a 5.7% increase each year with a 10.3% decline in 2022.¹

GOOGL Net Income (\$MM)



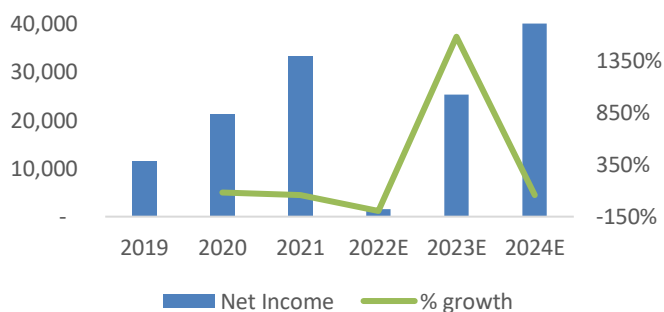
Source: FactSet

Amazon (AMZN)

Amazon is a multinational technology company headquartered in Seattle, WA, and originally founded by Jeff Bezos in 1994. Amazon operates through several business segments including Online Stores, Third-party Seller Services, Amazon Web Services, and a few smaller segments. Amazon's AWS is Microsoft's main competitor to Azure with AWS accounting for 33% of the cloud infrastructure market and Azure making up 21%.¹

In 2021 Amazon reported a record year with \$76,033 million in net income and \$257,637 million in revenues. Amazon is projected to have a 95.5% drop in net income down to \$1,512 million in 2022. It is then projected to bounce back in 2023 with a 1,575.6% increase in net income to \$25,335 million.

AMZN Net Income (\$MM)



Source: FactSet

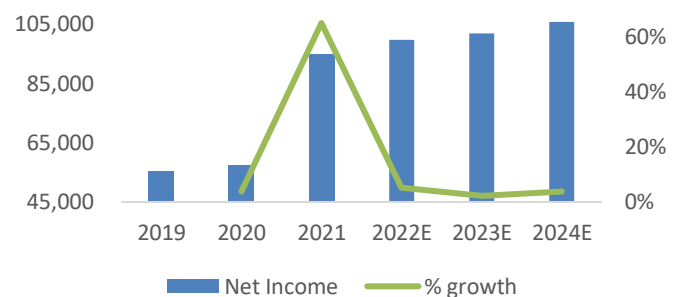
Apple (AAPL)

Apple was founded by Steve Jobs and Steve Wozniak in 1976 and is currently headquartered in Cupertino, CA. The company engages in the design, manufacture, and sales of smartphones, personal computers, tablets, wearables, and accessories. It also operates a variety of related

services. Apple reports the following business segments: iPhone, Services, Wearables, Mac, and iPad. Microsoft primarily competes with Apple in the hardware space, specifically on laptop and tablet sales.¹

Apple had a record year in 2021 as consumers had pent-up demand for new products. Inflation was still low, which means consumers had greater discretionary income. In 2021 Apple's net income increased 64.9% to \$94,680 million and revenue increased by 33.3% to \$365,817 million. Its net income is projected to increase an average of 3.7% YoY for the next 3 years.¹

AAPL Net Income (\$MM)



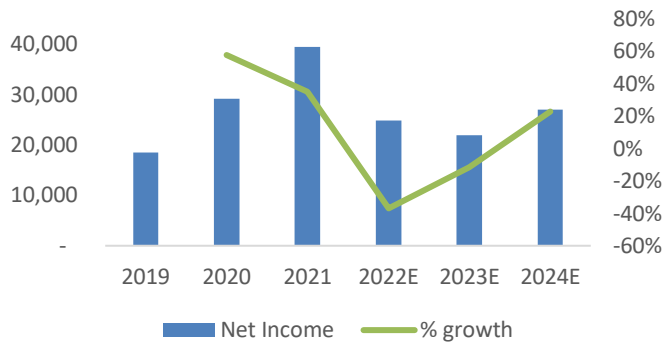
Source: FactSet

Meta Platforms (META)

Meta Platforms, formerly known as Facebook, was created in 2004 and is currently headquartered in Menlo Park, CA. Meta develops social media applications that help people connect, find communities, and grow businesses. It operates brands such as Facebook, Instagram, Messenger, and WhatsApp. Microsoft primarily competes with Meta across the original content space. Microsoft owns LinkedIn which is a networking platform and job search board. Users can post content to LinkedIn similar in fashion to how users post content on Meta's Facebook application.¹

Meta is expected to see net income fall 37% in FY22 followed by a 12% drop in FY23 as the company continues to reinvent itself. Founder and CEO, Mark Zuckerberg believes the metaverse will be the company's next major source of growth and has invested \$36 billion in building out its metaverse. Microsoft is also exploring options on how to fully utilize the metaverse. Microsoft is more focused on the gaming aspect of the metaverse which is a primary reason for its purchase of Activision Blizzard.¹

META Net Income (\$MM)



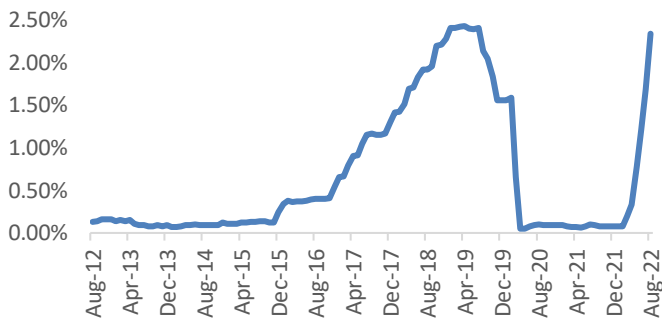
Source: FactSet

ECONOMIC OUTLOOK

Interest Rates

Interest rate volatility continues to disrupt the market as the Federal Reserve has been increasing rates aggressively to combat high inflation. Post the Great Recession in 2008-09, the Fed Funds Rate remained near zero until 2016 when the Fed started slowly hiking rates. In 2019 the Fed then began decreasing rates due to lower-than-expected GDP which was partially caused by the trade war with China. Then in early 2020, the Federal Reserve slashed rates to near zero due to the COVID-19 pandemic. As the economy ground to a halt, the Federal Reserve wanted to stimulate spending making it cheaper to borrow. Now as inflation runs rampant, the fed is aggressively increasing rates. So far in 2022 alone the fed has increased rates 225 basis points to a target range of 225-250. Three more rate hikes are expected in 2022 totaling 175 basis points pushing the target range to 425-450 by December. We see the fed being aggressive in the remaining months of 2022, but we are forecasting limited rate increases in 2023.^{8,9,10}

Fed Funds Rate

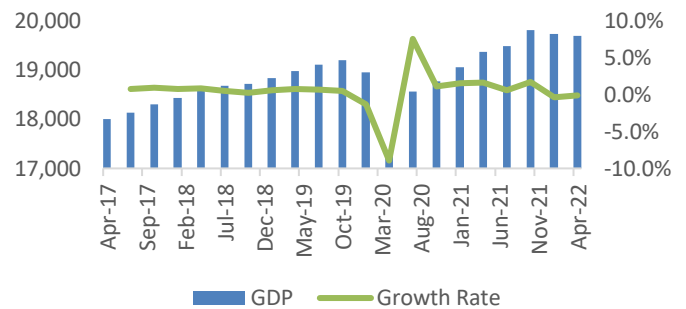


Source: FRED

Gross Domestic Product (GDP)

Gross Domestic Product for the United States had seen steady growth since the Great Recession until 2020. In 2020, the US had back-to-back quarters of negative GDP growth with GDP falling 1.3% and 8.9% in Q1 and Q2, respectively. Two consecutive quarters of negative GDP growth is the technical definition of a recession. The negative GDP growth only lasted two quarters and rebounded strongly in 2021. Then Q1 and Q2 saw small declines of .4% and .1% which technically means we are in another recession. We believe the US will have slightly positive GDP growth in Q3 as the economy still battles high inflation, supply chain constraints, and geopolitical issues.

Gross Domestic Product (\$B)

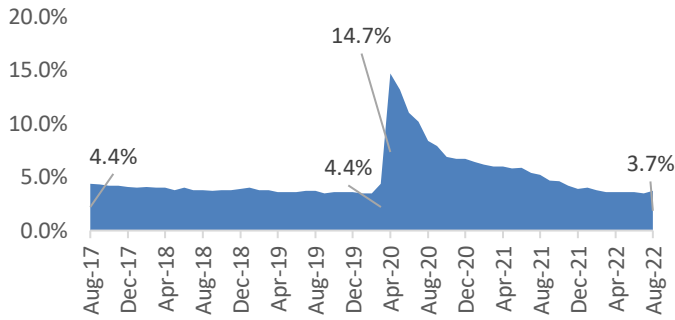


Source: FRED

Unemployment

The United States unemployment rate saw steady declines post the Great Recession reaching a low of 3.5% in 2019. During the Covid-19 pandemic as employers furloughed millions of workers the unemployment rate reached a record 14.7%. Since the spring of 2020 unemployment has fallen consistently with a slight increase to 3.7% in the most recent report. We are forecasting to remain low as the economy continues to rebound from the dramatic shift brought on by the pandemic.

