

# MICROSOFT CORPORATION (MSFT)

March 9, 2024

Information Technology – Software

Stock Rating

**BUY**

## Investment Thesis

We recommend a BUY rating for Microsoft Corporation (MSFT), with a target price range of \$440-460, showcasing an upside of approximately 8-13% from the current price. We believe that Microsoft, currently the most valuable company in the world by market capitalization, will deliver strong returns due to its diversified revenue streams and focus on strategic investments and partnerships in growing sectors such as generative AI, cloud computing, and gaming.

### Drivers of Thesis

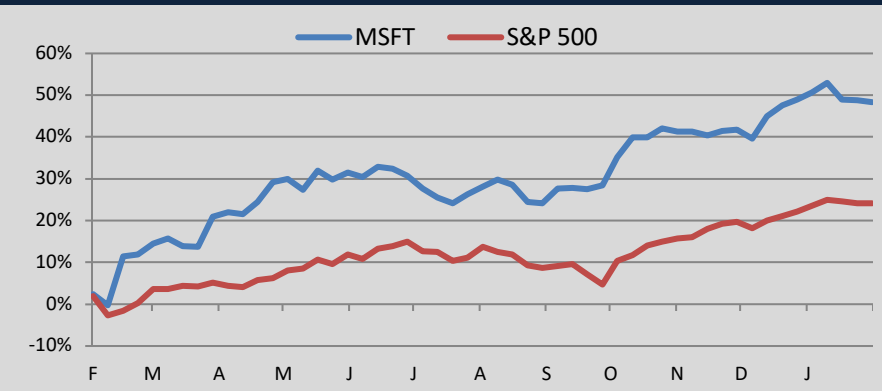
- Microsoft’s cloud computing platform, Azure is increasingly gaining market share (24%) and growing twice as fast as its main competitor. We predict this segment to have a CAGR of 18.52% over our forecast horizon.
- Microsoft is investing heavily into generative AI. Their acquisitions, partnerships and innovations in the industry are expected to generate high returns as the generative AI industry has an expected CAGR of 42%.
- Contributing to its largely diversified revenue streams, the acquisition of Activision Blizzard increases Microsoft’s market share, making it the third largest company in the gaming industry which has a CAGR of 10%.

### Risks to Thesis

- A downturn in the economy could lead to a decrease in IT expenditures, along with a fall in demand for PCs, servers, and corporate spending, negatively impacting Microsoft’s revenue.
- Microsoft faces considerable regulatory scrutiny, particularly in the realm of AI, affecting forthcoming mergers and acquisitions which can negatively impact revenue projections.

Earnings Estimates						
Year	2021	2022	2023	2024E	2025E	2026E
EPS	\$8.12	\$9.70	\$9.72	\$11.65	\$13.35	\$14.94
HF est.				\$11.52	\$13.26	\$15.22
Growth	39.5%	19.5%	0.2%	18.5%	15.1%	14.7%

## 12 Month Performance



## Target Price

Henry Fund DCF	\$455
Henry Fund DDM	\$363
Relative Multiple	\$384

## Price Data

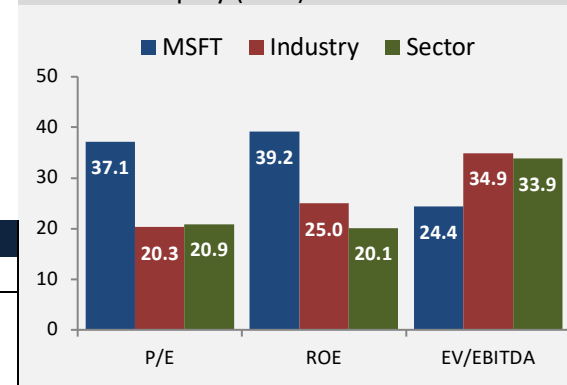
Current Price	\$408
52wk Range	\$245– 420
Consensus 1yr Target	\$456

## Key Statistics

Market Cap (B)	\$3051.00
Shares Outstanding (M)	7430.40
Institutional Ownership	76.40%
Beta	1.12
Dividend Yield	0.73%
Est. 5yr Growth	10.20%
Price/Earnings (TTM)	37.10
Price/Earnings (FY1)	33.80
Price/Sales (TTM)	13.40
Price/Book (mrq)	12.81

## Profitability

Operating Margin	41.80%
Profit Margin	42.10%
Return on Assets (TTM)	19.80%
Return on Equity (TTM)	39.20%



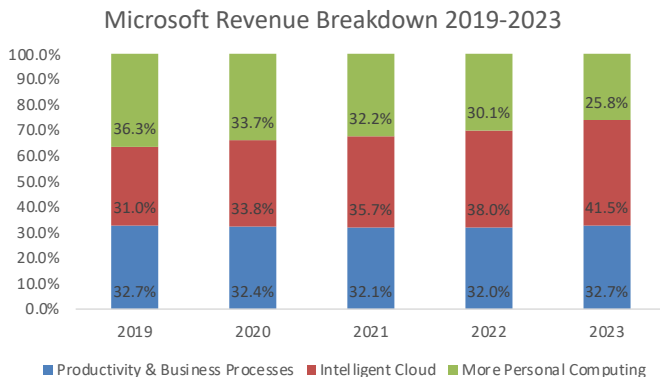
## Company Description

Founded by Bill Gates and Paul Allen in 1975, Microsoft Corporation is a global leader in the technology sector and is currently the largest company in the world by market capitalization. Microsoft is known for its flagship products such as the operating system Windows, cloud computing platform Azure, and productivity software Office 365. Its diversified revenue streams and recent investments in areas like generative AI, gaming, and cloud computing position it as a key player in the industry.

## COMPANY DESCRIPTION

Established in 1975 by Bill Gates and Paul Allen, Microsoft Corporation stands as a colossus in the technology sector. Microsoft is headquartered in Redmond, Washington and has a diverse range of products and offerings. Ten years after inauguration, Microsoft released Windows, the most widely used operating system globally. In 2024, Windows is running on an estimated 1.6 billion active devices.<sup>1</sup> The company's current focus extends beyond its legacy software offerings with heavy investments in cloud computing and AI including its Azure platform and the most recent acquisition of OpenAI. Additionally, Microsoft's various offerings include LinkedIn, enterprise services, search advertising, gaming consoles, video games, devices like PC and tables, and other business solution applications.<sup>2</sup> In January 2024, Microsoft surpassed Apple to become the largest company in the world by market capitalization, making it the second company to achieve the milestone of a \$3 trillion valuation.<sup>3</sup>

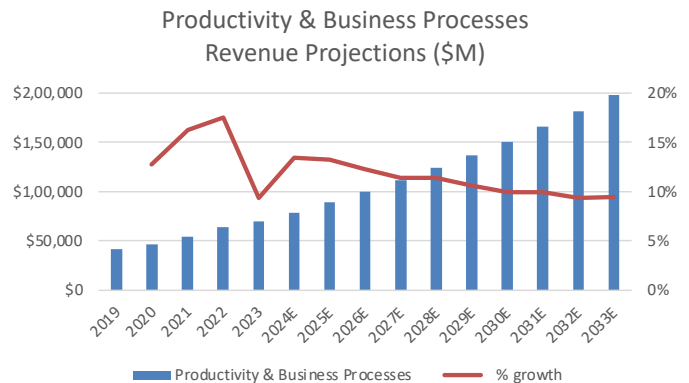
Microsoft breaks its diverse revenue streams into three primary divisions: Productivity and Business Processes (PBC), Intelligent Cloud (IC), and More Personal Computing (MPC). Historically, PBC has been the largest revenue stream due to Office 365 dominating in the productivity software market; however, IC has now become the main revenue driver for Microsoft accounting for 41.5% of its revenue in FY 2023. We expect this trend to continue and IC to drive an increasing percentage of Microsoft's revenue due to the expansion of Azure, its cloud computing platform.



Source: FactSet

## Productivity and Business Processes

The Productivity and Business Process segment is divided into Office Products and Cloud Services, and LinkedIn. It features products and services aimed at enhancing productivity, communication, and information services across various devices and platforms.<sup>2</sup> This includes Office 365 subscriptions for commercial use, including Office, Exchange, SharePoint, Teams, as well as security, compliance, and enterprise planning with Microsoft Viva and Microsoft 365 Copilot. For consumers, it offers Microsoft 365 subscriptions and other Office services. LinkedIn's offerings in this segment consist of solutions for talent, marketing, premium subscriptions, and sales. Additionally, the segment encompasses Dynamics 365 business solutions, which provide intelligent cloud-based ERP and CRM applications, along with similar on-premises applications.



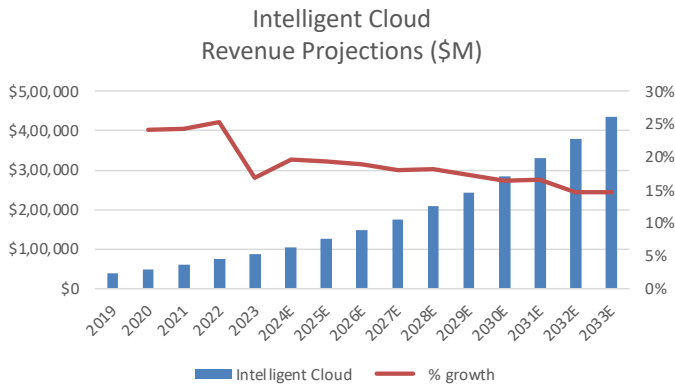
Source: MSFT 10-K, HF estimates

We estimate a CAGR of 8.79% in this segment due to the increasing demand for cloud-based applications used for collaboration in remote work and continued domination of LinkedIn in the professional services network. Growth in Office Products and Cloud services (23.0% of revenue) will be driven by increasing market share through commercial and consumers shifting to Office 365. Growth for Office Commercial stems from tapping into new user bases and sectors such as small to mid-sized companies, along with enhancing productivity tools in areas like communication and security. This growth is also influenced by users moving from traditional Office products to Office 365. Meanwhile, the Office Consumer division expands by broadening its range of products to new markets and converting more customers to Microsoft 365 subscriptions, with a boost from services like Skype and

Outlook.com that generate income through subscriptions, ads, and usage fees. LinkedIn (7.1% of revenue) growth is driven by increased number of premium users and higher user engagement. With over 1 billion members in 200 countries as of 2024, LinkedIn’s expansion is fueled by providing valuable services like Talent, Marketing, and Sales Solutions. Its dominance in the market is not guaranteed due to competition from other professional networks, job boards, and learning platforms. However, we predict that LinkedIn will continue to do have high market share as it continues to engage members and meets the evolving needs of enterprises, possibly by leveraging its unique data insights to offer more personalized and effective solutions for talent and marketing in the competitive landscape.

### Intelligent Cloud

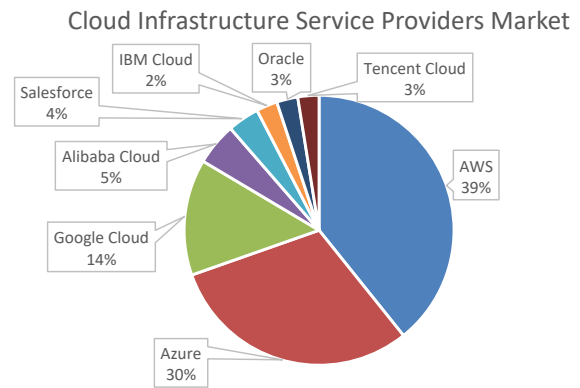
Microsoft's Intelligent Cloud segment is divided into Server Products and Cloud Services, and Enterprise Services. It primarily consists of a suite of server products and services, including Azure, SQL Server, and GitHub, aimed at empowering businesses and developers, complemented by enterprise services like support and industry-specific consulting.<sup>2</sup>



Source: MSFT 10-K, HF estimates

Currently the largest and fastest growing segment, we estimate a CAGR of 16.90% for 2023-2033. Growth in Server Products and Cloud Services (37.7% of revenue) will primarily be led by Azure, its cloud computing platform, which will also be powering all workload of OpenAI, a leader in generative AI. Microsoft currently has a 49% stake in OpenAI and is expanding in this space with heavy investments in the OpenAI equivalent of other geographies as well such as Europe.<sup>3</sup> Azure Other server

products and cloud services also includes SQL Server, Windows Server, Visual Studio, GitHub. The leader in the market for cloud infrastructure is Amazon, with its early domination with Amazon Web Services. However, Microsoft’s Azure is increasingly gaining market share and has 24% according to Q4 FY 2023 data as AWS’ cloud market share dropped 2 points, while Microsoft’s cloud share increased by nearly 2 points year over year. Azure is growing at a rate of 29%, which is more than double of AWS’ growth rate of 12%. This is primarily due to Azure supporting a large proportion of the generative AI startups such as OpenAI. According to Microsoft’s recent earnings call, over half of the Fortune 500 use Azure open AI today including Ally Financial, Coca-Cola, and Rockwell Automation. Since the generative AI industry has an expected CAGR of 42%, we expect this segment to grow exponentially. On the other hand, Enterprise Services (3.6% of revenue) is a matured segment in which we predict low stagnant growth over the next ten years due to the competition from multinational consulting firms.