Unemployment Rate

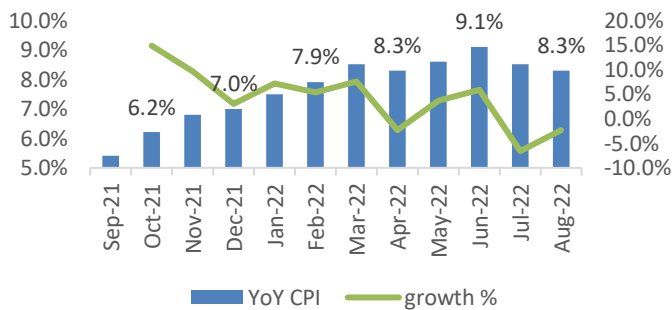


Source: FRED

Inflation

Elevated inflation continues to be a major risk for the general economy. The YoY Consumer Price Index (CPI) rate for August 2022 declined to 8.3%. This is down slightly from its peak of 9.1% in June but still very high in terms of historical standards. For reference, the Federal Reserve targets an inflation rate of 2-3%. Thanks primarily due to increased interest rates, inflation seems to be slowing but at a very slow rate. Inflation increased about 15% in one month and is slowing at around 5% per month. As the Federal Reserve continues to increase interest rates and has begun shrinking its balance sheet reducing the money supply, we see inflation coming back down into the 3-4% range in the next 12 months. This still places it higher than the fed's goal, but inflation has been running slightly higher than the fed's goal for a couple of years now. We also anticipate wages will remain elevated creating permanent inflation.⁷

YoY CPI



Source: Trading Economics

Ukraine/Russia

The ongoing conflict in Ukraine continues to disrupt operations in the region. Microsoft is assisting Ukrainian employees with emergency relocation assistance and emergency leave. Microsoft plans to fulfill its existing

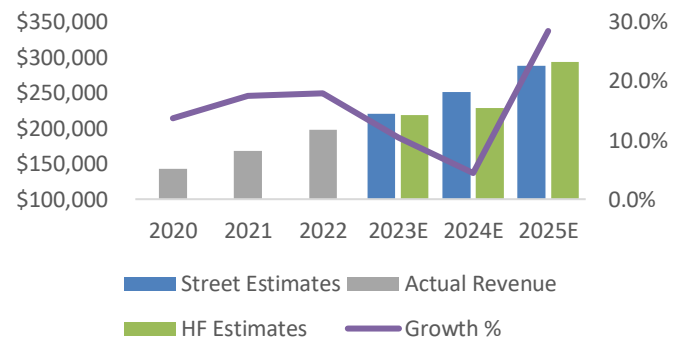
contractual obligations with Russian customers and has ceased new sales. This decline in operations will have a marginal impact on overall revenues and net income as Russia accounts for less than 1% of Microsoft's sales. The company did report \$126 million in operating expenses tied to its decision to stop selling products and services in Russia. The reduction in operations will affect more than 400 employees based in both Russian and Ukraine.^{6,12}

VALUATION

Revenue Projections

Microsoft has seen revenues increase by an average of 15.8% over the last 5 years reporting \$198,270 million in revenues in FYE 2022. We are forecasting revenue growth to slow to 14.5% annually over the next 3 years with the street forecasting a 13.3% annual growth rate. We then see the growth rate increasing to nearly 30% in 2025 as the economy is expected to stabilize. We believe the main catalysts for this growth will stem from cloud-based applications as these contracts are mainly business-to-business (B2B) and hold up better during recessionary times. We also see strong growth in the gaming industry as the acquisition of Activision Blizzard will hopefully close in June of 2023.

Revenue Projections (\$MM)

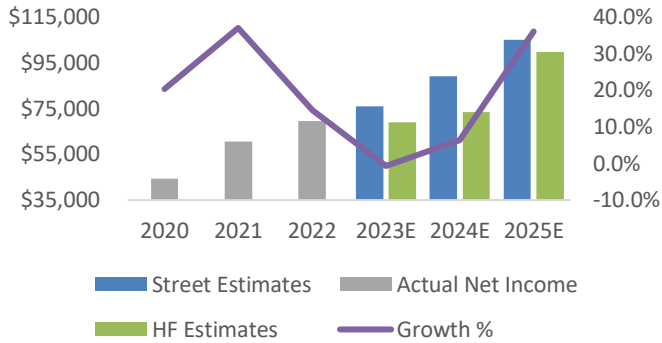


Source: FactSet

Net Income Projections

Microsoft has grown net income by an average of 23.3% over the last 5 years. In FYE 2022 it produced a record net income of \$69.5 billion. We are forecasting revenue to remain constant in FYE in 2023 then 6.3% and 36.0% growth in 2024 and 2025, respectively. Our estimates are more conservative than consensus estimates with the street forecasting average growth over the next 3 years of 14.3%.

Net Income Projections (\$MM)

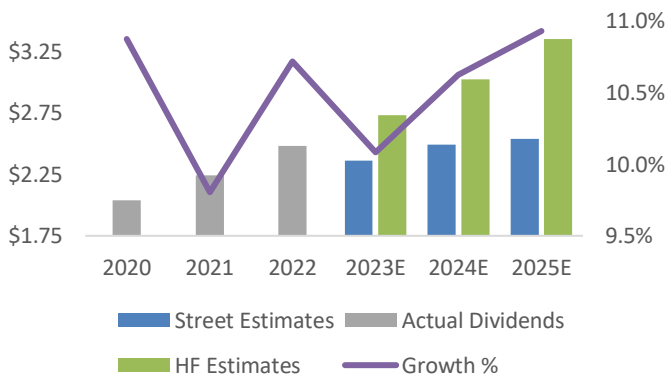


Source: FactSet

Dividend Projections

Microsoft has a history of increasing dividends each year with an average growth rate of 10.2% over the last 5 years. We are forecasting dividend growth to continue at a growth rate of 10.5% as Microsoft slowly becomes more of a value stock. Street analysts are forecasting dividends to decline by 4.8% to \$2.36 in 2023. Microsoft has not decreased its dividend since the great recession, and we do not believe it will decrease next year.

Dividend Projections

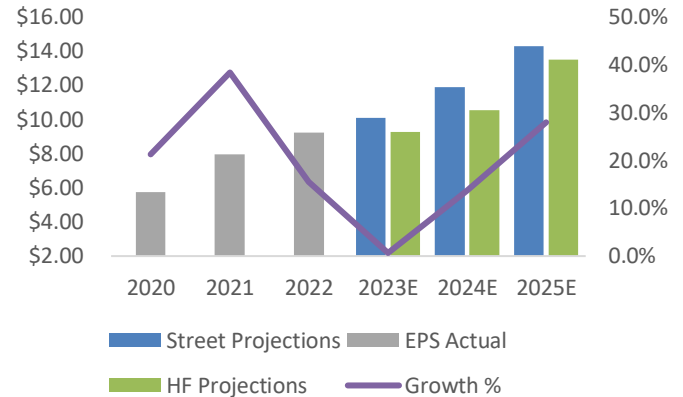


Source: FactSet

EPS Projections

Over the last 5 years, Microsoft has grown its EPS by 24.4% annually. In FYE 2022 it grew EPS by 15.6% and reported a record EPS of \$9.21. Over the next 3 years, we are forecasting EPS to grow by 14.1% and street analysts are projecting 15.8%. Our forecasts are slightly weaker than the Street's because we believe inflation will stay elevated for longer than anticipated and the Federal Reserve's rate hikes will have a diminishing marginal impact and bring inflation down.

EPS Projections



Source: FactSet

Discounted Cash Flow/Economic Profit

The Discounted Cash Flow and Economic Profit models projected a share price of **\$363** representing a 44% upside from the current stock price. The street's consensus price target is \$327.18 which represents a 30% premium. We believe this model best represents Microsoft's value especially given the recent sell-off. To create this model, we used a CV growth of NOPLAT of 3.3%, WACC of 9.09, and a cost of equity of 9.34%.

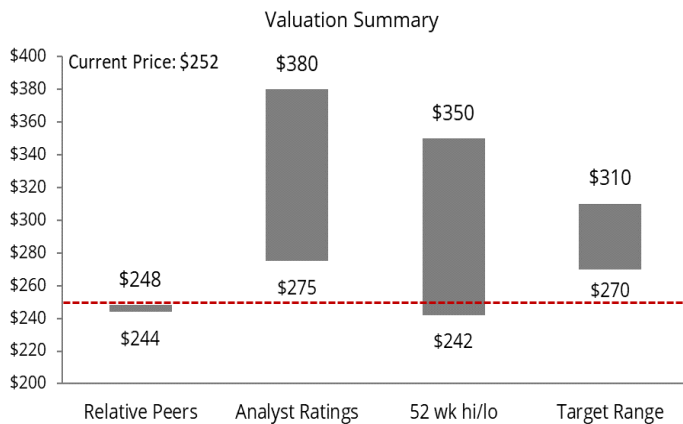
Dividend Discount Model

The Dividend Discount Model produced a target price of **\$188** representing a 25% discount from the current price. This large discount is primarily due to the high cost of equity used to discount future dividends and the low EPS growth rate in the terminal year. Over the last 5 years, Microsoft has seen EPS grow on average 37% YoY. We tapered this growth down to a CV rate of 3.3% which is causing our model to vastly undervalue Microsoft. Our long-term EPS estimates are also slightly lower than the consensus. Due to these factors, we decided not to rely heavily on the DDM when determining our target range.

Relative Peers

Our relative peers' model yielded a projected share price of **\$248** representing a -1% downside from the current price. This model is based on the average EPS projections of our six peers: Alphabet, IBM, Amazon, Apple, Meta, and Oracle. The EPS projections used for this model were based on FactSet estimates which we believe to be moderately conservative. All the peers except for Amazon have lower P/E ratios than Microsoft. Amazon has a P/E of

56x which skews the average to 24.6x just below Microsoft's P/E of 25.0x. We took this model into consideration for our target range but did not put much emphasis on it.



Source: FactSet

KEYS TO MONITOR

Catalysts for Growth

- Activision Blizzard Deal:** Microsoft expects to close on the acquisition of Activision Blizzard in June of 2023. This would be the largest technology transaction to date at \$69B if it is approved by regulators. If the deal closes, Microsoft's share of the gaming industry would grow from 6.5% to 10.7%. The FTC has just recently begun reviewing the deal and the EU has not started any formal process.
- Revenue Diversification:** Microsoft is a very diverse firm in terms of its business segments. They report three operating segments: Intelligent Cloud, Productivity & Business Processes, and More Personal Computing, each accounting for 38%, 32%, and 30%, respectively. Microsoft also operates in several sub-industries such as operating systems, cloud computing, hardware, gaming, and networking. This diversification makes Microsoft a safe company since they are not solely relying on one product or service for revenue.

Risks to Thesis

- Consumer Spending:** With a recession looming and interest rates climbing, consumers may elect to limit expenditures that would impact

Microsoft's hardware sales. Post-Covid consumers had pent-up demand for products and consumer spending exploded in 2021 and 2022. Now we are beginning to see some uncertainty in the markets.

- Supply Chain:** Covid-19, labor shortages, and geopolitical issues continue to disrupt the global supply chain. COGS are projected to increase 19% YoY as input costs for chips reach record highs.
- Government Regulation:** The government filed an anti-trust suit against Microsoft in the 1990s which forced Microsoft to change its business practices. A similar intervention would severely impact Microsoft's price. The FTC is currently reviewing Microsoft's acquisition of Activision Blizzard and the EU plans to begin a formal review this fall.

Summary

We recommend a **HOLD** rating for Microsoft with a target range of \$270 to \$310 representing a 7% to 23% upside. We believe Microsoft is poised for high growth, particularly in the gaming industry with its acquisition of Activision Blizzard. We also see cloud computing and cloud storage becoming more vital to companies as firms collect more and more data. Also, with the remote work trend here to stay, we see strong growth in the hardware segment as people continue to buy new computers for remote positions.

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Microsoft Corporation
Revenue Decomposition

Fiscal Years Ending Jun. 30	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Significant product and service offerings													
Server products and cloud services	41,379	52,589	67,321	81,951	98,365	115,750	132,894	149,512	164,458	178,334	189,592	197,648	202,260
% growth	26.8%	27.1%	26.3%	21.7%	20.0%	17.7%	14.8%	12.5%	10.0%	8.4%	6.3%	4.2%	2.3%
Office products and cloud services	35,316	39,872	44,862	50,268	55,469	60,736	65,977	70,919	75,556	79,752	83,363	86,313	88,506
% growth	11.2%	12.9%	12.1%	12.1%	10.3%	9.5%	8.6%	7.5%	6.5%	5.6%	4.5%	3.5%	2.5%
Windows	22,294	23,227	24,761	26,370	27,836	29,511	31,289	33,125	35,103	37,193	39,398	41,743	44,225
% growth	9.3%	4.2%	6.0%	6.5%	5.6%	6.0%	6.0%	5.9%	6.0%	6.0%	5.9%	6.0%	5.9%
Gaming	11,575	15,370	16,230	18,408	21,599	24,232	26,973	29,836	32,334	34,629	36,948	38,939	40,650
% growth	1.7%	32.8%	14.8%	13.4%	17.3%	12.2%	11.3%	10.6%	8.4%	7.1%	6.7%	5.4%	4.4%
LinkedIn	8,077	10,289	13,816	16,791	20,349	24,239	28,266	32,216	35,943	39,196	41,756	43,447	44,552
% growth	19.6%	27.4%	25.1%	21.5%	21.2%	19.1%	16.6%	14.0%	11.6%	9.1%	6.5%	4.1%	2.5%
Search advertising	7,740	8,528	11,591	12,304	13,254	14,167	15,148	16,235	17,371	18,592	19,906	21,306	22,807
% growth	1.5%	10.2%	6.8%	6.2%	7.7%	6.9%	6.9%	7.2%	7.0%	7.0%	7.1%	7.0%	7.0%
Enterprise Services	6,409	6,943	7,407	7,874	8,413	8,947	9,529	10,155	10,812	11,517	12,267	13,065	13,916
% growth	4.7%	8.3%	5.9%	6.3%	6.8%	6.4%	6.5%	6.6%	6.5%	6.5%	6.5%	6.5%	6.5%
Devices	6,457	6,791	6,991	7,342	7,761	8,218	8,592	8,968	9,321	9,627	9,904	10,138	10,324
% growth	5.9%	5.2%	9.9%	5.0%	5.7%	5.9%	4.5%	4.4%	3.9%	3.3%	2.9%	2.4%	1.8%
Other	3,768	4,479	5,291	6,169	7,097	8,039	9,082	10,150	11,233	12,277	13,269	14,244	15,133
% growth	22.7%	18.9%	17.2%	16.6%	15.0%	13.3%	13.0%	11.8%	10.7%	9.3%	8.1%	7.3%	6.2%
Total revenues	143,015	168,088	198,270	227,477	260,142	293,839	327,750	361,115	392,130	421,117	446,403	466,843	482,372
% growth	13.6%	17.5%	18.0%	14.7%	14.4%	13.0%	11.5%	10.2%	8.6%	7.4%	6.0%	4.6%	3.3%
Percentage of Total (%)													
Server products and cloud services	28.93%	31.29%	33.95%	36.03%	37.81%	39.39%	40.55%	41.40%	41.94%	42.35%	42.47%	42.34%	41.93%
Office products and cloud services	24.69%	23.72%	22.63%	22.10%	21.32%	20.67%	20.13%	19.64%	19.27%	18.94%	18.67%	18.49%	18.35%
Windows	15.59%	13.82%	12.49%	11.59%	10.70%	10.04%	9.55%	9.17%	8.95%	8.83%	8.83%	8.94%	9.17%
Gaming	8.09%	9.14%	8.19%	8.09%	8.30%	8.25%	8.23%	8.26%	8.25%	8.22%	8.28%	8.34%	8.43%
LinkedIn	5.65%	6.12%	6.97%	7.38%	7.82%	8.25%	8.62%	8.92%	9.17%	9.31%	9.35%	9.31%	9.24%
Search advertising	5.41%	5.07%	5.85%	5.41%	5.09%	4.82%	4.62%	4.50%	4.43%	4.41%	4.46%	4.56%	4.73%
Enterprise Services	4.48%	4.13%	3.74%	3.46%	3.23%	3.05%	2.91%	2.81%	2.76%	2.73%	2.75%	2.80%	2.88%
Devices	4.51%	4.04%	3.53%	3.23%	2.98%	2.80%	2.62%	2.48%	2.38%	2.29%	2.22%	2.17%	2.14%
Other	2.63%	2.66%	2.67%	2.71%	2.73%	2.74%	2.77%	2.81%	2.86%	2.92%	2.97%	3.05%	3.14%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Geographic													
Other Countries	69,855	84,135	100,218	114,981	131,492	148,525	165,665	182,530	198,207	212,859	225,640	235,972	243,821
% growth	13.3%	20.4%	19.1%	14.7%	14.4%	13.0%	11.5%	10.2%	8.6%	7.4%	6.0%	4.6%	3.3%
United States	73,160	83,953	98,052	112,496	128,650	145,315	162,085	178,585	193,923	208,258	220,763	230,872	238,551
% growth	14.0%	14.8%	16.8%	14.7%	14.4%	13.0%	11.5%	10.2%	8.6%	7.4%	6.0%	4.6%	3.3%
Total	143,015	168,088	198,270	227,477	260,142	293,839	327,750	361,115	392,130	421,117	446,403	466,843	482,372
% growth	13.6%	17.5%	18.0%	14.7%	14.4%	13.0%	11.5%	10.2%	8.6%	7.4%	6.0%	4.6%	3.3%

Microsoft Corporation

Income Statement

All figures in millions of U.S. Dollar

Fiscal Years Ending Jun. 30	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Revenues:													
Total revenue	143,015	168,088	198,270	219,041	228,728	293,839	327,750	361,115	392,130	421,117	446,403	466,843	482,372
Cost of revenue:													
Total cost of revenue	(46,078)	(52,232)	(62,650)	(70,271)	(76,725)	(89,750)	(100,108)	(110,299)	(119,772)	(128,626)	(136,349)	(142,593)	(147,336)
Gross margin	96,937	115,856	135,620	148,770	152,004	204,089	227,642	250,816	272,358	292,491	310,054	324,251	335,037
Total operating expenses	(43,978)	(45,940)	(52,237)	(65,564)	(65,564)	(78,174)	(88,032)	(96,411)	(104,780)	(112,689)	(119,306)	(124,812)	(128,988)
Research and development	(19,269)	(20,716)	(24,512)	(28,861)	(28,861)	(37,374)	(42,076)	(45,952)	(50,039)	(53,796)	(56,932)	(59,583)	(61,568)
Sales and marketing	(19,598)	(20,117)	(21,825)	(28,669)	(28,669)	(30,853)	(34,414)	(37,917)	(41,174)	(44,217)	(46,872)	(49,019)	(50,649)
General and administrative	(5,111)	(5,107)	(5,900)	(8,033)	(8,033)	(9,947)	(11,542)	(12,541)	(13,567)	(14,675)	(15,502)	(16,211)	(16,770)
Operating income / loss	52,959	69,916	83,383	83,206	86,440	125,915	139,610	154,405	167,578	179,803	190,748	199,438	206,049
Other income / expense, net	77	1,186	333	669	432	655	522	569	545	573	552	560	557
Income / loss before income taxes	53,036	71,102	83,716	83,875	86,872	126,570	140,132	154,975	168,123	180,376	191,300	199,998	206,606
Provision for income taxes	(8,755)	(9,831)	(10,978)	(14,904)	(13,548)	(26,706)	(29,568)	(32,700)	(35,474)	(38,059)	(40,364)	(42,200)	(43,594)
Net income / loss	44,281	61,271	72,738	68,971	73,324	99,864	110,564	122,275	132,649	142,316	150,936	157,798	163,012
Basic EPS	5.82	8.12	9.70	9.27	10.54	13.41	14.84	16.42	17.81	19.11	20.26	21.19	21.89
% growth	13.9%	39.5%	19.5%	-4.5%	13.7%	27.2%	10.7%	10.6%	8.5%	7.3%	6.1%	4.5%	3.3%
Basic Shares (M)	7,610	7,547	7,496	7,417	7,358	7,449	7,449	7,449	7,449	7,449	7,449	7,449	7,449
Dividends	2.04	2.24	2.48	2.73	3.02	3.33	4.03	4.52	4.82	5.09	5.49	5.74	5.90
Payout Ratio	35.1%	27.6%	25.6%	29.5%	28.7%	24.8%	27.1%	27.5%	27.0%	26.6%	27.1%	27.1%	27.0%
Total Dividends	15,524	16,905	18,590	20,280.48	22,230.18	24,793.65	30,004.70	33,665.86	35,871.67	37,906.24	40,884.14	42,723.08	43,947.87