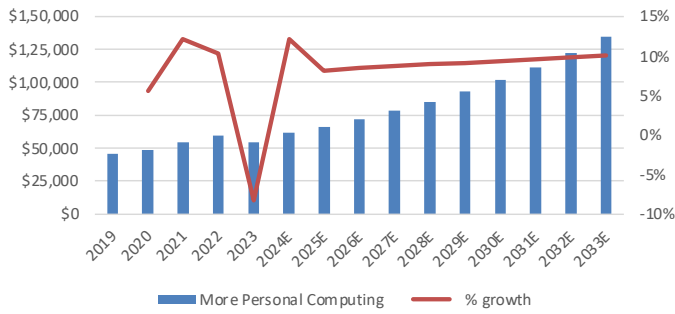


Source: Synergy Research Group

### More Personal Computing

The More Personal Computing segment includes Windows, Search Advertising, Devices, and Gaming. It is centered around Microsoft’s flagship product, Windows and its various licensing models, hardware like Surface and HoloLens, gaming through Xbox, and digital advertising via Bing and Microsoft News. Most recently, Microsoft acquired Activision Blizzard and its impact is reported through this segment starting FY2024. Despite the negative growth of this segment in 2023, we predict high growth over the next couple of years and a 5.78% CAGR.

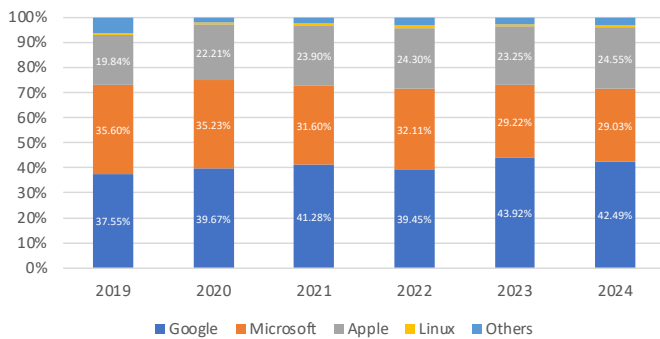
More Personal Computing Revenue Projections (\$M)



Source: MSFT 10-K, HF estimates

Windows (10.1% of revenue) has been a pioneer in desktop operating systems and has a market share of 70% in this segment specifically. The operating system industry comprises of desktop OS, mobile OS, and server OS. The desktop OS segment is witnessing decreasing growth due to the massive shift from desktops to smartphones as the access point to the internet. Since Microsoft does not compete in the mobile OS segment, Microsoft is losing overall market share in the industry. Not entering the mobile OS competition early on is one Microsoft’s biggest regret and is the reason they are losing market share to Apple and Android (Google) in the overall operating system industry as shown below.

Operating System Market Share Worldwide

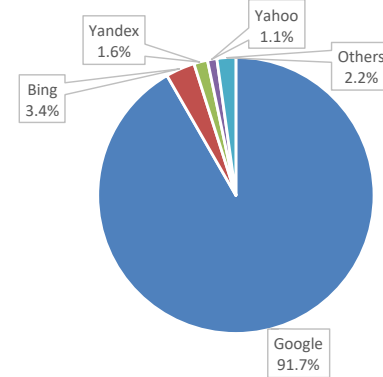


Source: StatCounter

Search advertising (5.8% of revenue) and devices (2.6% of revenue) are not expected to drive high growth due to the maturity of these spaces. Despite integrating ChatGPT, Microsoft Bing’s market share saw only a modest increase to 3.4% by the end of 2023, up less than one percentage point. Although the integration didn’t dramatically shift the competitive landscape dominated by Google, it did

increase user engagement as monthly active users more than doubled to 3.1 million, and time spent on the platform increased by 84%. By year’s end, active users had grown to 4.4 million, reflecting improved platform engagement following the addition of AI features like DALL-E 3.

Global Search Engine Market Share 2023



Source: StatCounter and Bloomberg

Regarding the gaming segment (7.3% of revenue), we predict this segment to grow 34.4% next fiscal year due to the closing of the recent acquisition of Activision Blizzard which positions Microsoft to see exponential growth in the gaming industry. The acquisition has the potential to transform its gaming business by expanding its game library, entering new gaming markets, enhancing its subscription services, and solidifying Microsoft’s position in the competitive gaming industry. This move makes Microsoft the third-largest gaming company, behind Tencent and Sony by increasing market share in the industry from 22.6% to 31.4%. Therefore, we expect gaming to be the primary driver growing of revenue growth in this segment with a CAGR of 16.75% over our forecast horizon.

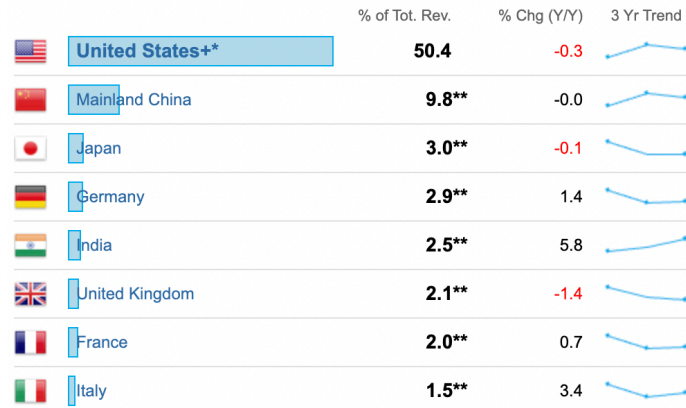
## Geographic Business Segments

The geographic division of Microsoft is split into United States and all other international countries, with both contributing approximately an equal 50% split of the total revenue.<sup>4</sup> We expect other countries to see more growth than the U.S. in the coming years, with India being the main driver. Microsoft CEO Satya Nadella sees the potential of India’s overall economic growth and specifically its AI industry and has invested in training 2 million people with AI skills on his recent visit in February 2024. While China has been the highest contributor to the revenue by international countries, we expect to see

negative growth due to the increasing trade tensions between U.S. and China. We forecast developed economies like U.S, Japan, United Kingdom, and France to see stagnant growth.

**Revenue Exposure By Country/Region**

Total LTM Revenue \$227.6B



Source: FactSet

**Debt Maturity Analysis**

As of fiscal year 2023, Microsoft has \$55.5 billion in total debt including long-term debt and the current portion.<sup>2</sup> We believe that Microsoft will not have a problem in regards to debt as it has \$102.65 billion in operating cash flow and a current ratio of 1.77.<sup>6</sup> Additionally, Microsoft is one of two AAA-rated companies in the U.S. which is the highest rating a company can receive and even beats the debt rating of the U.S. government according to Standard and Poor's.<sup>5</sup> Additionally, Microsoft's operating cash flow for the most recent fiscal year totalled \$87.5 million, demonstrating the company's strong capability to manage and service its debt.

**Five-Year Debt Maturity Schedule**

Fiscal Year	Payment (\$M)
2024	5,250
2025	2,250
2026	3,000
2027	8,000
2028	0
Thereafter	34,366
<b>Total</b>	<b>52,866</b>

Source: MSFT 10-K

**RECENT DEVELOPMENTS**

**COVID-19 Impact**

The pandemic accelerated the adoption of remote working, which increased reliance on robust and secure operating systems and cloud platforms. Consequently, key players in the software industry like Microsoft saw an uptick in demand as businesses and individuals upgraded their systems for better remote work capabilities. As companies continue to rely on hybrid work and collaboration among global offices, there is an increased emphasis on security, cloud integration, and cross-platform functionality. Additionally, the gaming industry also showcased substantial growth due to increased number of hours that people spent at home. Microsoft's acquisition and increasing share in the gaming industry has led to gaming being its second fastest growing segment after cloud. The company's growth during the pandemic is a key strength and showcases its resilience during economic downturns.

**FY 2024 Earnings Announcement**

Microsoft reported Q1 and Q2 earnings for FY2024 on October 24, 2023, and January 20, 2024, respectively. In Microsoft's Q1 FY2024, earnings exceeded analyst forecasts driven by strong performance in their cloud segment. Net income surged to \$22.3 billion, a 27% increase from the previous year, with a 13% rise in revenue to \$56.5 billion. Azure's growth was a standout at 29%, surpassing expectations. The company's swift adoption of AI as well as acquisition of Activision Blizzard contributed to its optimistic outlook and share price increase in after-hours trading. Microsoft's Q2 FY 2024 earnings also surpassed analyst expectations, with a net income of \$21.9 billion and earnings per share at \$2.93 exceeding the consensus estimates of \$20.6 billion and \$2.77, respectively. The revenue was \$62 billion, marking an approximate 18% increase from the previous year, outperforming the anticipated \$61 billion. The climb was attributed notably to the 20% growth in their intelligent cloud business.

Guidance for Productivity and Business Processes suggests revenue of \$19.3 billion, driven mainly by Office 365, with a projected 15% growth. For the Intelligent Cloud segment, revenue is expected to be \$26 billion, with an 18% increase primarily due to Azure, supported by strong AI contributions. More Personal Computing is projected to

generate \$14.7 billion in revenue, with 11% growth. Windows OEM revenue should remain flat, while commercial products and cloud services are set for mid-teens growth. Gaming is expected to grow in the low forties, heavily influenced by the Activision acquisition. Our revenue estimates for FY2024 are based on consensus estimates and follows the guidance provided by Microsoft.

## Investment in OpenAI

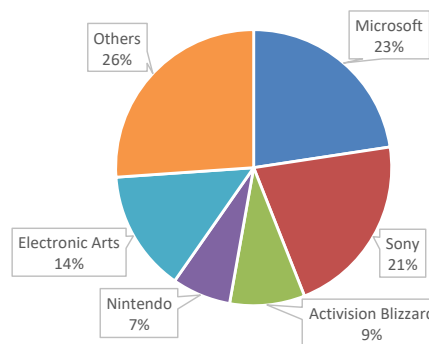
In 2019, Microsoft invested \$1 billion in OpenAI, an AI research and deployment company known for creating the AI language model ChatGPT. Upon the launch of ChatGPT in November 2022 and seeing its tremendous potential, Microsoft announced that it will be investing \$10 billion in OpenAI. As per the deal, Microsoft gets a 75% share of OpenAI's profits until it makes back the money on its investment, after which the company would assume a 49% stake. In November, Microsoft launched its Copilot portfolio, a series of AI assistants powered by GPT-4, whose subscriptions could add \$9.1 billion in sales by fiscal year 2026<sup>6</sup>. Microsoft's strategic investment in OpenAI is expected to significantly boost its Azure Cloud growth by leveraging new AI innovations. This partnership will attract new customers through products like Copilot 365 and Bing AI, and enhance current services such as GitHub Copilot, driving demand among engineers. Additionally, Bing's enhanced AI capabilities could substantially increase its search advertising revenue. No other competitors share a stake in OpenAI, choosing instead to collaborate with different generative AI firms or develop their own technologies to enter the competitive arena. For instance, Amazon has made investments in Anthropic, while Apple and Google are expected to partner up to bring AI to iPhones. This investment in OpenAI could be regarded as one of the most significant technological investments of the past decade.

## Activision-Blizzard Acquisition

In January 2022, Microsoft announced its biggest acquisition ever of video game publisher Activision Blizzard for \$69 billion in an all-cash deal. After a large amount of regulatory scrutiny, the largest deal in the gaming industry finally closed in October 2023. This move makes Microsoft the third-largest gaming company, behind Tencent and Sony by adding a large portfolio of popular games such as Warcraft, Diablo, Overwatch, Call of Duty, and Candy Crush. This integration also leads to enhanced cross-platform play capabilities and more

exclusive content for Xbox and PC players. With a leading market share in the Video Game Software industry of 22.6%, Microsoft will dominate the industry after its acquisition of Activision Blizzard that has 8.8%. Activision Blizzard's mobile gaming segment, led by King (the maker of Candy Crush), provides Microsoft with a substantial foothold in the mobile gaming market, an area where it previously had limited presence. Positive results can already be seen in Q1 and Q2 FY 2024 earnings reports where Xbox content and services revenue increased 61% driven by 55 points of net impact from the Activision acquisition.

Video Game Software Publishing Market 2023



Source: IBISWorld

## INDUSTRY TRENDS

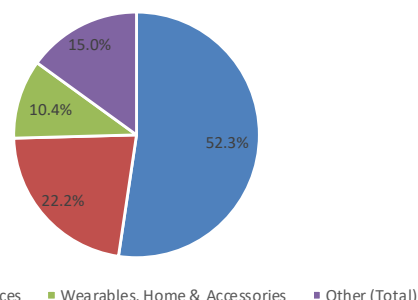
### Growth of AI

The AI and generative AI sector is on a sharp upward trajectory, signaling a transformative era, especially for tech giants like Microsoft. The rapid expansion of generative AI, from content and code generation to predictive modeling, is the reason it is predicted to reach \$350 billion dollars by 2030 as shown. This surge is backed by a wave of innovation, investment, and venture capital, especially in startups focusing on AI technologies. McKinsey reported that tasks such as documenting code, writing new code, and optimizing existing code can be completed significantly faster, by up to 50% in some cases, with the help of generative AI tools.