Microsoft Corporation

Income Statement

All figures in millions of U.S. Dollar

<i>Fiscal Years Ending Jun. 30</i>	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1E	2023 Q2E	2023 Q3E	2023 Q4E	2024 Q1E	2024 Q2E	2024 Q3E	2024 Q4E
Revenues:																			
Total revenue	36,906	35,021	38,033	37,154	43,076	41,706	46,152	45,317	51,728	49,360	51,865	53,878	56,074	53,664	55,424	59,498	58,454	55,562	55,214
Cost of revenue:																			
Total cost of revenue	(12,358)	(10,975)	(12,339)	(11,002)	(14,194)	(13,045)	(13,991)	(13,646)	(16,960)	(15,615)	(16,429)	(16,243)	(18,685)	(17,533)	(17,810)	(18,604)	(20,148)	(19,109)	(18,864)
Gross margin	24,548	24,046	25,694	26,152	28,882	28,661	32,161	31,671	34,768	33,745	35,436	37,635	37,389	36,132	37,614	40,895	38,306	36,453	36,350
Total operating expenses	(10,657)	(11,071)	(12,287)	(10,276)	(10,985)	(11,613)	(13,066)	(11,433)	(12,521)	(13,381)	(14,902)	(15,701)	(16,307)	(16,776)	(16,780)	(16,482)	(15,883)	(14,958)	(13,796)
Research and development	(4,603)	(4,887)	(5,214)	(4,926)	(4,899)	(5,204)	(5,687)	(5,599)	(5,758)	(6,306)	(6,849)	(7,054)	(7,268)	(7,332)	(7,208)	(6,973)	(6,599)	(6,108)	(5,537)
Sales and marketing	(4,933)	(4,911)	(5,417)	(4,231)	(4,947)	(5,082)	(5,857)	(4,547)	(5,379)	(5,595)	(6,304)	(6,787)	(7,066)	(7,360)	(7,456)	(7,396)	(7,215)	(6,879)	(6,423)
General and administrative	(1,121)	(1,273)	(1,656)	(1,119)	(1,139)	(1,327)	(1,522)	(1,287)	(1,384)	(1,480)	(1,749)	(1,861)	(1,972)	(2,084)	(2,116)	(2,114)	(2,069)	(1,971)	(1,837)
Operating income / loss	13,891	12,975	13,407	15,876	17,897	17,048	19,095	20,238	22,247	20,364	20,534	21,934	21,082	19,356	20,835	24,412	22,423	21,495	22,554
Other income / expense, net	194	(132)	15	248	440	188	310	286	268	(174)	(47)	190	183	150	146	125	105	85	117
Income / loss before income taxes	14,085	12,843	13,422	16,124	18,337	17,236	19,405	20,524	22,515	20,190	20,487	22,123	21,265	19,506	20,980	24,537	22,528	21,579	22,671
Provision for income taxes	(2,436)	(2,091)	(2,220)	(2,231)	(2,874)	(1,779)	(2,947)	(19)	(3,750)	(3,462)	(3,747)	(3,701)	(3,775)	(3,733)	(3,694)	(3,599)	(3,479)	(3,325)	(3,146)
Net income / loss	11,649	10,752	11,202	13,893	15,463	15,457	16,458	20,505	18,765	16,728	16,740	18,422	17,489	15,773	17,286	20,939	19,049	18,255	19,526
Basic EPS	1.53	1.41	1.48	1.84	2.05	2.05	2.19	2.73	2.50	2.23	2.24	2.47	2.35	2.12	2.33	2.83	2.58	2.48	2.65
Basic Shares (M)	7,621	7,602	7,580	7,566	7,555	7,539	7,527	7,513	7,505	7,493	7,474	7,461	7,446	7,431	7,417	7,402	7,387	7,373	7,358
Dividends	0.51	0.51	0.51	0.56	0.56	0.56	0.56	0.62	0.62	0.62	0.62	0.68	0.68	0.68	0.68	0.76	0.76	0.76	0.76
Payout Ratio					27.3%	27.3%	25.6%	22.7%	24.8%	27.8%	27.7%	27.7%	29.1%	32.2%	29.3%	26.7%	29.3%	30.5%	28.5%

Microsoft Corporation

Balance Sheet

All figures in millions of U.S. Dollar.

<i>Fiscal Years Ending Jun. 30</i>	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Assets													
Current Assets:													
Cash and cash equivalents	13,576	14,224	13,931	51,063	86,982	169,845	237,634	323,169	420,670	517,068	629,514	748,271	873,784
Short-term investments	122,951	116,110	90,826	94,087	97,464	100,963	104,588	108,343	112,232	116,261	120,435	124,759	129,237
Total cash, cash equivalents, and short-term investments	136,527	130,334	104,757	145,150	184,446	270,808	342,222	431,512	532,903	633,329	749,949	873,030	1,003,022
Accounts receivable, net of allowance for doubtful accounts	32,011	38,043	44,261	47,365	47,858	59,425	63,989	67,975	71,068	73,374	74,655	74,805	73,917
Inventories	1,895	2,636	3,742	3,785	4,134	5,194	5,859	6,419	6,990	7,496	7,952	8,313	8,591
Other current assets	11,482	13,393	16,924	17,532	18,161	18,813	19,488	20,188	20,913	21,663	22,441	23,247	24,081
Total current assets	181,915	184,406	169,684	213,830	254,600	354,240	431,557	526,094	631,873	735,863	854,997	979,395	1,109,611
Property and equipment, net of accumulated depreciation	44,151	59,715	74,398	86,126	99,986	114,531	129,705	143,776	155,422	165,629	173,351	178,006	182,586
Operating lease right-of-use assets	8,753	11,088	13,148	15,221	17,670	20,241	22,922	25,409	27,467	29,271	30,635	31,458	32,267
Equity and other investments	2,965	5,984	6,891	7,138	7,395	7,660	7,935	8,220	8,515	8,821	9,137	9,465	9,805
Goodwill	43,351	49,711	67,524	67,524	67,524	67,524	67,524	67,524	67,524	67,524	67,524	67,524	67,524
Intangible assets, net	7,038	7,800	11,298	9,196	7,773	9,398	10,482	11,550	10,581	11,363	11,152	11,663	12,051
Other long-term assets	13,138	15,075	21,897	22,683	23,497	24,341	25,215	26,120	27,058	28,029	29,035	30,078	31,158
Total assets	301,311	333,779	364,840	421,719	478,445	597,935	695,341	808,692	928,440	1,046,500	1,175,833	1,307,590	1,445,002
Liabilities and stockholders' equity													
Current liabilities:													
Accounts payable	12,530	15,163	19,000	20,990	21,919	28,158	31,408	34,605	37,577	40,355	42,778	44,737	50,000
Current portion of long-term debt	3,749	8,072	2,749	2,750	5,250	2,250	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Accrued compensation	7,874	10,057	10,661	11,778	12,299	15,800	17,623	19,417	21,085	22,644	24,003	25,102	25,937
Income taxes	2,130	2,174	4,067	3,336	3,444	5,400	5,703	6,354	6,969	7,404	7,875	8,245	8,501
Short-term unearned revenue	36,000	41,525	45,538	50,309	52,534	67,488	75,276	82,940	90,063	96,721	102,528	107,223	110,790
Other current liabilities	10,027	11,666	13,067	14,617	16,576	18,636	20,978	23,662	26,643	30,014	33,820	38,097	42,919
Total current liabilities	72,310	88,657	95,082	103,780	112,021	137,732	153,988	169,979	185,337	200,138	214,006	226,403	241,148
Long-term debt	59,578	50,074	47,032	50,013	53,165	59,156	63,856	68,207	71,527	74,715	77,014	78,583	79,925
Long-term income taxes	29,432	27,190	26,069	28,475	29,735	38,199	32,775	36,112	39,213	33,689	35,712	37,347	38,590
Long-term unearned revenue	3,180	2,616	2,870	3,817	3,619	4,674	5,370	5,791	6,317	6,812	7,191	7,531	7,785
Deferred income taxes	204	198	230	229	230	230	230	230	230	231	231	231	231
Operating lease liabilities	7,671	9,629	11,489	11,489	11,489	11,489	11,489	11,489	11,489	11,489	11,489	11,489	11,489
Other long-term liabilities	10,632	13,427	15,526	16,083	16,661	17,259	17,878	18,520	19,185	19,874	20,587	21,327	22,092
Total liabilities	183,007	191,791	198,298	213,887	226,919	268,739	285,586	310,328	333,299	346,949	366,230	382,912	401,260
Stockholders' equity:													
Common stock and paid-in capital	80,552	83,111	86,939	89,539	92,139	94,739	94,739	94,739	94,739	94,739	94,739	94,739	94,739
Retained earnings / deficit	34,566	57,055	84,281	122,971	164,065	239,135	319,694	408,303	505,080	609,490	719,542	834,617	953,681
Accumulated other comprehensive income	3,186	1,822	(4,678)	(4,678)	(4,678)	(4,678)	(4,678)	(4,678)	(4,678)	(4,678)	(4,678)	(4,678)	(4,678)
Total stockholders' equity	118,304	141,988	166,542	207,832	251,526	329,195	409,755	498,364	595,141	699,551	809,603	924,678	1,043,742
Total liabilities and stockholders' equity	301,311	333,779	364,840	421,719	478,445	597,935	695,341	808,692	928,440	1,046,500	1,175,833	1,307,590	1,445,002

Microsoft Corporation

Historical Cash Flow Statement

All figures in millions of U.S. Dollar

<i>Fiscal Years Ending Jun. 30</i>	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Operations											
Net income / loss	16,978	21,863	22,074	12,193	16,798	21,204	16,571	39,240	44,281	61,271	72,738
Adjustments to reconcile net income / loss to net cash from operations											
Depreciation, amortization, and other	2,967	3,755	5,212	5,957	6,622	8,778	10,261	11,682	12,796	11,686	14,460
Stock-based compensation expense	2,244	2,406	2,446	2,574	2,668	3,266	3,940	4,652	5,289	6,118	7,502
Net recognized losses / gains on investments and derivatives	(200)	80	(109)	(443)	(223)	(2,073)	(2,212)	(792)	(219)	(1,249)	(409)
Deferred income taxes	954	(19)	(331)	224	332	(3,296)	(5,143)	(6,463)	11	(150)	(5,702)
Changes in operating assets and liabilities:											
Accounts receivable	(1,156)	(1,807)	(1,120)	1,456	(530)	(925)	(3,862)	(2,812)	(2,577)	(6,481)	(6,834)
Inventories	184	(802)	(161)	(272)	600	50	(465)	597	168	(737)	(1,123)
Other current assets	493	(129)	(29)	62	(1,167)	1,066	(952)	(1,718)	(2,330)	(932)	(709)
Other long-term assets	(248)	(478)	(628)	346	(41)	(539)	(285)	(1,834)	(1,037)	(3,459)	(2,805)
Accounts payable	(31)	537	473	(1,054)	88	81	1,148	232	3,018	2,798	2,943
Unearned revenue							5,922	4,462	2,212	4,633	5,109
Income taxes							18,183	2,929	(3,631)	(2,309)	696
Other current liabilities	410	146	1,075	(624)	(260)	386	798	1,419	1,346	4,149	2,344
Other long-term liabilities	174	1,158	1,014	1,599	(766)	1,533	(20)	591	1,348	1,402	825
Net cash from operations	31,626	28,833	32,231	29,080	33,325	39,507	43,884	52,185	60,675	76,740	89,035
Financing											
Cash premium on debt exchange									(3,417)	(1,754)	-
Repayments of debt	-	(1,346)	(3,888)	(1,500)	(2,796)	(7,922)	(10,060)	(4,000)	(5,518)	(3,750)	(9,023)
Common stock issued	1,913	931	607	634	668	772	1,002	1,142	1,343	1,693	1,841
Common stock repurchased	(5,029)	(5,360)	(7,316)	(14,443)	(15,969)	(11,788)	(10,721)	(19,543)	(22,968)	(27,385)	(32,696)
Common stock cash dividends paid	(6,385)	(7,455)	(8,879)	(9,882)	(11,006)	(11,845)	(12,699)	(13,811)	(15,137)	(16,521)	(18,135)
Other	-	(10)	(39)	362	(369)	(190)	(971)	(675)	(334)	(769)	(863)
Net cash from / used in financing	(9,408)	(8,148)	(8,394)	(9,080)	(8,393)	8,408	(33,590)	(36,887)	(46,031)	(48,486)	(58,876)
Investing											
Additions to property and equipment	(2,305)	(4,257)	(5,485)	(5,944)	(8,343)	(8,129)	(11,632)	(13,925)	(15,441)	(20,622)	(23,886)
intangible and other assets	(10,112)	(1,584)	(5,937)	(3,723)	(1,393)	(25,944)	(888)	(2,388)	(2,521)	(8,909)	(22,038)
Purchases of investments	(57,250)	(75,396)	(72,690)	(98,729)	(129,758)	(176,905)	(137,380)	(57,697)	(77,190)	(62,924)	(26,456)
Maturities of investments	15,575	5,130	5,272	15,013	22,054	28,044	26,360	20,043	66,449	51,792	16,451
Sales of investments	29,700	52,464	60,094	70,848	93,287	136,350	117,577	38,194	17,721	14,008	28,443
Other, net	(394)	(168)	(87)	(466)	203	(197)	(98)	-	(1,241)	(922)	(2,825)
Net cash from / used in investing	(24,786)	(23,811)	(18,833)	(23,001)	(23,950)	(46,781)	(6,061)	(15,773)	(12,223)	(27,577)	(30,311)
Effect of foreign exchange rates on cash and cash equivalents	(104)	(8)	(139)	(73)	(67)	19	50	(115)	(201)	(29)	(141)
Net change in cash and cash equivalents	(2,672)	(3,134)	4,865	(3,074)	915	1,153	4,283	(590)	2,220	648	(293)
Cash and cash equivalents, beginning of period	9,610	6,938	3,804	8,669	5,595	6,510	7,663	11,946	11,356	13,576	14,224
Cash and cash equivalents, end of period	6,938	3,804	8,669	5,595	6,510	7,663	11,946	11,356	13,576	14,224	13,931

Microsoft Corporation*Forecasted Cash Flow Statement*

All figures in millions of U.S. Dollar

Fiscal Years Ending Jun. 30	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Operations										
Net income / loss	68,971	73,324	99,864	110,564	122,275	132,649	142,316	150,936	157,798	163,012
Depreciation, amortization, and other										
Changes in operating assets and liabilities:										
Accounts receivable	(3,104)	(494)	(11,567)	(4,564)	(3,986)	(3,093)	(2,306)	(1,281)	(150)	888
Inventories	(43)	(350)	(1,060)	(665)	(560)	(571)	(506)	(456)	(361)	(278)
Deferred income taxes asset	-	-	-	-	-	-	-	-	-	-
Other current assets	(608)	(629)	(652)	(675)	(700)	(725)	(751)	(778)	(806)	(835)
Other long-term assets	(786)	(814)	(844)	(874)	(905)	(938)	(971)	(1,006)	(1,042)	(1,080)
Accounts payable	1,990	928	6,239	3,250	3,197	2,972	2,778	2,423	1,959	5,263
Accrued compensation	1,117	521	3,501	1,823	1,794	1,668	1,559	1,360	1,099	835
Short-term unearned revenue	4,771	2,225	14,954	7,788	7,663	7,123	6,658	5,807	4,695	3,567
Income taxes	(731)	108	1,956	302	652	615	435	471	369	257
Other current liabilities	1,550	1,959	2,060	2,341	2,685	2,980	3,371	3,806	4,276	4,823
Long-term unearned revenue	947	(198)	1,055	696	421	526	495	378	340	254
Deferred income taxes liability	(1)	0	0	(0)	0	0	0	0	0	0
Long-term income taxes	2,406	1,259	8,464	(5,424)	3,337	3,101	(5,524)	2,023	1,635	1,242
Operating lease right-of-use assets	(2,073)	(2,449)	(2,570)	(2,682)	(2,487)	(2,058)	(1,804)	(1,365)	(823)	(809)
Operating lease liabilities	-	-	-	-	-	-	-	-	-	-
Other long-term liabilities	557	577	598	620	642	665	689	713	739	766
Net cash from operations	5,994	2,644	22,137	1,937	11,753	12,266	4,123	12,097	11,930	14,893
Financing										
Common stock and paid-in capital	2,600	2,600	2,600	-	-	-	-	-	-	-
Retained earnings / deficit	38,690	41,093	75,070	80,559	88,609	96,777	104,410	110,051	115,075	119,064
Accumulated other comprehensive income	-	-	-	-	-	-	-	-	-	-
Current portion of long-term debt	1	2,500	(3,000)	750	-	-	-	-	-	-
Long-term debt	2,981	3,152	5,991	4,700	4,351	3,320	3,189	2,299	1,569	1,342
Net cash from / used in financing	44,272	49,345	80,661	86,010	92,960	100,097	107,599	112,350	116,644	120,406
Investing										
Property and equipment, net of accumulated depreciation	(11,728)	(13,860)	(14,545)	(15,174)	(14,071)	(11,646)	(10,207)	(7,722)	(4,655)	(4,579)
Equity and other investments	-247	-256	-265	-275	-285	-295	-306	-317	-328	-340
Intangible assets, net	2,102	1,423	(1,625)	(1,085)	(1,067)	969	(782)	211	(511)	(388)
Short-term investments	(3,261)	(3,378)	(3,499)	(3,625)	(3,755)	(3,890)	(4,029)	(4,174)	(4,324)	(4,479)
Net cash from / used in investing	(13,135)	(16,071)	(19,934)	(20,158)	(19,177)	(14,862)	(15,324)	(12,002)	(9,817)	(9,786)
Net change in cash and cash equivalents	37,132	35,919	82,863	67,789	85,536	97,501	96,398	112,446	118,757	125,513
Cash and cash equivalents, beginning of period	13,931	51,063	86,982	169,845	237,634	323,169	420,670	517,068	629,514	748,271
Cash and cash equivalents, end of period	51,063	86,982	169,845	237,634	323,169	420,670	517,068	629,514	748,271	873,784

Microsoft Corporation
Common Size Income Statement

Fiscal Years Ending Jun. 30	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2031E
Revenues:													
Total revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of revenue:	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total cost of revenue	-32.22%	-31.07%	-31.60%	-32.08%	-33.54%	-30.54%	-30.54%	-30.54%	-30.54%	-30.54%	-30.54%	-30.54%	-30.54%
Gross margin	67.78%	68.93%	68.40%	67.92%	66.46%	69.46%	69.46%	69.46%	69.46%	69.46%	69.46%	69.46%	69.46%
Total operating expenses	-30.75%	-27.33%	-26.35%	-29.93%	-28.66%	-26.60%	-26.86%	-26.70%	-26.72%	-26.76%	-26.73%	-26.74%	-26.74%
Research and development	-13.47%	-12.32%	-12.36%	-13.18%	-12.62%	-12.72%	-12.84%	-12.73%	-12.76%	-12.77%	-12.75%	-12.76%	-12.76%
Sales and marketing	-13.70%	-11.97%	-11.01%	-13.09%	-12.53%	-10.50%	-10.50%	-10.50%	-10.50%	-10.50%	-10.50%	-10.50%	-10.50%
General and administrative	-3.57%	-3.04%	-2.98%	-3.67%	-3.51%	-3.39%	-3.52%	-3.47%	-3.46%	-3.48%	-3.47%	-3.47%	-3.48%
Impairment, integration, and restructuring	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Operating income / loss	37.03%	41.59%	42.06%	37.99%	37.79%	42.85%	42.60%	42.76%	42.74%	42.70%	42.73%	42.72%	42.72%
Other income / expense, net	0.05%	0.71%	0.17%	0.31%	0.19%	0.22%	0.16%	0.16%	0.14%	0.14%	0.12%	0.12%	0.12%
Income / loss before income taxes	37.08%	42.30%	42.22%	38.29%	37.98%	43.07%	42.76%	42.92%	42.87%	42.83%	42.85%	42.84%	42.83%
Provision for income taxes	-6.12%	-5.85%	-5.54%	-6.80%	-5.92%	-9.09%	-9.02%	-9.06%	-9.05%	-9.04%	-9.04%	-9.04%	-9.04%
Net income / loss	30.96%	36.45%	36.69%	31.49%	32.06%	33.99%	33.73%	33.86%	33.83%	33.79%	33.81%	33.80%	33.79%

Microsoft Corporation
Common Size Income Statement

Fiscal Years Ending Jun. 30	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1E	2023 Q2E	2023 Q3E	2023 Q4E	2024 Q1E	2024 Q2E	2024 Q3E	2024 Q4E
Revenues:																			
Total revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of revenue:	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total cost of revenue	-33.49%	-31.34%	-32.44%	-29.61%	-32.95%	-31.28%	-30.32%	-30.11%	-32.79%	-31.63%	-31.68%	-30.15%	-33.32%	-32.67%	-32.13%	-31.27%	-34.47%	-34.39%	-34.16%
Gross margin	66.51%	68.66%	67.56%	70.39%	67.05%	68.72%	69.68%	69.89%	67.21%	68.37%	68.32%	69.85%	66.68%	67.33%	67.87%	68.73%	65.53%	65.61%	65.84%
Total operating expenses	-28.88%	-31.61%	-32.31%	-27.66%	-25.50%	-27.84%	-28.31%	-25.23%	-24.21%	-27.11%	-28.73%	-29.14%	-29.08%	-31.26%	-30.27%	-27.70%	-27.17%	-26.92%	-24.99%
Research and development	-12.47%	-13.95%	-13.71%	-13.26%	-11.37%	-12.48%	-12.32%	-12.36%	-11.13%	-12.78%	-13.21%	-13.09%	-12.96%	-13.66%	-13.00%	-11.72%	-11.29%	-10.99%	-10.03%
Sales and marketing	-13.37%	-14.02%	-14.24%	-11.39%	-11.48%	-12.19%	-12.69%	-10.03%	-10.40%	-11.34%	-12.15%	-12.60%	-12.60%	-13.71%	-13.45%	-12.43%	-12.34%	-12.38%	-11.63%
General and administrative	-3.04%	-3.63%	-4.35%	-3.01%	-2.64%	-3.18%	-3.30%	-2.84%	-2.68%	-3.00%	-3.37%	-3.45%	-3.52%	-3.88%	-3.82%	-3.55%	-3.54%	-3.55%	-3.33%
Operating income / loss	37.64%	37.05%	35.25%	42.73%	41.55%	40.88%	41.37%	44.66%	43.01%	41.26%	39.59%	40.71%	37.60%	36.07%	37.59%	41.03%	38.36%	38.69%	40.85%
Other income / expense, net	0.53%	-0.38%	0.04%	0.67%	1.02%	0.45%	0.67%	0.63%	0.52%	-0.35%	-0.09%	0.35%	0.33%	0.28%	0.26%	0.21%	0.18%	0.15%	0.21%
Income / loss before income taxes	38.16%	36.67%	35.29%	43.40%	42.57%	41.33%	42.05%	45.29%	43.53%	40.90%	39.50%	41.06%	37.92%	36.35%	37.85%	41.24%	38.54%	38.84%	41.06%
Provision for income taxes	-6.60%	-5.97%	-5.84%	-6.00%	-6.67%	-4.27%	-6.39%	-0.04%	-7.25%	-7.01%	-7.22%	-6.87%	-6.73%	-6.96%	-6.67%	-6.05%	-5.95%	-5.98%	-5.70%
Net income / loss	31.56%	30.70%	29.45%	37.39%	35.90%	37.06%	35.66%	45.25%	36.28%	33.89%	32.28%	34.19%	31.19%	29.39%	31.19%	35.19%	32.59%	32.85%	35.36%