As AI's applications broaden, the demand for Microsoft's cloud services is expected to rise, reinforcing Azure's position in the market. Moreover, Microsoft's integration of AI across its product suite enhances user experiences and engagement, from Office 365 to GitHub with AI-driven

features. Predictively, we anticipate these developments will lead to significant advantages for Microsoft. Firstly, Azure's growth is likely to accelerate as AI and generative AI demand more robust cloud computing resources. Secondly, Microsoft's products will become increasingly intelligent and user-friendly, boosting user satisfaction and loyalty. Additionally, Microsoft's investments in AI and strategic acquisitions position it perfectly to capture the growth that is expected to be seen by the industry.

Apple Revenue Breakdown FY2023 (\$383.3 B)

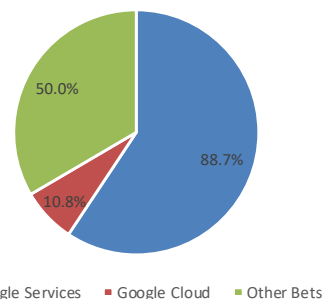


Source: FactSet

### Alphabet Inc. (GOOGL)

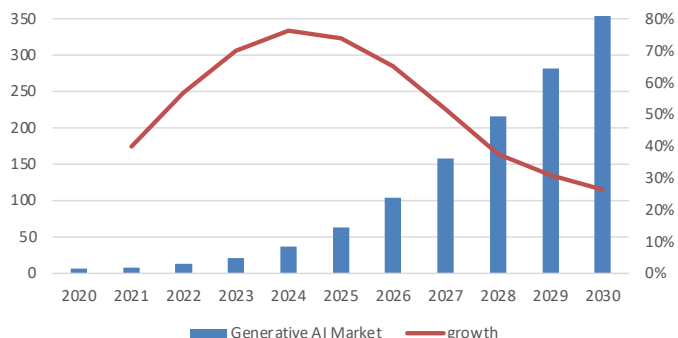
Google competes with Microsoft on several fronts: cloud computing with Google Cloud Platform (GCP), productivity software with Google Workspace versus Microsoft 365, and online advertising with Google Ads versus Microsoft's Bing Ads. GCP has been rapidly gaining market share, although it's still behind AWS and Azure. Google's advertising business remains its most significant revenue source, dominating the online search ad market. In the productivity software space, Google Workspace offers cloud-native alternatives to Microsoft's established Office suite. Google's comprehensive AI research and deep investment in areas like quantum computing signal its commitment to staying at the forefront of technological innovation.

Google Revenue Breakdown FY2023 (\$307.1 B)



Source: FactSet

Generative AI Market Growth Projections (\$B)



Source: Statista

## MARKETS AND COMPETITION

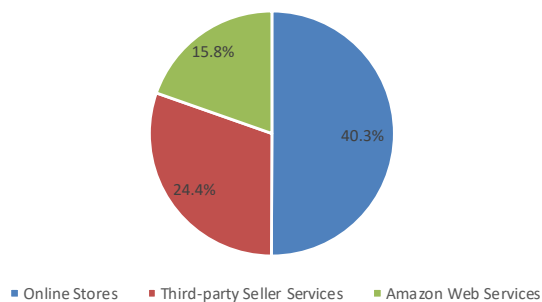
### Apple Inc. (AAPL)

Apple's competition with Microsoft is most evident in the personal computing and mobile device industries. With its suite of hardware products, including Mac computers, iPads, and iPhones, Apple has carved out substantial market share in the consumer electronics segment, touting high customer loyalty and a tightly integrated ecosystem. In contrast, Microsoft's personal computing business heavily relies on its Windows operating system and Surface devices. Apple's revenue primarily comes from its hardware sales, while services like iCloud, Apple Music, and the App Store represent a growing segment. Although Microsoft leads in software, Apple's profitability and market share in personal computing and mobile devices remain strong. Competing with Microsoft to be the largest company in the world by market capitalization, Apple is the most direct competitor to Microsoft.

## Amazon.com, Inc (AMZN)

Amazon, primarily through Amazon Web Services (AWS), is a powerhouse in the cloud infrastructure market. As the early mover in cloud services, AWS has secured a significant portion of the market share, historically overshadowing Microsoft's Azure in terms of revenue and breadth of services. Amazon's wide-ranging services include leading solutions in IaaS and PaaS, and it has been pivotal in its contribution to Amazon's overall revenue, often outpacing the growth of its retail segment. AWS' innovation and expansion into new territories and services suggest that it will remain a key player, even as Microsoft's Azure continues to grow and gain more market share, especially with significant adoption among enterprises due to Microsoft's longstanding customer relations and integration with its software offerings.

Amazon Revenue Breakdown FY2023  
(\$574.7 B)

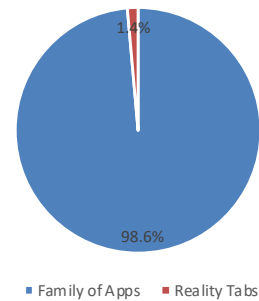


Source: FactSet

## Meta Platforms, Inc (Meta)

Meta's competition with Microsoft is most pronounced in the digital advertising and social networking realms. With a vast user base on Facebook, Instagram, WhatsApp, and Messenger, Meta has a dominant presence in social media, providing it with a considerable share of the digital advertising market. Microsoft's LinkedIn is a leader in professional networking, but it doesn't directly compete with Meta's broad social media platforms. Meta's revenue is predominantly generated through advertising. Both companies are also investing in the future of VR and AR; Meta with its Oculus VR platform and Microsoft with its enterprise-focused HoloLens, with each aiming to define the metaverse space.

Meta Revenue Breakdown FY2023  
(\$134.9 B)



Source: FactSet

## Profitability and Ratio Analysis

In comparison to its peers, while Microsoft's market cap is the largest, it's not the highest in revenue generation. Its P/E ratio is elevated, suggesting expectations for future earnings growth are higher than peers such as Alphabet and Meta. Additionally, Microsoft's ROE is strong, demonstrating effective profitability management, but not as extraordinary as Apple's exceptionally high ROE, which could be attributed to Apple's unique ability to monetize its asset base. Amazon has the highest revenue, indicating a significant scale of operations, yet its P/E ratio is also the highest, which often points to a growth-oriented market expectation, although its lower ROE could indicate less efficiency in generating profits from shareholder equity. Overall, Microsoft is strong when compared to its peers in terms of profitability measures.

Company	Market Cap	Revenue	P/E	ROE
Microsoft	3,066	227.9	37.3	38.8%
Apple	2,920	384.1	29.5	172.0%
Alphabet	1,815	307.4	24.4	27.4%
Amazon	1,821	574.8	52.4	17.5%
Meta	1,290	134.9	23.8	28.0%

Source: FactSet

## Operational Efficiency Analysis

Microsoft also shows a strong operational efficiency with the highest operating margin of 41.8% and net margin of 34.2% compared to its peers, which might reflect better cost management and profitability from its operations. However, Microsoft's R&D investment as a percentage of sales is lower than Apple and Meta, potentially suggesting



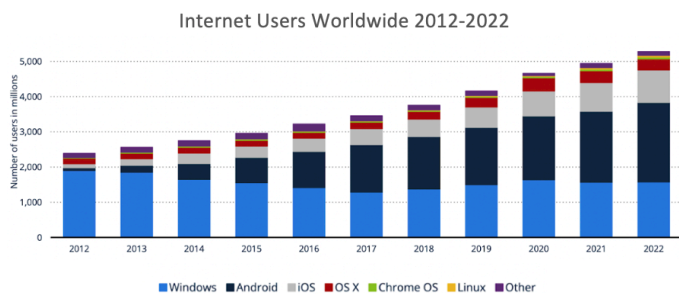
a more conservative approach to research or more efficient R&D spending. Lastly, Microsoft's capital expenditures relative to sales are balanced, higher than Apple's, which may reflect Microsoft's aggressive investment in scaling its operations and infrastructure compared to Apple's more streamlined capital spending.

Company	Oper. Margin	Net Margin	R&D % Sales	CapEx to Sales
Microsoft	41.8%	34.2%	12.8%	13.3%
Apple	29.8%	25.3%	25.3%	2.9%
Alphabet	27.4%	24.0%	14.5%	10.5%
Amazon	6.5%	5.3%	14.9%	9.2%
Meta	37.2%	29.0%	27.1%	20.2%

Source: FactSet

## Population of Internet Users

Over the last decade, the total number of internet users has increased significantly. The pandemic has also increased the dependence on the internet to get work done. Windows shows a gradual decline as a proportion of total users due to its lack of presence in the mobile OS segment. Android's growth is prominent, mirroring the global adoption of smartphones and tablets, which have become primary access points for internet usage. iOS also has seen incremental growth, suggesting steady sales of Apple's mobile devices. While Windows is likely to remain significant in the desktop and laptop markets, its share of total users will continue to face pressure from mobile operating systems as mobile devices become increasingly central to internet access.

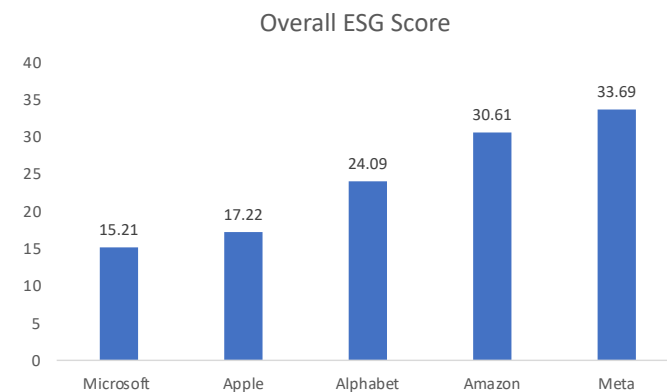


Source: Statista

## ESG Analysis

In Environmental, Social, and Governance (ESG) scoring, a lower score suggests a company is perceived as a lower risk and potentially better positioned regarding ESG practices. Microsoft appears to lead among its peers with the lowest score of 15.21, showcasing strong

commitments across various sustainability and governance metrics. Their dedication to environmental goals is underscored by ambitious objectives like achieving carbon neutrality and becoming water positive by 2030. Microsoft's initiatives in renewable energy and efforts to reduce their carbon footprint signal a serious approach to addressing climate change. In the realm of social responsibility, Microsoft's endeavors in promoting diversity and inclusion, coupled with their active engagement in philanthropy, reflect their commitment to positive social impact. These include contributions to nonprofits and efforts to bridge the digital divide through connectivity and skills initiatives. On governance, Microsoft is focused on maintaining high standards of corporate ethics, transparency, and accountability. Their governance practices include robust anti-corruption policies and a strong stance on data privacy and security. These comprehensive ESG efforts are complemented by Microsoft's role in partnerships aimed at promoting sustainability across industries.



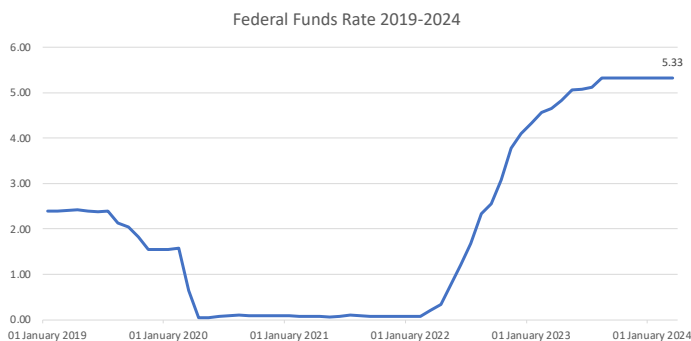
Source: Bloomberg

## ECONOMIC OUTLOOK

The software industry remains robust despite facing macroeconomic headwinds such as fluctuating GDP, rising interest rates, and shifts in overall economic health. The resilience of these tech giants is buoyed by the inelastic demand, which are critical for both personal and professional use across devices and platforms. These companies, Microsoft included, have benefited from a pivot toward cloud computing and subscription-based services, creating recurring revenue streams that help to mitigate the impact of economic downturns.

## Interest Rates

As of March 2024, the Federal Reserve has maintained the federal funds rate at 5.25%-5.50% for the fifth meeting in a row despite economists predicting rate cuts early in 2024. Interest rates typically result in increased borrowing costs, which can lead to reduced spending on IT infrastructure and software upgrades, potentially slowing down the growth of the software industry. The US Treasury yield curve's relatively flat to downward slope for longer maturities suggests that investors may be expecting slower economic growth or potentially lower interest rates in the future. Looking ahead, we might expect a cautious lowering of rates as inflationary pressures ease, aiming to balance economic growth with financial stability. For Microsoft, such a future reduction in rates could mean lower borrowing costs and potentially more robust investment in R&D. It could also signal an economic environment conducive to business expansion and increased consumer spending on technology, potentially benefiting Microsoft's diverse range of products and services. While we predict two rate cuts this year, the FED could keep interest rates high, which would raise the WACC, making capital expenditures and mergers and acquisitions more expensive and potentially slowing down these activities.