Microsoft Corporation
Common Size Balance Sheet

Fiscal Years Ending Jun. 30	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Assets													
Current Assets:													
Cash and cash equivalents	9.49%	8.46%	7.03%	23.31%	38.03%	57.80%	72.50%	89.49%	107.28%	122.78%	141.02%	160.28%	181.14%
Short-term investments	85.97%	69.08%	45.81%	42.95%	42.61%	34.36%	31.91%	30.00%	28.62%	27.61%	26.98%	26.72%	26.79%
Total cash, cash equivalents, and short-term investments	95.46%	77.54%	52.84%	66.27%	80.64%	92.16%	104.42%	119.49%	135.90%	150.39%	168.00%	187.01%	207.94%
Accounts receivable, net of allowance for doubtful accounts	22.38%	22.63%	22.32%	21.62%	20.92%	20.22%	19.52%	18.82%	18.12%	17.42%	16.72%	16.02%	15.32%
Inventories	1.33%	1.57%	1.89%	1.73%	1.81%	1.77%	1.79%	1.78%	1.78%	1.78%	1.78%	1.78%	1.78%
Other current assets	8.03%	7.97%	8.54%	8.00%	7.94%	6.40%	5.95%	5.59%	5.33%	5.14%	5.03%	4.98%	4.99%
Total current assets	127.20%	109.71%	85.58%	97.62%	111.31%	120.56%	131.67%	145.69%	161.14%	174.74%	191.53%	209.79%	230.03%
Property and equipment, net of accumulated depreciation	30.87%	35.53%	37.52%	39.32%	43.71%	38.98%	39.57%	39.81%	39.64%	39.33%	38.83%	38.13%	37.85%
Operating lease right-of-use assets	6.12%	6.60%	6.63%	6.95%	7.73%	6.89%	6.99%	7.04%	7.00%	6.95%	6.86%	6.74%	6.69%
Equity and other investments	2.07%	3.56%	3.48%	3.26%	3.23%	2.61%	2.42%	2.28%	2.17%	2.09%	2.05%	2.03%	2.03%
Goodwill	30.31%	29.57%	34.06%	30.83%	29.52%	22.98%	20.60%	18.70%	17.22%	16.03%	15.13%	14.46%	14.00%
Intangible assets, net	4.92%	4.64%	5.70%	4.20%	3.40%	3.20%	3.20%	3.20%	2.70%	2.70%	2.50%	2.50%	2.50%
Other long-term assets	9.19%	8.97%	11.04%	10.36%	10.27%	8.28%	7.69%	7.23%	6.90%	6.66%	6.50%	6.44%	6.46%
Deferred income taxes	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total assets	210.68%	198.57%	184.01%	192.53%	209.18%	203.49%	212.16%	223.94%	236.77%	248.51%	263.40%	280.09%	299.56%
Liabilities and stockholders' equity													
Current liabilities:													
Accounts payable	8.76%	9.02%	9.58%	9.58%	9.58%	9.58%	9.58%	9.58%	9.58%	9.58%	9.58%	9.58%	10.37%
Current portion of long-term debt	2.62%	4.80%	1.39%	1.26%	2.30%	0.77%	0.92%	0.83%	0.77%	0.71%	0.67%	0.64%	0.62%
Accrued compensation	5.51%	5.98%	5.38%	5.38%	5.38%	5.38%	5.38%	5.38%	5.38%	5.38%	5.38%	5.38%	5.38%
Income taxes	1.49%	1.29%	2.05%	1.52%	1.51%	1.84%	1.74%	1.76%	1.78%	1.76%	1.76%	1.77%	1.76%
Short-term unearned revenue	25.17%	24.70%	22.97%	22.97%	22.97%	22.97%	22.97%	22.97%	22.97%	22.97%	22.97%	22.97%	22.97%
Other current liabilities	7.01%	6.94%	6.59%	6.67%	7.25%	6.34%	6.40%	6.55%	6.79%	7.13%	7.58%	8.16%	8.90%
Total current liabilities	50.56%	52.74%	47.96%	47.38%	48.98%	46.87%	46.98%	47.07%	47.26%	47.53%	47.94%	48.50%	49.99%
Long-term debt	41.66%	29.79%	23.72%	22.83%	23.24%	20.13%	19.48%	18.89%	18.24%	17.74%	17.25%	16.83%	16.57%
Long-term income taxes	20.58%	16.18%	13.15%	13.00%	13.00%	13.00%	10.00%	10.00%	10.00%	8.00%	8.00%	8.00%	8.00%
Long-term unearned revenue	2.22%	1.56%	1.45%	1.74%	1.58%	1.59%	1.64%	1.60%	1.61%	1.62%	1.61%	1.61%	1.61%
Deferred income taxes	0.14%	0.12%	0.12%	0.10%	0.10%	0.08%	0.07%	0.06%	0.06%	0.05%	0.05%	0.05%	0.05%
Operating lease liabilities	5.36%	5.73%	5.79%	5.25%	5.02%	3.91%	3.51%	3.18%	2.93%	2.73%	2.57%	2.46%	2.38%
Other long-term liabilities	7.43%	7.99%	7.83%	7.34%	7.28%	5.87%	5.45%	5.13%	4.89%	4.72%	4.61%	4.57%	4.58%
Total liabilities	127.96%	114.10%	100.01%	97.65%	99.21%	91.46%	87.14%	85.94%	85.00%	82.39%	82.04%	82.02%	83.18%
Stockholders' equity:													
Common stock and paid-in capital	56.32%	49.44%	43.85%	40.88%	40.28%	32.24%	28.91%	26.24%	24.16%	22.50%	21.22%	20.29%	19.64%
Retained earnings / deficit	24.17%	33.94%	42.51%	56.14%	71.73%	81.38%	97.54%	113.07%	128.80%	144.73%	161.19%	178.78%	197.71%
Accumulated other comprehensive income	2.23%	1.08%	-2.36%	-2.14%	-2.05%	-1.59%	-1.43%	-1.30%	-1.19%	-1.11%	-1.05%	-1.00%	-0.97%
Total stockholders' equity	82.72%	84.47%	84.00%	94.88%	109.97%	112.03%	125.02%	138.01%	151.77%	166.12%	181.36%	198.07%	216.38%
Total liabilities and stockholders' equity	210.68%	198.57%	184.01%	192.53%	209.18%	203.49%	212.16%	223.94%	236.77%	248.51%	263.40%	280.09%	299.56%