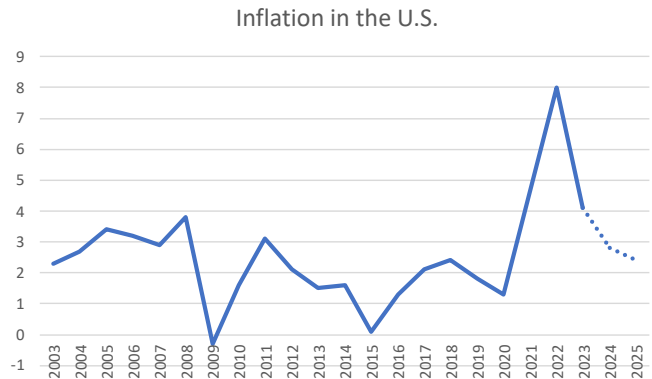


Source: Board of Governors of the Federal Reserve System

## Inflation

Despite the recent uptick in inflation over the last year, the Federal Reserve officials project that the measure of underlying inflation could end at 2.4% by the end of 2024, suggesting that inflationary pressures are expected to ease over the coming years as shown in the projected data from IMF. For Microsoft, a stable or decreasing inflation rate can lead to a predictable business environment, potentially lower borrowing costs, and more confident consumer and

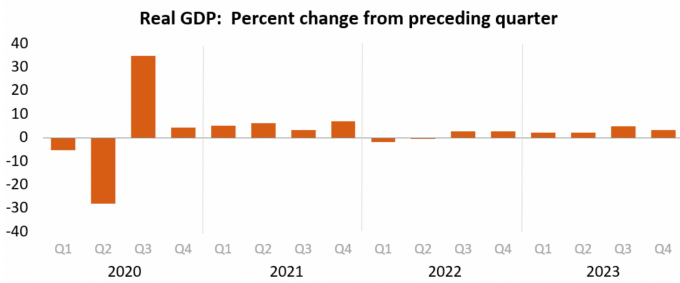
enterprise spending. This could result in steadier demand for Microsoft's array of products and services. However, it's essential to note that global tech companies like Microsoft operate in multiple markets and currencies, which can complicate the direct impact of U.S. inflation on its overall performance.



Source: International Monetary Fund

## Real GDP

The Q4 GDP for 2023 in the US showed an expansion at an annualized rate of 3.3%, which was higher than the forecasted rate of 2%. This performance, which follows a 4.9% growth rate in Q3, signals continued economic resilience despite challenges such as rising interest rates aimed at curbing inflation. The advance estimate reflects contributions from consumer spending and exports, with the overall growth rate for the year from Q4 2022 to Q4 2023 being reported at 3.1%. This growth surpasses economists' estimates and suggests that the economy is maintaining momentum, possibly easing concerns of a recession. Such economic conditions can lead to increased business and consumer spending, potentially boosting demand for Microsoft's products and services. A robust GDP growth could also support Microsoft's investment in new technologies and markets. We expect that this positive economic trend continues and might help mitigate risks associated with rising interest rates and contribute to steady growth for Microsoft in a competitive tech landscape. While we do not forecast a recession in 2024, we project that the pace of consumer spending will diminish, contributing to a deceleration of overall GDP growth to be around 1% during the second and third quarters of the year.



Source: U.S. Bureau of Economic Analysis

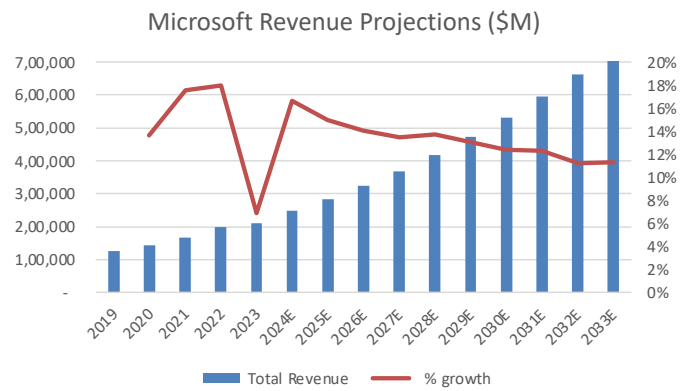
## Corporate IT Spending Budget

Global IT spending is predicted to increase by 8% to \$5.1 trillion over the next year. The higher expenditure will be driven by demand for software and IT services such as AI, cloud, and security, which collectively will grab 69% of overall tech spend by 2027. The most significant growth is expected in the software and IT services sectors, particularly with a 20.4% rise in public cloud services, propelled by increased vendor prices and usage. Cybersecurity spending is also set to climb sharply, with 80% of CIOs planning to increase their investments in response to new AI-related security challenges.<sup>21</sup> Increased spending on generative AI, cloud computing, and cybersecurity will positively impact Microsoft, boosting revenue and profitability.

## VALUATION

### Revenue Growth

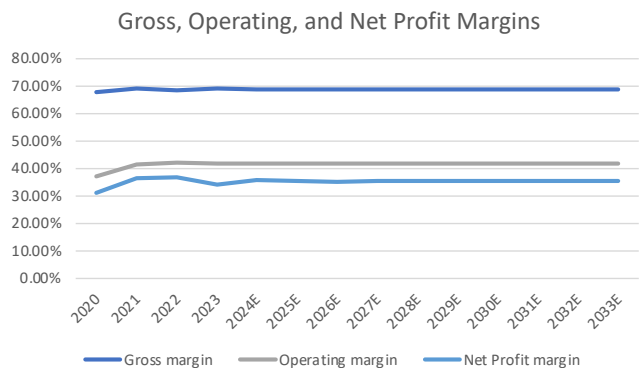
Based on the growth of Microsoft's three segments, our forecast for CAGR of total revenue for the next ten years is 12.94%. We used consensus estimates from Bloomberg for FY2024 and FY2025 along with guidance from Microsoft's earnings. The main driver for this growth is the sub-segment Server Products and Cloud Services which includes Azure. While there was a dip in FY2023 revenue growth mainly due to the Devices segment, we predict that growth will jump back to double digits in FY2024, mainly driven by Azure and the acquisition of Activision Blizzard.



Source: MSFT 10-K, HF estimates

## Cost Structure Analysis

Microsoft has maintained an average gross margin of 68.75%, operating margin of 41.88%, and net profit margin of 35.76% over the last five years.<sup>2</sup> Due to the already high scale and heavy infrastructure in place, we predict these margins to be similar to historic averages over our forecasting horizon. Compared to its peers, Microsoft is able to maintain strong margins and has been consistent with its portion of spending on various operating costs even with expansions across geographies and segments. Historically, Microsoft has spent 12.51% of its revenue on research and development, 10.74% on sales and marketing, and 3.2% on general and administrative. We predict that these would remain approximately close to that average for our forecast horizon. We assume capital expenditure by Microsoft will grow by the inflation rate which is assumed to be an average of 2% over the next ten years.



Source: MSFT 10-K, HF estimates

## WACC Assumptions

We calculated the Weighted Average Cost of Capital (WACC) for Microsoft to be 9.78%. This is above the consensus estimate of 9.50% according to FactSet. To estimate the cost of equity, we used CAPM and the following assumptions:

**Risk-free rate:** The risk-free rate is 4.30%, the 10-year US Treasury bond yield as of March 1, 2024.<sup>7</sup>

**Beta:** For beta, we used 1.12, the average of the 2, 3, 4, and 5-year weekly beta.<sup>5</sup>

**Equity risk premium:** The Henry Fund consensus estimate for the equity risk premium is 5.00%.

**Pre-tax cost of debt:** In terms of debt, we assumed a pre-tax cost of debt of 4.80%, the yield to maturity of Microsoft's 10-year corporate bond.<sup>5</sup>

**Tax rate:** The marginal tax rate used throughout the model is 19.56%, the average marginal tax that Microsoft's financial statements use for 2019-2023.<sup>2</sup>

Finally, we used the book value of the debt as a proxy for the market value of debt in our calculations.

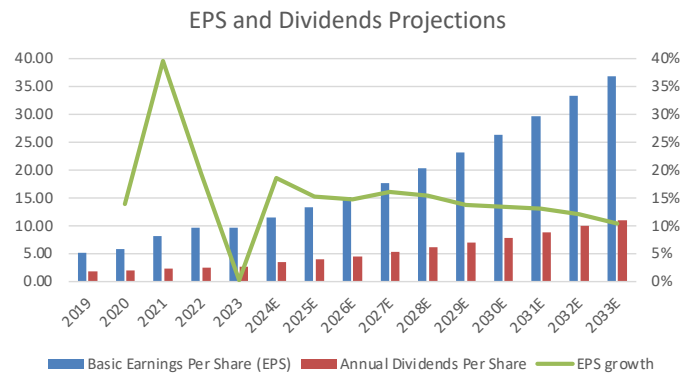
## DCF / Economic Profit (EP)

The Discounted Cash Flow (DCF) and Economic Profit (EP) models estimated a share price of \$455.39, representing a 11.5% upside from the current stock price. The consensus price target is \$456.32 which represents a 11.7% premium. We use this model to make our recommendation as we believe that it best represents Microsoft's value by incorporating specific growth rates for each revenue segment. We assumed a CV growth of NOPLAT of 5.00%.

## Dividend Discount Model (DDM)

The Dividend Discount Model (DDM) estimated a target price of \$363.99, representing a 10.9% discount from the current price. We believe that this model only provides a baseline for the stock price and does not accurately represent the value of Microsoft due to the high cost of equity used to discount future dividends and the low EPS growth rate in the terminal year. We are forecasting EPS to grow by 18.5%, almost the same as consensus. Microsoft has a dividend yield of 0.73%. We assume the

dividend payout ratio to be the average of the last five years which is 29.73%.



Source: MSFT 10-K, HF estimates

## Relative Valuation

We considered P/E and PEG for our relative valuation models. Our relative P/E valuation model yielded a price of 384.12, representing a 6.0% downside whereas our PEG valuation model estimated a price of 511.84, which is a 25.3% upside from the current price. Our model took into account the following peers: Apple, Alphabet, Meta, Amazon, IBM, and Oracle. Each peer competes with Microsoft in specific segments - Apple in personal computing and entertainment, Alphabet in advertising and cloud services, Meta in social media and VR, Amazon in cloud computing and retail, IBM in enterprise services, and Oracle in enterprise software. A limitation of these models is that since Microsoft has diversified revenue streams, it competes with different companies in various segments and it is hard to compare it to all competitors since each specialises in different segments.

## Sensitivity Analysis

Our target price for Microsoft is sensitive to the various assumptions that we have made. Regarding WACC, we calculate 9.78%. However, if we lean more towards the consensus estimate on Factset, we see that the target price range for Microsoft would increase to \$488, making Microsoft an even stronger buy due to higher upside. Additionally, we assume a CV growth of NOPLAT to be 5%. Changing that assumption by 2 percentage points up and down would change our target price significantly as shown in the table below.

		CV growth of NOPLAT						
		4.25%	4.50%	4.75%	5.00%	5.25%	5.50%	5.75%
WACC	9.48%	437.58	452.89	469.82	488.64	509.69	533.38	560.24
	9.58%	428.59	443.19	459.30	477.18	497.11	519.49	544.79
	9.68%	419.95	433.88	449.22	466.21	485.11	506.27	530.12
	9.78%	411.37	424.66	439.26	455.39	473.31	493.31	515.79
	9.88%	403.59	416.30	430.25	445.63	462.68	481.66	502.95
	9.98%	395.85	408.00	421.32	435.98	452.18	470.19	490.33
	10.08%	388.38	400.01	412.73	426.70	442.12	459.23	478.31

Source: HF estimates

## KEY MONITORS

In assessing Microsoft's potential for future growth, we have to focus on several evolving aspects of the company's operations. Key among these is Microsoft's foray into generative AI technology. The successful deployment and integration of AI capabilities into Microsoft's suite of products and services are vital, with the company's future performance heavily tied to this innovative leap. Microsoft plays a critical role within sectors such as cloud computing, cyber security, and software development. The tech giant's ability to innovate and capture increasing demand in these areas will be essential to its continued success. Equally critical to monitor is the progress and assimilation of the Activision Blizzard assets into the Microsoft ecosystem. The leverage of an expansive portfolio could significantly bolster Microsoft's position in the entertainment and interactive media space. Lastly, broader economic indicators and regulatory landscapes remain important factors of interest. A potential downturn may lead to tightened corporate and consumer budgets, impacting spending on technological upgrades and services. However, we do not expect that to be a major risk due to the resilience of Microsoft showcased in the past couple of decades.

## Summary

Overall, we use the DCF model to conclude our target price range as Microsoft is a company with many revenue streams and the only model which takes into account the different growth rates of each segment is the DCF model. We recommend a BUY rating with a target price range of \$440-460, showcasing an upside of approximately 10% from the current price. We believe that Microsoft, the most valuable company in the world currently, will deliver strong and stable returns due to its increasing presence across growing sectors globally.

## REFERENCES

1. [StatCounter](#)
2. [Microsoft 10-K](#)
3. [Microsoft Press Releases](#)
4. [FactSet](#)
5. [Bloomberg Intelligence](#)
6. [Yahoo Finance](#)
7. [U.S. Department of Treasury](#)
8. [Research and Markets](#)
9. [Microsoft News Center](#)
10. [CNBC](#)
11. [Bureau of Economic Analysis](#)
12. [International Monetary Fund](#)
13. [Ericsson](#)
14. [Statista](#)
15. [PitchBook](#)
16. [IBIS World](#)
17. [NetAdvantage](#)
18. [U.S. Department of Treasury](#)
19. [International Monetary Fund](#)
20. [International Data Corporation](#)
21. [Splunk](#)

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Microsoft Corporation (MSFT)

Sensitivity Tables

		Beta							
		455.39	1.06	1.08	1.10	1.12	1.14	1.16	1.18
COGS % of Sales	12.55%	557.31	544.91	533.04	521.66	510.74	500.25	490.18	
	16.55%	533.77	521.88	510.48	499.57	489.09	479.03	469.36	
	20.55%	510.24	498.84	487.93	477.47	467.44	457.81	448.55	
	24.55%	486.71	475.82	465.39	455.39	445.80	436.59	427.74	
	28.55%	463.16	452.78	442.83	433.29	424.14	415.36	406.92	
	32.55%	439.63	429.74	420.28	411.20	402.49	394.14	386.10	
	36.55%	416.09	406.71	397.72	389.11	380.85	372.91	365.29	

		Risk Free Rate							
		455.39	4.00%	4.10%	4.20%	4.30%	4.40%	4.50%	4.60%
ROI	4.20%	487.07	476.17	465.73	455.72	446.12	436.89	428.03	
	4.30%	486.96	476.06	465.62	455.61	446.01	436.79	427.93	
	4.40%	486.85	475.95	465.51	455.50	445.90	436.68	427.82	
	4.50%	486.73	475.84	465.40	455.39	445.79	436.58	427.72	
	4.60%	486.62	475.72	465.29	455.28	445.68	436.47	427.61	
	4.70%	486.50	475.61	465.17	455.17	445.57	436.36	427.50	
	4.80%	486.39	475.49	465.06	455.06	445.46	436.25	427.40	

		Risk Premium							
		455.39	3.50%	4.00%	4.50%	5.00%	5.50%	6.00%	6.50%
Marginal Tax Rate	16.56%	733.32	620.17	536.52	472.22	421.29	379.97	345.81	
	17.56%	724.64	612.81	530.15	466.61	416.28	375.46	341.71	
	18.56%	715.96	605.46	523.78	461.00	411.28	370.95	337.60	
	19.56%	707.27	598.09	517.41	455.39	406.27	366.44	333.50	
	20.56%	698.57	590.73	511.03	449.78	401.27	361.92	329.39	
	21.56%	689.87	583.36	504.65	444.16	396.26	357.40	325.28	
	22.56%	681.17	575.99	498.27	438.54	391.24	352.89	321.17	

		CV growth of NOPLAT							
		455.39	4.25%	4.50%	4.75%	5.00%	5.25%	5.50%	5.75%
WACC	9.48%	437.58	452.89	469.82	488.64	509.69	533.38	560.24	
	9.58%	428.59	443.19	459.30	477.18	497.11	519.49	544.79	
	9.68%	419.95	433.88	449.22	466.21	485.11	506.27	530.12	
	9.78%	411.37	424.66	439.26	455.39	473.31	493.31	515.79	
	9.88%	403.59	416.30	430.25	445.63	462.68	481.66	502.95	
	9.98%	395.85	408.00	421.32	435.98	452.18	470.19	490.33	
	10.08%	388.38	400.01	412.73	426.70	442.12	459.23	478.31	

		Cost of debt							
		455.39	4.50%	4.60%	4.70%	4.80%	4.90%	5.00%	5.10%
Normal Cash Est. % of c	7.00%	456.83	456.70	456.58	456.45	456.32	456.20	456.07	
	8.00%	456.48	456.35	456.22	456.10	455.97	455.84	455.72	
	9.00%	456.13	456.00	455.87	455.75	455.62	455.49	455.37	
	10.00%	455.77	455.65	455.52	455.39	455.27	455.14	455.01	
	11.00%	455.42	455.29	455.17	455.04	454.91	454.79	454.66	
	12.00%	455.07	454.94	454.81	454.69	454.56	454.43	454.31	
	13.00%	454.72	454.59	454.46	454.33	454.21	454.08	453.95	

		Cost of equity							
		455.39	6.90%	7.90%	8.90%	9.90%	10.90%	11.90%	12.90%
R&D % of Sales	9.51%	478.22	481.23	484.23	487.22	490.21	493.18	496.14	
	10.51%	467.79	470.74	473.67	476.60	479.52	482.43	485.33	
	11.51%	457.37	460.25	463.12	465.98	468.83	471.68	474.51	
	12.51%	446.98	449.79	452.60	455.39	458.18	460.96	463.73	
	13.51%	436.52	439.27	442.01	444.74	447.46	450.17	452.88	
	14.51%	426.09	428.78	431.45	434.12	436.77	439.42	442.07	
	16.51%	405.24	407.79	410.34	412.87	415.40	417.92	420.43	



Microsoft Corporation (MSFT)

Income Statement

<b>Fiscal Years Ending June 30</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>	<b>2028E</b>	<b>2029E</b>	<b>2030E</b>	<b>2031E</b>	<b>2032E</b>	<b>2033E</b>
Total revenue	168088	198270	211915	247206	284238	324276	370007	422494	477707	536931	603335	671070	737419
Total cost of revenue (excl. D&A)	40546	48190	52002	60685	71137	81937	92309	105965	119899	134461	151281	168249	184818
Depreciation	9300	12600	11000	14141	16289	18204	19923	21475	22888	24184	25382	26498	27547
Amortization	2386	1860	2861	2363	1881	1381	929	652	653	654	655	198	0
<b>Gross margin</b>	<b>115856</b>	<b>135620</b>	<b>146052</b>	<b>170017</b>	<b>194931</b>	<b>222754</b>	<b>256847</b>	<b>294402</b>	<b>334267</b>	<b>377632</b>	<b>426017</b>	<b>476125</b>	<b>525054</b>
Research & development	20716	24512	27195	30918	35549	40557	46276	52841	59746	67153	75458	83929	92228
Sales & marketing	20117	21825	22759	26549	30526	34826	39738	45375	51304	57665	64796	72071	79196
General & administrative	5107	5900	7575	7901	9085	10364	11826	13504	15268	17161	19284	21449	23569
<b>Operating income (loss)</b>	<b>69916</b>	<b>83383</b>	<b>88523</b>	<b>104649</b>	<b>119771</b>	<b>137006</b>	<b>159007</b>	<b>182683</b>	<b>207948</b>	<b>235653</b>	<b>266479</b>	<b>298676</b>	<b>330061</b>
Other income (expense), net	1186	333	788	1555	2074	2399	2507	3227	3227	3549	3865	4178	4490
<b>Income (loss) before income taxes</b>	<b>71102</b>	<b>83716</b>	<b>89311</b>	<b>106204</b>	<b>121845</b>	<b>139406</b>	<b>161515</b>	<b>185910</b>	<b>211175</b>	<b>239202</b>	<b>270345</b>	<b>302854</b>	<b>334551</b>
Provision (benefit) for income taxes	9831	10978	16950	20774	23833	27268	31592	36364	41306	46788	52879	59238	65438
<b>Net income (loss)</b>	<b>61271</b>	<b>72738</b>	<b>72361</b>	<b>85431</b>	<b>98012</b>	<b>112138</b>	<b>129922</b>	<b>149546</b>	<b>169869</b>	<b>192414</b>	<b>217465</b>	<b>243616</b>	<b>269113</b>
Basic Earnings Per Share (EPS)	8.12	9.70	9.72	11.52	13.26	15.22	17.67	20.38	23.17	26.27	29.70	33.27	36.74
Total Shares Outstanding (basic)	7519	7464	7432	7403	7379	7360	7345	7334	7326	7322	7321	7323	7327
Weighted Average Shares Outstanding (basic)	7547	7496	7446	7417	7391	7369	7352	7339	7330	7324	7322	7322	7325
Annual Dividends Per Share	2.24	2.48	2.72	3.42	3.94	4.52	5.25	6.06	6.89	7.81	8.83	9.89	10.92



Microsoft Corporation (MSFT)

Balance Sheet

<i>Fiscal Years Ending June 30</i>	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
Cash & cash equivalents	14224	13931	34704	66617	105440	159691	232786	310176	418757	538338	678170	837050	1013367
Short-term investments	116110	90826	76558	80003	83603	87365	91297	95405	99698	104185	108873	113772	118892
Accounts receivable, net	38043	44261	48688	56252	64277	73481	83864	96050	108371	121732	136857	152253	167340
Inventories	2636	3742	2500	3757	4320	4929	5624	6422	7261	8161	9170	10200	11208
Other current assets	13393	16924	21807	22788	23814	24885	26005	27175	28398	29676	31012	32407	33866
<b>Total current assets</b>	<b>184406</b>	<b>169684</b>	<b>184257</b>	<b>229417</b>	<b>281455</b>	<b>350352</b>	<b>439576</b>	<b>535228</b>	<b>662486</b>	<b>802092</b>	<b>964082</b>	<b>1145683</b>	<b>1344674</b>
Total property & equipment, at cost	111066	134058	163892	192561	221804	251631	282055	313087	344740	377027	409958	443549	477811
Accumulated depreciation - property &	51351	59660	68251	82392	98681	116885	136808	158283	181171	205356	230738	257236	284783
Property & equipment, net	59715	74398	95641	110169	123123	134746	145247	154804	163569	171671	179221	186313	193028
Operating lease right-of-use assets	11088	13148	14346	16525	18468	20212	21787	23220	24535	25750	26883	27947	28954
Equity investments	5984	6891	9879	10768	11253	11759	12288	12841	13419	14023	14654	15313	16002
Goodwill	49711	67524	67886	67886	67886	67886	67886	67886	67886	67886	67886	67886	67886
Intangible assets, net	7800	11298	9366	7003	5122	3741	2812	2160	1507	853	198	0	0
Other long-term assets	15075	21897	30601	31978	33417	34921	36492	38134	39850	41644	43518	45476	47522
<b>Total assets</b>	<b>333779</b>	<b>364840</b>	<b>411976</b>	<b>473747</b>	<b>540724</b>	<b>623617</b>	<b>726089</b>	<b>834274</b>	<b>973253</b>	<b>1123919</b>	<b>1296442</b>	<b>1488618</b>	<b>1698066</b>
Accounts payable	15163	19000	18095	21437	24649	28121	32086	36638	41426	46562	52320	58194	63948
Current portion of long-term debt	8072	2749	5247	5250	2250	3000	8000	0	6873	6873	6873	6873	6873
Accrued compensation	10057	10661	11009	13591	15626	17828	20342	23227	26263	29519	33169	36893	40541
Short-term income taxes	2174	4067	4152	5608	6593	7921	8546	10069	11509	13060	14610	16453	18189
Short-term unearned revenue	41525	45538	50901	60728	69825	79661	90896	103789	117353	131902	148215	164854	181153
Other current liabilities	11666	13067	14745	17270	19857	22654	25849	29516	33373	37511	42150	46882	51517
<b>Total current liabilities</b>	<b>88657</b>	<b>95082</b>	<b>104149</b>	<b>123884</b>	<b>138801</b>	<b>159186</b>	<b>185719</b>	<b>203240</b>	<b>236797</b>	<b>265427</b>	<b>297338</b>	<b>330150</b>	<b>362221</b>
Long-term debt	50074	47032	41990	37353	32920	28923	25352	22203	19364	16857	14672	12746	11041
Long-term income taxes	27190	26069	25560	24646	23765	22915	22096	21306	20544	19810	19102	18419	17760
Long-term unearned revenue	2616	2870	2912	5044	5799	6616	7549	8620	9746	10955	12310	13692	15045
Deferred income taxes	198	230	433	490	591	741	934	1103	1314	1564	1844	2147	2488
Operating lease liabilities	9629	11489	12728	14359	16159	17678	19083	20349	21447	22537	23529	24463	25342
Other long-term liabilities	13427	15526	17981	18670	21467	24491	27945	31909	36079	40551	45567	50682	55693
<b>Total liabilities</b>	<b>191791</b>	<b>198298</b>	<b>205753</b>	<b>224446</b>	<b>239502</b>	<b>260550</b>	<b>288678</b>	<b>308729</b>	<b>345292</b>	<b>377700</b>	<b>414360</b>	<b>452298</b>	<b>489590</b>
Common stock & paid-in capital	83111	86939	93718	101730	109742	117754	125765	133777	141789	149801	157813	165825	173836
Retained earnings (accumulated deficit	57055	84281	118848	153915	197823	251657	317989	398111	492515	602761	730611	876838	1040982
Accumulated other comprehensive inc	1822	-4678	-6343	-6343	-6343	-6343	-6343	-6343	-6343	-6343	-6343	-6343	-6343
<b>Total equity</b>	<b>141988</b>	<b>166542</b>	<b>206223</b>	<b>249302</b>	<b>301221</b>	<b>363067</b>	<b>437411</b>	<b>525545</b>	<b>627961</b>	<b>746219</b>	<b>882081</b>	<b>1036320</b>	<b>1208476</b>
<b>Total liabilities and equity</b>	<b>333779</b>	<b>364840</b>	<b>411976</b>	<b>473747</b>	<b>540724</b>	<b>623617</b>	<b>726089</b>	<b>834274</b>	<b>973253</b>	<b>1123919</b>	<b>1296442</b>	<b>1488618</b>	<b>1698066</b>