Microsoft Corporation

Value Driver Estimation

All figures in millions of U.S. Dollar

Fiscal Years Ending Jun. 30	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
NOPLAT:													
Total revenue	143,015	168,088	198,270	219,041	228,728	293,839	327,750	361,115	392,130	421,117	446,403	466,843	482,372
Total cost of revenue	(46,078)	(52,232)	(62,650)	(70,271)	(76,725)	(89,750)	(100,108)	(110,299)	(119,772)	(128,626)	(136,349)	(142,593)	(147,336)
Depreciation Expense													
Amortization of Intangibles													
Research and development	(19,269)	(20,716)	(24,512)	(28,861)	(28,861)	(37,374)	(42,076)	(45,952)	(50,039)	(53,796)	(56,932)	(59,583)	(61,568)
Sales and marketing	(19,598)	(20,117)	(21,825)	(28,669)	(28,669)	(30,853)	(34,414)	(37,917)	(41,174)	(44,217)	(46,872)	(49,019)	(50,649)
General and administrative	(5,111)	(5,107)	(5,900)	(8,033)	(8,033)	(9,947)	(11,542)	(12,541)	(13,567)	(14,675)	(15,502)	(16,211)	(16,770)
EBITA	52,959	69,916	83,383	83,206	86,440	125,915	139,610	154,405	167,578	179,803	190,748	199,438	206,049
Adjusted Taxes:													
Marginal Tax Rate	19%	20%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
Provision for income taxes	1,628	1,937	2,316	3,145	2,859	5,635	6,239	6,900	7,485	8,030	8,517	8,904	9,198
+ Tax on Other income / expense, net	14	234	70	141	91	138	110	120	115	121	117	118	118
Total adjusted taxes	(1,614)	(1,703)	(2,246)	(3,004)	(2,768)	(5,497)	(6,129)	(6,779)	(7,370)	(7,910)	(8,400)	(8,786)	(9,081)
+ Change in Deferred Taxes	(29)	(6)	32	(1)	0	0	(0)	0	0	0	0	0	0
NOPLAT	54,544	71,613	85,661	86,209	89,207	131,412	145,738	161,185	174,948	187,712	199,148	208,224	215,130
Invested Capital (IC):													
+ Normal Cash	6,988	8,213	9,688	10,703	11,177	14,358	16,015	17,645	19,161	20,577	21,813	22,812	23,571
+ Accounts receivable, net of allowance for doubtful accounts	32,011	38,043	44,261	47,365	47,858	59,425	63,989	67,975	71,068	73,374	74,655	74,805	73,917
+ Inventories	1,895	2,636	3,742	3,785	4,134	5,194	5,859	6,419	6,990	7,496	7,952	8,313	8,591
+ Other current assets	11,482	13,393	16,924	17,532	18,161	18,813	19,488	20,188	20,913	21,663	22,441	23,247	24,081
- Accounts payable	(12,530)	(15,163)	(19,000)	(20,990)	(21,919)	(28,158)	(31,408)	(34,605)	(37,577)	(40,355)	(42,778)	(44,737)	(50,000)
- Current portion of long-term debt	(3,749)	(8,072)	(2,749)	(2,750)	(5,250)	(2,250)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)
- Accrued compensation	(7,874)	(10,057)	(10,661)	(11,778)	(12,299)	(15,800)	(17,623)	(19,417)	(21,085)	(22,644)	(24,003)	(25,102)	(25,937)
- Income taxes	(2,130)	(2,174)	(4,067)	(3,336)	(3,444)	(5,400)	(5,703)	(6,354)	(6,969)	(7,404)	(7,875)	(8,245)	(8,501)
- Short-term unearned revenue	(36,000)	(41,525)	(45,538)	(50,309)	(52,534)	(67,488)	(75,276)	(82,940)	(90,063)	(96,721)	(102,528)	(107,223)	(110,790)
- Other current liabilities	(10,027)	(11,666)	(13,067)	(14,617)	(16,576)	(18,636)	(20,978)	(23,662)	(26,643)	(30,014)	(33,820)	(38,097)	(42,919)
Operating Working Capital	(19,934)	(26,372)	(20,467)	(24,396)	(30,691)	(39,942)	(48,637)	(57,751)	(67,206)	(77,027)	(87,145)	(97,226)	(110,987)
+ Property and equipment, net of accumulated depreciation	44,151	59,715	74,398	86,126	99,986	114,531	129,705	143,776	155,422	165,629	173,351	178,006	182,586
+ Operating lease right-of-use assets	8,753	11,088	13,148	15,221	17,670	20,241	22,922	25,409	27,467	29,271	30,635	31,458	32,267
+ Intangible assets, net	7,038	7,800	11,298	9,196	7,773	9,398	10,482	11,550	10,581	11,363	11,152	11,663	12,051
+ Other long-term assets	13,138	15,075	21,897	22,683	23,497	24,341	25,215	26,120	27,058	28,029	29,035	30,078	31,158
- Long-term income taxes	(29,432)	(27,190)	(26,069)	(28,475)	(29,735)	(38,199)	(32,775)	(36,112)	(39,213)	(33,689)	(35,712)	(37,347)	(38,590)
- Long-term unearned revenue	(3,180)	(2,616)	(2,870)	(3,817)	(3,619)	(4,674)	(5,370)	(5,791)	(6,317)	(6,812)	(7,191)	(7,531)	(7,785)
Invested Capital	20,534	37,500	71,335	76,538	84,882	85,695	101,543	107,200	107,792	116,763	114,127	109,100	100,700
NOPLAT	54,544	71,613	85,661	86,209	89,207	131,412	145,738	161,185	174,948	187,712	199,148	208,224	215,130
Change in IC	9,885	16,966	33,835	5,203	8,344	813	15,848	5,657	592	8,971	(2,637)	(5,026)	(8,401)
FCF	44,659	54,647	51,826	81,006	80,864	130,599	129,890	155,527	174,357	178,741	201,785	213,251	223,530
Return on Invested Capital (ROIC):													
NOPLAT	54,544	71,613	85,661	86,209	89,207	131,412	145,738	161,185	174,948	187,712	199,148	208,224	215,130
Beginning IC	10,649	20,534	37,500	71,335	76,538	84,882	85,695	101,543	107,200	107,792	116,763	114,127	109,100
ROIC	512%	349%	228%	121%	117%	155%	170%	159%	163%	174%	171%	182%	197%
Economic Profit (EP):													
Beginning IC	10,649	20,534	37,500	71,335	76,538	84,882	85,695	101,543	107,200	107,792	116,763	114,127	109,100
x (ROIC - WACC)	503%	340%	219%	112%	107%	146%	161%	150%	154%	165%	161%	173%	188%
EP	53,576	69,747	82,253	79,726	82,251	123,698	137,950	151,956	165,205	177,916	188,536	197,852	205,214

Microsoft Corporation

Weighted Average Cost of Capital (WACC) Estimation

Cost of Equity:

Risk-Free Rate	3.34%
Beta	1.17
Equity Risk Premium	5.15%
Cost of Equity	9.34%

ASSUMPTIONS:

10-year Treasury bond
Average of 1, 2, and 5 year raw and adjusted betas
Henry Fund Estimate

Cost of Debt:

Risk-Free Rate	3.34%
Implied Default Premium	-0.02%
Pre-Tax Cost of Debt	3.32%
Marginal Tax Rate	21.10%
After-Tax Cost of Debt	2.62%

10-year Treasury bond

YTM on company's 10-year corporate bond

Market Value of Common Equity:

Total Shares Outstanding	7,547
Current Stock Price	\$252.22
MV of Equity	1,903,504

MV Weights

96.26%

Market Value of Debt:

Current Portion of LTD	2,749
Long-Term Debt	47,032
PV of Financing Leases	13,040
PV of Operating Leases	11,088
MV of Total Debt	73,909.01

3.74%

Market Value of the Firm

1,977,413

100.00%

Estimated WACC

9.09%

Microsoft Corporation

Discounted Cash Flow (DCF) and Economic Profit (EP) Valuation Models

Key Inputs:

CV Growth of NOPLAT	3.32%
CV Year ROIC	197.19%
WACC	9.09%
Cost of Equity	9.34%

Fiscal Years Ending Jun. 30	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
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DCF Model:

Free Cash Flow (FCF)	81,006	80,864	130,599	129,890	155,527	174,357	178,741	201,785	213,251	223,530
Continuing Value (CV)										3,664,237
PV of FCF	74,257	67,951	100,601	91,719	100,672	103,458	97,223	100,613	97,471	1,674,829

Value of Operating Assets:	2,508,795
Non-Operating Adjustments	
+Excess Cash	4,243
+Short-term investments including securities loaned	90,826
+Equity and other investments	6,891
-Short-term debt	-
-Current portion of long-term debt	(2,749)
-Long-term debt	(47,032)
-Operating lease liabilities	(11,489.00)
-Finance lease liabilities	(10,960)
-ESOP	(1,254)

Value of Equity	2,537,270
Shares Outstanding	7,547
Intrinsic Value of Last FYE	\$ 336.20
Implied Price as of Today	\$ 341.88

EP Model:

Economic Profit (EP)	79,726	82,251	123,698	137,950	151,956	165,205	177,916	188,536	197,852	205,214
Continuing Value (CV)										3,555,137
PV of EP	73,083	69,117	95,285	97,410	98,361	98,028	96,774	94,007	90,433	1,624,962

Total PV of EP	2,437,459.55
Invested Capital (last FYE)	71,335.23
Value of Operating Assets:	2,508,795
Non-Operating Adjustments	
+Excess Cash	4,243
+Short-term investments including securities loaned	90,826
+Equity and other investments	6,891
-Short-term debt	-
-Current portion of long-term debt	(2,749)
-Long-term debt	(47,032)
-Operating lease liabilities	(11,489)
-Finance lease liabilities	(10,960)
-ESOP	(1,254)

Value of Equity	2,537,270
Shares Outstanding	7,547
Intrinsic Value of Last FYE	\$ 336.20
Implied Price as of Today	\$ 341.88

Microsoft Corporation

Dividend Discount Model (DDM) or Fundamental P/E Valuation Model

Fiscal Years Ending Jun. 30	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
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EPS	\$ 9.70	\$ 9.27	\$ 10.54	\$ 13.41	\$ 14.84	\$ 16.42	\$ 17.81	\$ 19.11	\$ 20.26	\$ 21.19
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Key Assumptions

CV growth of EPS	3.30%
CV Year ROE	17.07%
Cost of Equity	9.34%

Future Cash Flows

P/E Multiple (CV Year)										13.36
EPS (CV Year)										\$ 21.19
Future Stock Price										\$ 283.04
Dividends Per Share	2.48	2.73	3.02	3.33	4.03	4.52	4.82	5.09	5.49	
Discounted Cash Flows	2.27	2.29	2.31	2.33	2.58	2.65	2.58	2.49	2.46	126.72

Intrinsic Value as of Last FYE \$ 148.67

Implied Price as of Today \$ 151.18

Microsoft Corporation

Relative Valuation Models

Ticker	Company	Price	EPS	EPS	P/E 23	P/E 24	Est. 5yr EPS gr.	PEG 23	PEG 24	EV/EBITDA		WACC	ROE
			2023E	2024E						2023E	2024E	Most Recent	
GOOGL	Alphabet	\$105.00	\$6.04	\$6.88	17.38	15.26	13.65	1.27	1.12	10.7	9.3	7.4%	32.1
IBM	IBM	\$127.71	\$7.63	\$9.40	16.74	13.59	9.66	1.73	1.41	9.9	9.3	6.2%	23.9
AMZN	Amazon	\$129.48	\$2.29	\$3.79	56.54	34.16	33.25	1.70	1.03	16.0	12.6	6.9%	28.8
AAPL	Apple	\$155.96	\$6.45	\$6.86	24.18	22.73	9.48	2.55	2.40	20.0	19.2	7.2%	72.7
META	Meta Platforms	\$151.47	\$11.03	\$12.91	13.73	11.73	4.90	2.80	2.39	7.8	6.9	7.6%	31.1
ORCL	Oracle	\$72.12	\$3.72	\$4.49	19.39	16.06	12.07	1.61	1.33	11.4	10.6	6.1%	55.5
Average					24.66	18.92	13.84	1.94	1.61	12.63	11.32	6.9%	40.68

MSFT	Microsoft Corporation	\$252.22	\$	9.27	\$	10.54	27.2	23.9	11.1	2.5	2.2	9.09%	47.2
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Implied Relative Value:

P/E (EPS23)	\$	228.63
P/E (EPS24)	\$	199.40
PEG (EPS23)	\$	199.88
PEG (EPS24)	\$	188.40
EV/EBITDA (EPS23)	\$	39.18
EV/EBITDA (EPS24)	\$	104.92