**Microsoft Corporation (MSFT)**

*Historical Cash Flow Statement*

<b>Fiscal Years Ending June 30</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Net income (loss)</b>	<b>39240</b>	<b>44281</b>	<b>61271</b>	<b>72738</b>	<b>72361</b>
Depreciation, amortization, & other adjustments	11682	12796	11686	14460	13861
Stock-based compensation expense	4652	5289	6118	7502	9611
Net recognized losses (gains) on investments & other assets	-792	-219	-1249	-409	196
Deferred income taxes	-6463	11	-150	-5702	-6059
Accounts receivable	-2812	-2577	-6481	-6834	-4087
Inventories	597	168	-737	-1123	1242
Other current assets	-1718	-2330	-932	-709	-1991
Other long-term assets	-1834	-1037	-3459	-2805	-2833
Accounts payable	232	3018	2798	2943	-2721
Unearned revenue	4462	2212	4633	5109	5535
Income taxes	2929	-3631	-2309	696	-358
Other current liabilities	1419	1346	4149	2344	2272
Other long-term liabilities	591	1348	1402	825	553
<b>Net cash flows from operating activities</b>	<b>52185</b>	<b>60675</b>	<b>76740</b>	<b>89035</b>	<b>87582</b>
Repayments of debt	-4000	-5518	-3750	-9023	-2750
Common stock issued	1142	1343	1693	1841	1866
Common stock repurchased	-19543	-22968	-27385	-32696	-22245
Common stock cash dividends paid	-13811	-15137	-16521	-18135	-19800
Other financing activities, net	-675	-334	-769	-863	-1006
<b>Net cash flows from financing activities</b>	<b>-36887</b>	<b>-46031</b>	<b>-48486</b>	<b>-58876</b>	<b>-43935</b>
Additions to property & equipment	-13925	-15441	-20622	-23886	-28107
Acquisition of companies, net of cash acquired	-2388	-2521	-8909	-22038	-1670
Purchases of investments	-57697	-77190	-62924	-26456	-37651
Other investing activities, net	-	-1241	-922	-2825	-3116
Maturities of investments	20043	66449	51792	16451	33510
Sales of investments	38194	17721	14008	28443	14354
<b>Net cash flows from investing activities</b>	<b>-15773</b>	<b>-12223</b>	<b>-27577</b>	<b>-30311</b>	<b>-22680</b>
Effect of foreign exchange rates on cash & cash equivalents	-115	-201	-29	-141	-194
Net change in cash & cash equivalents	-590	2220	648	-293	20773
Cash & cash equivalents, beginning of period	11946	11356	13576	14224	13931
Cash & cash equivalents, end of period	11356	13576	14224	13931	34704

**Microsoft Corporation (MSFT)**  
*Forecasted Cash Flow Statement*

<b>Fiscal Years Ending June 30</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>	<b>2028E</b>	<b>2029E</b>	<b>2030E</b>	<b>2031E</b>	<b>2032E</b>	<b>2033E</b>
<b>Net income (loss)</b>	<b>85431</b>	<b>98012</b>	<b>112138</b>	<b>129922</b>	<b>149546</b>	<b>169869</b>	<b>192414</b>	<b>217465</b>	<b>243616</b>	<b>269113</b>
Depreciation	14141	16289	18204	19923	21475	22888	24184	25382	26498	27547
Amortization	2363	1881	1381	929	652	653	654	655	198	0
<b>Changes in Operating Activites</b>										
Accounts receivable, net	-7564	-8025	-9204	-10383	-12185	-12322	-13361	-15125	-15396	-15087
Inventories	-1257	-563	-609	-695	-798	-839	-900	-1009	-1030	-1008
Other current assets	-981	-1025	-1072	-1120	-1170	-1223	-1278	-1335	-1396	-1458
Operating lease assets	-2179	-1943	-1743	-1575	-1434	-1315	-1215	-1132	-1064	-1007
Other long-term assets	-1377	-1439	-1504	-1571	-1642	-1716	-1793	-1874	-1958	-2046
Accounts payable	3342	3211	3472	3966	4552	4788	5136	5758	5874	5754
Accrued compensation	2582	2036	2201	2514	2886	3035	3256	3651	3724	3648
Short-term income taxes	1456	985	1328	625	1523	1440	1551	1550	1843	1736
Short-term unearned revenue	9827	9097	9836	11234	12894	13563	14549	16313	16640	16299
Other current liabilities	2525	2587	2797	3195	3667	3857	4137	4639	4732	4635
Long-term income taxes	-914	-881	-850	-819	-790	-762	-735	-708	-683	-659
Long-term unearned revenue	2132	756	817	933	1071	1126	1208	1355	1382	1354
Deferred income taxes	57	101	149	193	169	212	250	280	302	341
Operating lease liabilities	1631	1800	1520	1405	1265	1099	1089	992	934	879
Other long-term liabilities	689	2797	3024	3454	3964	4170	4473	5015	5116	5011
<b>Net cash flows from operating activities</b>	<b>111902</b>	<b>125675</b>	<b>141886</b>	<b>162129</b>	<b>185645</b>	<b>208525</b>	<b>233620</b>	<b>261872</b>	<b>289332</b>	<b>315050</b>
<b>Changes in Financing Activities</b>										
Common stock & paid-in capital	8012	8012	8012	8012	8012	8012	8012	8012	8012	8012
Accumulated other comprehensive income (loss)	0	0	0	0	0	0	0	0	0	0
Current portion of long-term debt	3	-3000	750	5000	-8000	6873	0	0	0	0
Common stock cash dividends paid	-25397	-29137	-33336	-38623	-44457	-50498	-57200	-64647	-72421	-80001
Repurchase of common stock	-24967	-24967	-24967	-24967	-24967	-24967	-24967	-24967	-24967	-24967
Long term debt	-4637	-4433	-3997	-3571	-3149	-2839	-2507	-2186	-1926	-1705
<b>Net cash flows from financing activities</b>	<b>-46986</b>	<b>-53525</b>	<b>-53539</b>	<b>-54150</b>	<b>-72561</b>	<b>-63420</b>	<b>-76663</b>	<b>-83789</b>	<b>-91303</b>	<b>-98662</b>
<b>Changes in Investing Activities</b>										
Additions to property & equipment	-28669	-29243	-29827	-30424	-31032	-31653	-32286	-32932	-33590	-34262
Equity and other investments	-889	-485	-506	-529	-553	-578	-604	-631	-659	-689
Short term investments	-3445	-3600	-3762	-3931	-4108	-4293	-4486	-4688	-4899	-5120
Intangible assets	0	0	0	0	0	0	0	0	0	0
<b>Net cash flows from investing activities</b>	<b>-33003</b>	<b>-33327</b>	<b>-34096</b>	<b>-34885</b>	<b>-35694</b>	<b>-36524</b>	<b>-37376</b>	<b>-38251</b>	<b>-39149</b>	<b>-40071</b>
Net cash	31913	38823	54251	73095	77390	108581	119581	139832	158880	176318
Cash & cash equivalents, beginning of period	34704	66617	105440	159691	232786	310176	418757	538338	678170	837050
Cash & cash equivalents, end of period	66617	105440	159691	232786	310176	418757	538338	678170	837050	1013367

Microsoft Corporation (MSFT)

Common Size Income Statement

<i>Fiscal Years Ending June 30</i>	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
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%
Total cost of revenue (excl. D&A)	24.12%	24.31%	26.23%	24.55%	25.03%	25.27%	24.95%	25.08%	25.10%	25.04%	25.07%	25.07%	25.06%
Depreciation	5.53%	6.35%	5.19%	5.72%	5.73%	5.61%	5.38%	5.08%	4.79%	4.50%	4.21%	3.95%	3.74%
Amortization	1.42%	0.94%	1.35%	0.96%	0.66%	0.43%	0.25%	0.15%	0.14%	0.12%	0.11%	0.03%	0.00%
<b>Gross margin</b>	<b>68.93%</b>	<b>68.40%</b>	<b>68.92%</b>	<b>68.78%</b>	<b>68.58%</b>	<b>68.69%</b>	<b>69.42%</b>	<b>69.68%</b>	<b>69.97%</b>	<b>70.33%</b>	<b>70.61%</b>	<b>70.95%</b>	<b>71.20%</b>
Research & development	12.32%	12.36%	12.83%	12.51%	12.51%	12.51%	12.51%	12.51%	12.51%	12.51%	12.51%	12.51%	12.51%
Sales & marketing	11.97%	11.01%	10.74%	10.74%	10.74%	10.74%	10.74%	10.74%	10.74%	10.74%	10.74%	10.74%	10.74%
General & administrative	3.04%	2.98%	3.57%	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%
<b>Operating income (loss)</b>	<b>41.59%</b>	<b>42.06%</b>	<b>41.77%</b>	<b>42.33%</b>	<b>42.14%</b>	<b>42.25%</b>	<b>42.97%</b>	<b>43.24%</b>	<b>43.53%</b>	<b>43.89%</b>	<b>44.17%</b>	<b>44.51%</b>	<b>44.76%</b>
Other income (expense), net	0.71%	0.17%	0.37%	0.63%	0.73%	0.74%	0.68%	0.76%	0.68%	0.66%	0.64%	0.62%	0.61%
<b>Income (loss) before income taxes</b>	<b>42.30%</b>	<b>42.22%</b>	<b>42.14%</b>	<b>42.96%</b>	<b>42.87%</b>	<b>42.99%</b>	<b>43.65%</b>	<b>44.00%</b>	<b>44.21%</b>	<b>44.55%</b>	<b>44.81%</b>	<b>45.13%</b>	<b>45.37%</b>
Provision (benefit) for income taxes	5.85%	5.54%	8.00%	8.40%	8.38%	8.41%	8.54%	8.61%	8.65%	8.71%	8.76%	8.83%	8.87%
<b>Net income (loss)</b>	<b>36.45%</b>	<b>36.69%</b>	<b>34.15%</b>	<b>34.56%</b>	<b>34.48%</b>	<b>34.58%</b>	<b>35.11%</b>	<b>35.40%</b>	<b>35.56%</b>	<b>35.84%</b>	<b>36.04%</b>	<b>36.30%</b>	<b>36.49%</b>

Microsoft Corporation (MSFT)