Microsoft Corporation

Present Value of Operating Lease Obligations

Fiscal Years Ending Jun. 30	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Year 1	572	878	863	961	1,292	1,492	1,678	1,807	2,125	2,456
Year 2	451	748	803	996	1,220	1,347	1,438	1,652	1,954	2,278
Year 3	349	671	735	922	1,115	1,086	1,235	1,474	1,751	1,985
Year 4	281	598	611	833	908	902	1,036	1,262	1,463	1,625
Year 5	204	456	524	634	749	721	839	1,000	1,133	1,328
Thereafter	605	1,063	1,617	2,118	2,588	2,157	2,438	3,122	4,111	5,332
Total Minimum Payments	2462.0	4414.0	5153.0	6464.0	7872.0	7705.0	8664.0	10317.0	12537.0	15004.0
Less: Cumulative Interest	267.8	487.9	632.7	818.9	990.0	893.6	1008.0	1247.4	1577.0	1964.0
PV of Minimum Payments	2194.2	3926.1	4520.3	5645.1	6882.0	6811.4	7656.0	9069.6	10960.0	13040.0
Implied Interest in Year 1 Payment	#REF!	72.8	130.3	150.1	187.4	228.5	226.1	254.2	301.1	363.9
Pre-Tax Cost of Debt	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%
Years Implied by Year 6 Payment	3.0	2.3	3.1	3.3	3.5	3.0	2.9	3.1	3.6	4.0
Expected Obligation in Year 6 & Beyond	204	456	524	634	749	721	839	1000	1133	1328
Present Value of Lease Payments										
PV of Year 1	553.6	849.8	835.3	930.1	1250.5	1444.1	1624.1	1748.9	2056.7	2377.1
PV of Year 2	422.5	700.7	752.2	933.0	1142.9	1261.8	1347.1	1547.5	1830.4	2134.0
PV of Year 3	316.4	608.4	666.4	835.9	1010.9	984.6	1119.7	1336.4	1587.6	1799.7
PV of Year 4	246.6	524.8	536.2	731.0	796.8	791.5	909.1	1107.4	1283.8	1426.0
PV of Year 5	173.3	387.3	445.1	538.5	636.2	612.4	712.6	849.3	962.3	1127.9
PV of 6 & beyond	481.8	855.2	1285.2	1676.5	2044.8	1717.0	1943.4	2480.0	3239.2	4175.3
Capitalized PV of Payments	2194.2	3926.1	4520.3	5645.1	6882.0	6811.4	7656.0	9069.6	10960.0	13040.0

Microsoft Corporation*Valuation of Options Granted under ESOP*

Current Stock Price	\$252.22
Risk Free Rate	3.34%
Current Dividend Yield	0.96%
Annualized St. Dev. of Stock Returns	25.88%

Range of Outstanding Options	Number of Shares	Average Exercise Price	Average Remaining Life (yrs)	B-S Option Price	Value of Options Granted
Range 1	9,124,963	\$ 289.34	3.00	\$ 37.07	\$ 338,255,554
Range 2	9,809,727	\$ 265.95	3.00	\$ 45.33	\$ 444,695,326
Range 3	9,832,841	\$ 259.42	3.00	\$ 47.92	\$ 471,198,397
Total	28,767,531	\$ 271.14	3.00	\$ 47.58	\$ 1,254.15

Microsoft Corporation

Sensitivity Tables

		Beta							
		341.88	0.87	0.97	1.07	1.17	1.27	1.37	1.47
Risk-Free Rate	2.86%	526.16	463.43	413.67	373.26	339.79	311.63	287.62	
	3.11%	493.78	437.91	393.05	356.26	325.54	299.51	277.19	
	3.36%	465.04	414.97	374.32	340.68	312.38	288.26	267.46	
	3.61%	439.36	394.23	357.23	326.35	300.21	277.79	258.36	
	3.86%	416.27	375.39	341.57	313.14	288.91	268.02	249.83	
	4.11%	395.41	358.21	327.17	300.91	278.39	258.88	241.82	
	4.36%	376.46	342.47	313.90	289.56	268.58	250.32	234.29	

		COGS % of revenue							
		341.88	26.08%	28.08%	30.08%	32.08%	34.08%	36.08%	38.08%
WACC	7.88%	438.72	438.72	438.72	438.72	438.72	438.72	438.72	
	8.38%	393.06	393.06	393.06	393.06	393.06	393.06	393.06	
	8.88%	355.66	355.66	355.66	355.66	355.66	355.66	355.66	
	9.38%	324.48	324.48	324.48	324.48	324.48	324.48	324.48	
	9.88%	298.10	298.10	298.10	298.10	298.10	298.10	298.10	
	10.38%	275.49	275.49	275.49	275.49	275.49	275.49	275.49	
	10.88%	255.91	255.91	255.91	255.91	255.91	255.91	255.91	

		Pre-tax cost of debt							
		341.88	1.86%	2.36%	2.86%	3.36%	3.86%	4.36%	4.86%
ERP	5.00%	355.72	354.67	353.63	352.61	351.61	350.61	349.63	
	5.05%	351.98	350.95	349.94	348.94	347.95	346.98	346.01	
	5.10%	348.32	347.31	346.31	345.33	344.37	343.41	342.47	
	5.15%	344.73	343.74	342.76	341.80	340.85	339.91	338.99	
	5.20%	341.20	340.23	339.28	338.34	337.40	336.49	335.58	
	5.25%	337.75	336.80	335.86	334.94	334.02	333.12	332.23	
	5.30%	334.36	333.43	332.51	331.60	330.71	329.82	328.95	

		Cost of Equity							
		341.88	6.61%	7.61%	8.61%	9.61%	10.61%	11.61%	12.61%
ROI	0.61%	341.57	342.24	342.91	343.57	344.22	344.87	345.52	
	1.61%	341.10	341.77	342.43	343.09	343.75	344.40	345.05	
	2.61%	340.60	341.26	341.93	342.59	343.24	343.89	344.54	
	3.61%	340.05	340.72	341.38	342.04	342.70	343.34	343.99	
	4.61%	339.47	340.14	340.80	341.46	342.11	342.76	343.40	
	5.61%	338.85	339.52	340.18	340.83	341.48	342.13	342.77	
	6.61%	338.18	338.85	339.51	340.16	340.81	341.45	342.09	

		Marginal Tax Rate							
		341.88	5.15%	8.15%	11.15%	14.15%	17.15%	20.15%	23.15%
CV growth of NOPLAT	2.30%	298.40	300.41	302.43	304.45	306.47	308.49	310.52	
	2.80%	312.60	314.73	316.86	318.99	321.13	323.26	325.40	
	3.30%	329.25	331.51	333.77	336.04	338.31	340.59	342.86	
	3.80%	349.03	351.46	353.88	356.31	358.75	361.19	363.63	
	4.30%	372.93	375.55	378.18	380.81	383.45	386.09	388.73	
	4.80%	402.38	405.25	408.13	411.01	413.90	416.79	419.69	
	5.30%	439.56	442.76	445.96	449.17	452.39	455.61	458.84	

		Current Dividend Yield							
		341.88	0.21%	0.46%	0.71%	0.96%	1.21%	1.46%	1.71%
Op exp % of rev	20.35%	342.35	342.20	342.04	341.88	341.72	341.56	341.39	
	22.35%	342.35	342.20	342.04	341.88	341.72	341.56	341.39	
	24.35%	342.35	342.20	342.04	341.88	341.72	341.56	341.39	
	26.35%	342.35	342.20	342.04	341.88	341.72	341.56	341.39	
	28.35%	342.35	342.20	342.04	341.88	341.72	341.56	341.39	
	30.35%	342.35	342.20	342.04	341.88	341.72	341.56	341.39	
	32.35%	342.35	342.20	342.04	341.88	341.72	341.56	341.39	

Microsoft Corporation
Key Management Ratios

Fiscal Years Ending Jun. 30		2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Liquidity Ratios:														
Current Ratio	Current Assets/Current Liabilities	2.52	2.08	1.78	2.06	2.27	2.57	2.80	3.10	3.41	3.68	4.00	4.33	4.60
Quick Ratio	(Current Assets - Inventory)/Current Liabilities	2.49	2.05	1.75	2.02	2.24	2.53	2.76	3.06	3.37	3.64	3.96	4.29	4.57
Cash Ratio	Cash/Current Liabilities	0.19	0.16	0.15	0.49	0.78	1.23	1.54	1.90	2.27	2.58	2.94	3.31	3.62
Asset-Management Ratios:														
Asset Turnover	Sales/Average Assets	0.49	0.53	0.57	0.56	0.51	0.55	0.51	0.48	0.45	0.43	0.40	0.38	0.35
Inventory Turnover	COGS/Average Inventory	23.28	23.06	19.65	18.67	19.38	19.24	18.11	17.97	17.86	17.76	17.65	17.53	17.43
Inventory Period	365/Inventory Turnover	15.68	15.83	18.58	19.55	18.84	18.97	20.15	20.32	20.43	20.55	20.68	20.82	20.94
Financial Leverage Ratios:														
Debt Ratio	Total Debt/Total Assets	21.02%	17.42%	13.64%	12.51%	12.21%	10.27%	9.61%	8.81%	8.03%	7.43%	6.80%	6.24%	5.74%
Debt-to-Equity Ratio	Total Debt/Total Equity	53.53%	40.95%	29.89%	25.39%	23.22%	18.65%	16.32%	14.29%	12.52%	11.11%	9.88%	8.82%	7.95%
Equity Ratio	Total Equity/Total Assets	39.26%	42.54%	45.65%	49.28%	52.57%	55.06%	58.93%	61.63%	64.10%	66.85%	68.85%	70.72%	72.23%
Profitability Ratios:														
Return on Equity	NI/Beg. Total Stockholders' Equity	43.27%	51.79%	51.23%	41.41%	35.28%	39.70%	33.59%	29.84%	26.62%	23.91%	21.58%	19.49%	17.63%
Return on Assets	NI/Beg. Total Assets	15.45%	20.33%	21.79%	18.90%	17.39%	20.87%	18.49%	17.58%	16.40%	15.33%	14.42%	13.42%	12.47%
Gross Profit Margin	(Sales - COGS)/Sales	67.78%	68.93%	68.40%	67.92%	66.46%	69.46%	69.46%	69.46%	69.46%	69.46%	69.46%	69.46%	69.46%
Payout Policy Ratios:														
Dividend Payout Ratio	Dividend per Share/EPS	35.05%	27.59%	25.56%	29.49%	28.67%	24.83%	27.14%	27.53%	27.04%	26.64%	27.09%	27.07%	26.96%
Total Payout Ratio ((Divs. + Repurchases)/NI)	(Dividend + Repurchases)/NI	35.06%	27.59%	25.56%	29.40%	30.32%	24.83%	27.14%	27.53%	27.04%	26.64%	27.09%	27.07%	26.96%
Retention Ratio	1- Dividend Payout Ratio	64.95%	72.41%	74.44%	70.51%	71.33%	75.17%	72.86%	72.47%	72.96%	73.36%	72.91%	72.93%	73.04%