Common Size Balance Sheet

Fiscal Years Ending June 30	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
Cash & cash equivalents	8.46%	7.03%	16.38%	26.95%	37.10%	49.25%	62.91%	73.42%	87.66%	100.26%	112.40%	124.73%	137.42%
Short-term investments	69.08%	45.81%	36.13%	32.36%	29.41%	26.94%	24.67%	22.58%	20.87%	19.40%	18.05%	16.95%	16.12%
Accounts receivable, net	22.63%	22.32%	22.98%	22.76%	22.61%	22.66%	22.67%	22.73%	22.69%	22.67%	22.68%	22.69%	22.69%
Inventories	1.57%	1.89%	1.18%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%
Other current assets	7.97%	8.54%	10.29%	9.22%	9.22%	9.22%	9.22%	9.22%	9.22%	9.22%	9.22%	9.22%	9.22%
<b>Total current assets</b>	<b>109.71%</b>	<b>85.58%</b>	<b>86.95%</b>	<b>92.80%</b>	<b>100.45%</b>	<b>95.10%</b>	<b>92.18%</b>	<b>93.50%</b>	<b>94.80%</b>	<b>95.20%</b>	<b>94.16%</b>	<b>93.97%</b>	<b>94.33%</b>
Total property & equipment, at cost	66.08%	67.61%	77.34%	77.90%	78.03%	77.60%	76.23%	74.10%	72.17%	70.22%	67.95%	66.10%	64.80%
Accumulated depreciation - property & equipment, net	30.55%	30.09%	32.21%	33.33%	34.72%	36.04%	36.97%	37.46%	37.93%	38.25%	38.24%	38.33%	38.62%
Operating lease right-of-use assets	6.60%	6.63%	6.77%	6.68%	6.50%	6.23%	5.89%	5.50%	5.14%	4.80%	4.46%	4.16%	3.93%
Equity investments	3.56%	3.48%	4.66%	4.36%	3.96%	3.63%	3.32%	3.04%	2.81%	2.61%	2.43%	2.28%	2.17%
Goodwill	29.57%	34.06%	32.03%	27.46%	23.88%	20.93%	18.35%	16.07%	14.21%	12.64%	11.25%	10.12%	9.21%
Intangible assets, net	4.64%	5.70%	4.42%	2.83%	1.80%	1.15%	0.76%	0.51%	0.32%	0.16%	0.03%	0.00%	0.00%
Other long-term assets	8.97%	11.04%	14.44%	12.94%	11.76%	10.77%	9.86%	9.03%	8.34%	7.76%	7.21%	6.78%	6.44%
<b>Total assets</b>	<b>198.57%</b>	<b>184.01%</b>	<b>194.41%</b>	<b>191.64%</b>	<b>190.24%</b>	<b>192.31%</b>	<b>196.24%</b>	<b>197.46%</b>	<b>203.73%</b>	<b>209.32%</b>	<b>214.88%</b>	<b>221.83%</b>	<b>230.27%</b>
Accounts payable	9.02%	9.58%	8.54%	8.67%	8.67%	8.67%	8.67%	8.67%	8.67%	8.67%	8.67%	8.67%	8.67%
Current portion of long-term debt	4.80%	1.39%	2.48%	2.12%	0.79%	0.93%	2.16%	0.00%	1.44%	1.28%	1.14%	1.02%	0.93%
Accrued compensation	5.98%	5.38%	5.20%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
Short-term income taxes	1.29%	2.05%	1.96%	2.27%	2.32%	2.44%	2.31%	2.38%	2.41%	2.43%	2.42%	2.45%	2.47%
Short-term unearned revenue	24.70%	22.97%	24.02%	24.57%	24.57%	24.57%	24.57%	24.57%	24.57%	24.57%	24.57%	24.57%	24.57%
Other current liabilities	6.94%	6.59%	6.96%	6.99%	6.99%	6.99%	6.99%	6.99%	6.99%	6.99%	6.99%	6.99%	6.99%
<b>Total current liabilities</b>	<b>52.74%</b>	<b>47.96%</b>	<b>49.15%</b>	<b>50.11%</b>	<b>48.83%</b>	<b>49.09%</b>	<b>50.19%</b>	<b>48.10%</b>	<b>49.57%</b>	<b>49.43%</b>	<b>49.28%</b>	<b>49.20%</b>	<b>49.12%</b>
Long-term debt	29.79%	23.72%	19.81%	15.11%	11.58%	8.92%	6.85%	5.26%	4.05%	3.14%	2.43%	1.90%	1.50%
Long-term income taxes	16.18%	13.15%	12.06%	9.97%	8.36%	7.07%	5.97%	5.04%	4.30%	3.69%	3.17%	2.74%	2.41%
Long-term unearned revenue	1.56%	1.45%	1.37%	2.04%	2.04%	2.04%	2.04%	2.04%	2.04%	2.04%	2.04%	2.04%	2.04%
Deferred income taxes	0.12%	0.12%	0.20%	0.20%	0.21%	0.23%	0.25%	0.26%	0.28%	0.29%	0.31%	0.32%	0.34%
Operating lease liabilities	5.73%	5.79%	6.01%	5.81%	5.68%	5.45%	5.16%	4.82%	4.49%	4.20%	3.90%	3.65%	3.44%
Other long-term liabilities	7.99%	7.83%	8.49%	7.55%	7.55%	7.55%	7.55%	7.55%	7.55%	7.55%	7.55%	7.55%	7.55%
<b>Total liabilities</b>	<b>114.10%</b>	<b>100.01%</b>	<b>97.09%</b>	<b>90.79%</b>	<b>84.26%</b>	<b>80.35%</b>	<b>78.02%</b>	<b>73.07%</b>	<b>72.28%</b>	<b>70.34%</b>	<b>68.68%</b>	<b>67.40%</b>	<b>66.39%</b>
Common stock & paid-in capital	49.44%	43.85%	44.22%	41.15%	38.61%	36.31%	33.99%	31.66%	29.68%	27.90%	26.16%	24.71%	23.57%
Retained earnings (accumulated deficit)	33.94%	42.51%	56.08%	62.26%	69.60%	77.61%	85.94%	94.23%	103.10%	112.26%	121.10%	130.66%	141.17%
Accumulated other comprehensive inc	1.08%	-2.36%	-2.99%	-2.57%	-2.23%	-1.96%	-1.71%	-1.50%	-1.33%	-1.18%	-1.05%	-0.95%	-0.86%
<b>Total equity</b>	<b>112.83%</b>	<b>132.34%</b>	<b>163.87%</b>	<b>100.85%</b>	<b>105.98%</b>	<b>111.96%</b>	<b>118.22%</b>	<b>124.39%</b>	<b>131.45%</b>	<b>138.98%</b>	<b>146.20%</b>	<b>154.43%</b>	<b>163.88%</b>

Microsoft Corporation (MSFT)  
Value Driver Estimation

Fiscal Years Ending June 30	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
<b>NOPLAT:</b>													
Total Revenue	1,68,088	1,98,270	2,11,915	2,47,206	2,84,238	3,24,276	3,70,007	4,22,494	4,77,707	5,36,931	6,03,335	6,71,070	7,37,419
Less: Total cost of revenue	40,546	48,190	52,002	60,685	71,137	81,937	92,309	1,05,965	1,19,899	1,34,461	1,51,281	1,68,249	1,84,818
Less: Depreciation, amortization, & other adjustments	11,686	14,460	13,861	16,504	18,170	19,585	20,852	22,127	23,541	24,838	26,037	26,696	27,547
Less: Research & development	20,716	24,512	27,195	30,918	35,549	40,557	46,276	52,841	59,746	67,153	75,458	83,929	92,228
Less: Sales & marketing	20,117	21,825	22,759	26,549	30,526	34,826	39,738	45,375	51,304	57,665	64,796	72,071	79,196
Less: General & administrative	5,107	5,900	7,575	7,901	9,085	10,364	11,826	13,504	15,268	17,161	19,284	21,449	23,569
Plus: Implied interest on operating leases	368	462	551	611	689	776	849	916	977	1,029	1,082	1,129	1,174
<b>EBITA</b>	<b>70,284</b>	<b>83,845</b>	<b>89,074</b>	<b>1,05,260</b>	<b>1,20,460</b>	<b>1,37,782</b>	<b>1,59,856</b>	<b>1,83,599</b>	<b>2,08,925</b>	<b>2,36,682</b>	<b>2,67,561</b>	<b>2,99,805</b>	<b>3,31,235</b>
<b>Marginal tax rate</b>	<b>19.70%</b>	<b>21.10%</b>	<b>20.80%</b>	<b>19.56%</b>	<b>19.56%</b>	<b>19.56%</b>	<b>19.56%</b>	<b>19.56%</b>	<b>19.56%</b>	<b>19.56%</b>	<b>19.56%</b>	<b>19.56%</b>	<b>19.56%</b>
Provision (benefit) for income taxes	9831	10978	16950	20774	23833	27268	31592	36364	41306	46788	52879	59238	65438
Less: Tax shield on other income	(234)	(70)	(164)	(304)	(406)	(469)	(490)	(631)	(631)	(694)	(756)	(817)	(878)
Plus: Tax shield on implied interest on operating leases	73	98	115	120	135	152	166	179	191	201	212	221	230
<b>Total adjusted taxes</b>	<b>9,670</b>	<b>11,005</b>	<b>16,901</b>	<b>20,589</b>	<b>23,562</b>	<b>26,950</b>	<b>31,268</b>	<b>35,912</b>	<b>40,866</b>	<b>46,295</b>	<b>52,335</b>	<b>58,642</b>	<b>64,790</b>
<b>Change in deferred taxes</b>	<b>(150)</b>	<b>(5,702)</b>	<b>(6,059)</b>	<b>6,116</b>	<b>44</b>	<b>48</b>	<b>44</b>	<b>(24)</b>	<b>43</b>	<b>38</b>	<b>31</b>	<b>22</b>	<b>39</b>
<b>NOPLAT</b>	<b>60,464</b>	<b>67,138</b>	<b>66,115</b>	<b>90,787</b>	<b>96,943</b>	<b>1,10,880</b>	<b>1,28,632</b>	<b>1,47,663</b>	<b>1,68,102</b>	<b>1,90,426</b>	<b>2,15,257</b>	<b>2,41,185</b>	<b>2,66,485</b>
<b>Invested Capital (IC):</b>													
Cash & cash equivalents	11,810	13,931	14,890	17,369	19,971	22,785	25,998	29,686	33,565	37,726	42,392	47,151	51,813
Accounts receivable, net	38,043	44,261	48,688	56,252	64,277	73,481	83,864	96,050	1,08,371	1,21,732	1,36,857	1,52,253	1,67,340
Inventories	2,636	3,742	2,500	3,757	4,320	4,929	5,624	6,422	7,261	8,161	9,170	10,200	11,208
Other current assets	13,393	16,924	21,807	22,788	23,814	24,885	26,005	27,175	28,398	29,676	31,012	32,407	33,866
Less: Accounts payable	15,163	19,000	18,095	21,437	24,649	28,121	32,086	36,638	41,426	46,562	52,320	58,194	63,948
Less: Accrued compensation	10,057	10,661	11,009	13,591	15,626	17,828	20,342	23,227	26,263	29,519	33,169	36,893	40,541
Less: Short-term income taxes	2,174	4,067	4,152	5,608	6,593	7,921	8,546	10,069	11,509	13,060	14,610	16,453	18,189
Less: Short-term unearned revenue	41,525	45,538	50,901	60,728	69,825	79,661	90,896	1,03,789	1,17,353	1,31,902	1,48,215	1,64,854	1,81,153
Less: Other current liabilities	11,666	13,067	14,745	17,270	19,857	22,654	25,849	29,516	33,373	37,511	42,150	46,882	51,517
<b>Operating Working Capital</b>	<b>(14,703)</b>	<b>(13,475)</b>	<b>(11,017)</b>	<b>(18,467)</b>	<b>(24,168)</b>	<b>(30,105)</b>	<b>(36,228)</b>	<b>(43,908)</b>	<b>(52,329)</b>	<b>(61,257)</b>	<b>(71,033)</b>	<b>(81,265)</b>	<b>(91,121)</b>
Property & equipment, net	59,715	74,398	95,641	1,10,169	1,23,123	1,34,746	1,45,247	1,54,804	1,63,569	1,71,671	1,79,221	1,86,313	1,93,028
Operating lease right-of-use assets	11,088	13,148	14,346	16,525	18,468	20,212	21,787	23,220	24,535	25,750	26,883	27,947	28,954
Intangible assets, net	7,800	11,298	9,366	7,003	5,122	3,741	2,812	2,160	1,507	853	198	-	-
Other long-term assets	15,075	21,897	30,601	31,978	33,417	34,921	36,492	38,134	39,850	41,644	43,518	45,476	47,522
Less: Long-term income taxes	27,190	26,069	25,560	24,646	23,765	22,915	22,096	21,306	20,544	19,810	19,102	18,419	17,760
Less: Long-term unearned revenue	2,616	2,870	2,912	5,044	5,799	6,616	7,549	8,620	9,746	10,955	12,310	13,692	15,045
<b>Invested Capital</b>	<b>49,169</b>	<b>78,327</b>	<b>1,10,465</b>	<b>1,17,518</b>	<b>1,26,398</b>	<b>1,33,983</b>	<b>1,40,465</b>	<b>1,44,486</b>	<b>1,46,842</b>	<b>1,47,896</b>	<b>1,47,375</b>	<b>1,46,360</b>	<b>1,45,578</b>
<b>Free Cash Flow (FCF):</b>													
NOPLAT	60,464	67,138	66,115	90,787	96,943	1,10,880	1,28,632	1,47,663	1,68,102	1,90,426	2,15,257	2,41,185	2,66,485
Change in IC	(21,826)	(29,158)	(32,138)	(7,054)	(8,880)	(7,585)	(6,483)	(4,020)	(2,357)	(1,054)	521	1,015	782
<b>FCF</b>	<b>38,639</b>	<b>37,980</b>	<b>33,977</b>	<b>83,733</b>	<b>88,063</b>	<b>1,03,295</b>	<b>1,22,149</b>	<b>1,43,642</b>	<b>1,65,745</b>	<b>1,89,372</b>	<b>2,15,778</b>	<b>2,42,200</b>	<b>2,67,267</b>
<b>Return on Invested Capital (ROIC):</b>													
NOPLAT	60,464	67,138	66,115	90,787	96,943	1,10,880	1,28,632	1,47,663	1,68,102	1,90,426	2,15,257	2,41,185	2,66,485
Beginning IC	27,344	49,169	78,327	1,10,465	1,17,518	1,26,398	1,33,983	1,40,465	1,44,486	1,46,842	1,47,896	1,47,375	1,46,360
<b>ROIC</b>	<b>221.1%</b>	<b>136.5%</b>	<b>84.4%</b>	<b>82.2%</b>	<b>82.5%</b>	<b>87.7%</b>	<b>96.0%</b>	<b>105.1%</b>	<b>116.3%</b>	<b>129.7%</b>	<b>145.5%</b>	<b>163.7%</b>	<b>182.1%</b>
<b>Economic Profit (EP):</b>													
Beginning IC	27,344	49,169	78,327	1,10,465	1,17,518	1,26,398	1,33,983	1,40,465	1,44,486	1,46,842	1,47,896	1,47,375	1,46,360
x (ROIC - WACC)	211.3%	126.8%	74.6%	72.4%	72.7%	77.9%	86.2%	95.3%	106.6%	119.9%	135.8%	153.9%	172.3%
<b>EP</b>	<b>57,789</b>	<b>62,328</b>	<b>58,452</b>	<b>79,980</b>	<b>85,446</b>	<b>98,514</b>	<b>1,15,524</b>	<b>1,33,921</b>	<b>1,53,967</b>	<b>1,76,060</b>	<b>2,00,788</b>	<b>2,26,767</b>	<b>2,52,166</b>

## Microsoft Corporation (MSFT)

### Weighted Average Cost of Capital (WACC) Estimation

#### Cost of Equity:

Risk-Free Rate	4.30%
Beta	1.12
Equity Risk Premium	5.00%
<b>Cost of Equity</b>	<b>9.90%</b>

#### ASSUMPTIONS:

10-year Treasury Bond  
Average of 2, 3, 4, and 5-year weekly beta  
Henry Fund consensus estimate

#### Cost of Debt:

Risk-Free Rate	4.30%
Implied Default Premium	0.50%
Pre-Tax Cost of Debt	4.80%
Marginal Tax Rate	20%
<b>After-Tax Cost of Debt</b>	<b>3.86%</b>

10-year Treasury Bond

YTM on company's 10-year corporate bond from Bloomberg

#### Market Value of Common Equity:

Total Shares Outstanding	7432
Current Stock Price	\$408.45
<b>MV of Equity</b>	<b>30,35,600.40</b>

#### MV Weights

98.06%

#### Market Value of Debt:

Current Portion of LTD	5247
Long-Term Debt	41990
PV of Operating Leases	12728
<b>MV of Total Debt</b>	<b>59,965.00</b>

1.94%

#### Market Value of the Firm

30,95,565.40

100.00%

Estimated WACC

9.78%

**Microsoft Corporation (MSFT)**

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

Key Inputs:

CV Growth of NOPLAT	5.00%
CV Year ROIC	182.07%
WACC	9.78%
Cost of Equity	9.90%

Fiscal Years Ending June 30	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
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**DCF Model:**

Free Cash Flow (FCF)	83733.4	88063.1	103294.7	122149.4	143642.5	165745.3	189371.8	215778.0	242199.6	267267.1
Continuing Value (CV)										5418474.2
PV of FCF	76271.7	73067.4	78067.9	84091.2	90075.6	94673.9	98530.2	102264.7	104557.9	2339162.9

Value of Operating Assets:	3140763.4
Non-Operating Adjustments	
Plus: Excess Cash	41896.2
Plus: ST Investments	76558.0
Plus: Equity Investments	9879.0
Less: Current Portion of LT Debt	-5247.0
Less: Operating Lease Liabilities	-12728.0
Less: LT debt	-41990.0
Less: Employee Stock Options	-17702.2
Value of Equity	3191429.5
Shares Outstanding	7432.0
Intrinsic Value of Last FYE	\$ 429.42
<b>Implied Price as of Today</b>	<b>\$ 455.39</b>

**EP Model:**

Economic Profit (EP)	79980.3	85445.8	98514.1	115524.3	133920.9	153966.8	176059.9	200788.2	226767.2	252166.2
Continuing Value (CV)										5272114.0
PV of EP	72853.1	70895.8	74454.8	79530.3	83979.4	87946.0	91604.0	95160.5	97895.7	2275979.0

Total PV of EP	3030298.7
Invested Capital (last FYE)	110464.7
Value of Operating Assets:	3140763.4
Non-Operating Adjustments	
Plus: Excess Cash	41896.2
Plus: ST Investments	76558.0
Plus: Equity Investments	9879.0
Less: Current Portion of LT Debt	-5247.0
Less: Operating Lease Liabilities	-12728.0
Less: LT debt	-41990.0
Less: Employee Stock Options	-17702.2
Value of Equity	3191429.5
Shares Outstanding	7432.0
Intrinsic Value of Last FYE	\$ 429.42
<b>Implied Price as of Today</b>	<b>\$ 455.39</b>





## Microsoft Corporation (MSFT)

### Relative Valuation Models

Ticker	Company	Price	EPS	EPS	P/E 24	P/E 25	Est. 5yr	PEG 24	PEG 25
			2024E	2025E			EPS gr.		
AAPL	Apple Inc.	\$182.52	\$6.42	\$6.50	28.43	28.08	11.0	2.58	2.55
GOOGL	Alphabet Inc.	\$145.29	\$5.80	\$6.00	25.05	24.22	19.3	1.30	1.25
META	Meta Platforms Inc.	\$484.03	\$14.86	\$15.00	32.57	32.27	25.0	1.30	1.29
AMZN	Amazon.com Inc.	\$174.99	\$2.90	\$3.00	60.34	58.33	15.0	4.02	3.89
IBM	International Business Machines Corporati	\$185.72	\$8.15	\$8.30	22.79	22.38	5.0	4.56	4.48
ORCL	Oracle Coporation	\$111.95	\$3.62	\$3.80	30.93	29.46	10.5	2.95	2.81
Average					<b>33.35</b>	<b>32.46</b>		<b>2.79</b>	<b>2.71</b>

MSFT	Microsoft Corporation (MSFT)	\$408.45	\$11.52	\$13.26	35.5	30.8	16.0	2.2	1.9
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#### Implied Relative Value:

P/E (EPS24)	\$	<b>384.12</b>
P/E (EPS25)	\$	<b>430.39</b>
PEG (EPS24)	\$	<b>511.84</b>
PEG (EPS25)	\$	<b>573.70</b>

**Microsoft Corporation (MSFT)**

*Key Management Ratios*

<b>Fiscal Years Ending June 30</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>	<b>2028E</b>	<b>2029E</b>	<b>2030E</b>	<b>2031E</b>	<b>2032E</b>	<b>2033E</b>
<b>Liquidity Ratios:</b>													
Current Ratio (CA/CL)	2.08	1.78	1.77	1.85	2.03	2.20	2.37	2.63	2.80	3.02	3.24	3.47	3.71
Quick Ratio ((CA-Inv)/CL)	2.05	1.75	1.75	1.82	2.00	2.17	2.34	2.60	2.77	2.99	3.21	3.44	3.68
Cash Ratio (Cash + Mkt. Sec)/CL)	1.47	1.10	1.07	1.18	1.36	1.55	1.75	2.00	2.19	2.42	2.65	2.88	3.13
<b>Asset-Management Ratios:</b>													
Asset Turnover (Net Sales/Avg. Total Assets)	0.53	0.57	0.55	0.56	0.56	0.56	0.55	0.54	0.53	0.51	0.50	0.48	0.46
Inventory Turnover (COGS/Avg. Inv)	23.06	19.65	21.10	24.67	22.11	21.95	21.45	21.27	20.97	20.66	20.46	20.13	19.84
Accounts Recievable Turnover (Sales/Avg. AR)	4.80	4.82	4.56	4.71	4.72	4.71	4.70	4.70	4.67	4.67	4.67	4.64	4.61
<b>Financial Leverage Ratios:</b>													
Debt-to-Equity Ratio (ST debt+LT debt/TSE)	0.41	0.30	0.23	0.17	0.12	0.09	0.08	0.04	0.04	0.03	0.02	0.02	0.01
Debt-to-Asset Ratio (ST debt+LT debt/Assets)	0.17	0.14	0.11	0.09	0.07	0.05	0.05	0.03	0.03	0.02	0.02	0.01	0.01
<b>Profitability Ratios:</b>													
Return on Equity (NI/Beg TSE)	51.8%	51.2%	43.4%	41.4%	39.3%	37.2%	35.8%	34.2%	32.3%	30.6%	29.1%	27.6%	26.0%
Return on Assets (NI/Total Assets)	19.3%	20.8%	18.6%	19.3%	19.3%	19.3%	19.3%	19.2%	18.8%	18.3%	18.0%	17.5%	16.9%
Gross Profit Margin (Gross Profit/Sales)	68.9%	68.4%	68.9%	68.8%	68.6%	68.7%	69.4%	69.7%	70.0%	70.3%	70.6%	71.0%	71.2%
Operating Profit Margin (Oper. Profit/Sales)	41.6%	42.1%	41.8%	42.3%	42.1%	42.2%	43.0%	43.2%	43.5%	43.9%	44.2%	44.5%	44.8%
Net Profit Margin (Net Income/Sales)	36.5%	36.7%	34.1%	34.6%	34.5%	34.6%	35.1%	35.4%	35.6%	35.8%	36.0%	36.3%	36.5%
<b>Payout Policy Ratios:</b>													
Dividend Payout Ratio (Dividend/EPS)	27.6%	25.6%	28.0%	29.7%	29.7%	29.7%	29.7%	29.7%	29.7%	29.7%	29.7%	29.7%	29.7%
Retention Ratio (1-(Dividend/EPS))	72.4%	74.4%	72.0%	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%
Total Payout Ratio ((Dividends + Repurchases)/NI)	71.7%	69.9%	58.1%	59.0%	55.2%	52.0%	48.9%	46.4%	44.4%	42.7%	41.2%	40.0%	39.0%

**Microsoft Corporation (MSFT)**

*Effects of ESOP Exercise and Share Repurchases on Common Stock Account and Number of Shares Outstanding*

Number of Options Outstanding (shares):	96
Average Time to Maturity (years):	3.00
Expected Annual Number of Options Exercised:	32.00

Current Average Strike Price:	\$ 250.37
Cost of Equity:	9.90%
Current Stock Price:	\$408.45

<b>Fiscal Years Ending June 30</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>	<b>2028E</b>	<b>2029E</b>	<b>2030E</b>	<b>2031E</b>	<b>2032E</b>	<b>2033E</b>
Increase in Shares Outstanding:	32	32	32	32	32	32	32	32	32	32
Average Strike Price:	\$ 250.37	\$ 250.37	\$ 250.37	\$ 250.37	\$ 250.37	\$ 250.37	\$ 250.37	\$ 250.37	\$ 250.37	\$ 250.37
<b>Increase in Common Stock Account:</b>	<b>8,012</b>	<b>8,012</b>	<b>8,012</b>	<b>8,012</b>	<b>8,012</b>	<b>8,012</b>	<b>8,012</b>	<b>8,012</b>	<b>8,012</b>	<b>8,012</b>
Share Repurchases (\$)	24,967	24,967	24,967	24,967	24,967	24,967	24,967	24,967	24,967	24,967
Expected Price of Repurchased Shares:	\$ 408.45	\$ 445.90	\$ 486.79	\$ 531.43	\$ 580.17	\$ 633.37	\$ 691.45	\$ 754.85	\$ 824.07	\$ 899.64
<b>Number of Shares Repurchased:</b>	<b>61</b>	<b>56</b>	<b>51</b>	<b>47</b>	<b>43</b>	<b>39</b>	<b>36</b>	<b>33</b>	<b>30</b>	<b>28</b>
Shares Outstanding (beginning of the year)	7,432	7,403	7,379	7,360	7,345	7,334	7,326	7,322	7,321	7,323
Plus: Shares Issued Through ESOP	32	32	32	32	32	32	32	32	32	32
Less: Shares Repurchased in Treasury	61	56	51	47	43	39	36	33	30	28
<b>Shares Outstanding (end of the year)</b>	<b>7,403</b>	<b>7,379</b>	<b>7,360</b>	<b>7,345</b>	<b>7,334</b>	<b>7,326</b>	<b>7,322</b>	<b>7,321</b>	<b>7,323</b>	<b>7,327</b>

**Microsoft Corporation (MSFT)***Valuation of Options Granted under ESOP*

Current Stock Price	\$408.45
Risk Free Rate	4.30%
Current Dividend Yield	0.73%
Annualized St. Dev. of Stock Returns	25.00%

Range of Outstanding Options	Number of Shares	Average Exercise Price	Average Remaining Life (yrs)	B-S Option Price	Value of Options Granted
Range 1	96	250.37	3.00	\$ 184.40	\$ 17,702
Total	96	\$ 250.37	3.00	\$ 192.76	<b>\$ 17,702</b>