Microsoft Corp.

Generating (Excel)lent Returns

Downside Scenario	Current Price	Price Target	Upside Scenario
$250.00	$287.15	$356.00	$421.00
(13%)		*24%*	*47%*

Symbol	NASDAQ: MSFT
52-Week Range	$229.35 – 349.67
YTD Performance	(14.2%)
Market Cap (bn)	$2,150
Net Debt (mn)	$45,016
Dividend Yield	0.9%
NTM P/E	30.3x
NTM EV/EBITDA	21.6x
ROE	49%
ROA	22%
ROIC	31%

FY (Jan)	2020A	2021A	2022E
EPS (Adj.)			
Q1	1.39	1.81	2.24
YoY Change		*30%*	*24%*
Q2	1.49	1.99	2.45
YoY Change		*34%*	*23%*
Q3	1.41	1.91	2.19
YoY Change		*35%*	*15%*
Q4	1.52	2.13	2.46
YoY Change		*40%*	*15%*
Year	5.73	7.84	9.34

Zach DeVice
(484) 667-1003
zdevice@theowlfund.com

Alex Sobkowiak
(267) 825-0004
asobkowiak@theowlfund.com

- As we move farther into the year, the Nasdaq Composite continues its slump that started at the beginning of this year, posting a -18% YTD return. Although we are getting a clearer picture of the rising interest rate environment, the rotation into value and away from speculative tech names has not dissipated. With the environment of the technology sector remaining unchanged, our team is confident that the Fund needs a stable and predictable company with strong and stable cash flows to capitalize on current trends and generate alpha for our portfolio.
- The opportunity to get into a best-in-class name like MSFT at a discount does not happen often. In the past year, the Company has only traded at a discount to its 3-year median NTM P/E for 45 days. The overall selloff of the technology sector since the beginning of the year along with the unenthusiastic response from investors to the announced acquisition of ATVI have presented us with a great buying opportunity.
- We see MSFT's current undervaluation as a great opportunity to enter a name that provides diversification, stability, and growth to the Fund all by itself. We are confident that the Company will continue to deliver incredible top- and bottom-line growth attributed to the growing cybersecurity and cloud gaming industries.
- Despite its strong balance sheet, internal growth opportunities, and dominant shares in multiple markets, MSFT trades at 30.3x forward earnings, representing a 10% discount to its one-year median. Through our DCF and multiples analyses, we see shares having ~24% upside with our price target of $356.00/share.

COMPANY OVERVIEW

Microsoft Corporation (MSFT) is an American multinational technology company that produces computer software, consumer electronics, personal computers, and related services. Founded in 1975 by Bill Gates and Paul Allen, the Company began creating microprocessors and software and has rapidly grown, becoming the largest software company by market cap ($2.2 tn).

MSFT reports its revenue through three core segments: Intelligent Cloud, More Personal Computing, and Productivity and Business Processes. In 2Q'22, its primary segment recognized $18.3 bn in sales, accounting for 35% of total revenue. More Personal Computing recorded $17.5 bn (34%) with Productivity and Business Processes earning $15.9 bn (31%). The Company is set to report 3Q'22 earnings on April 27th after market close.

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INVESTMENT SUMMARY

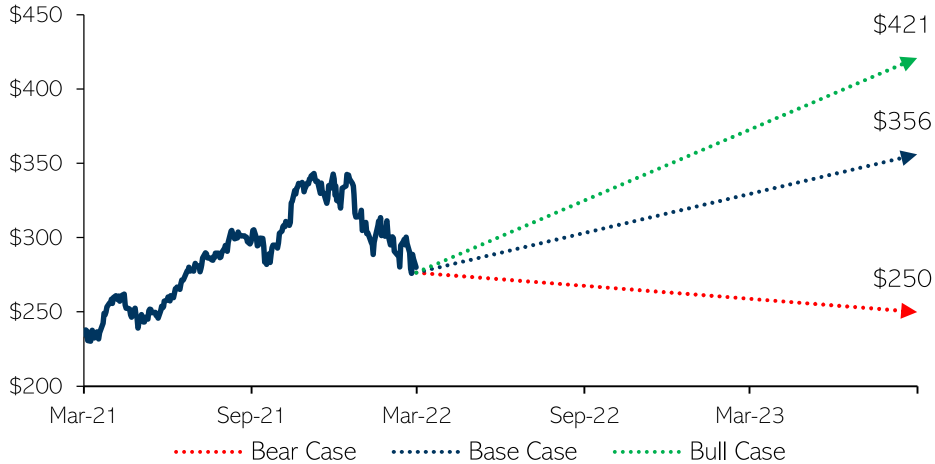
Headquarters
Redmond, WA

Chief Executive Officer
Satya Nadella

Number of Employees
190,000 (as of Sep'21)

GICS Classification
Information Technology

GICS Sub-Industry
Software & Services



PRICE TARGET SCENARIOS

Bull Case Price Target: $421.00

12-18 Month Target Return: +47%

Revenue grows at a 17.9% CAGR from FY'21 to FY'25 as MSFT quickly capitalizes on the cybersecurity tailwinds and cloud gaming as a result of its acquisition of ATVI. Customers continue to switch on-premises servers to the cloud and move to cloud versions of other MSFT products, resulting in a higher ARPU. MSFT rapidly increases market share in cloud gaming and gains popularity due to expanded selection. MSFT continues share repurchases through FY'25 while growing its dividend yield by 12% YoY through FY'26. No debt issuance through FY'25 and uses its free cash flow to grow and improve its businesses to stay competitive as well as $4 bn in debt each year.

Base Case Price Target: $356.00

12-18 Month Target Return: +24%

Revenue grows at a 14.3% CAGR from FY'22 to FY'25 as enterprises start to rely on MSFT for their cybersecurity needs and cloud gaming competes with top players after its acquisition of ATVI. Customers switch their on-premises servers to the cloud and opt for cloud options of other MSFT products, but still retain some on-premise presence. MSFT increases its recurring revenue and ARPU. MSFT starts to gain traction in cloud gaming, increasing market share due to expanded offerings. MSFT matches share repurchase guidance in FY'22 of $24 bn per year and continues through FY'25. Dividend increases at a 10% growth rate. No debt issuance occurs due to large cash reserves and strong FCF generation through FY'26. MSFT does not lose any dominance in any of its markets.

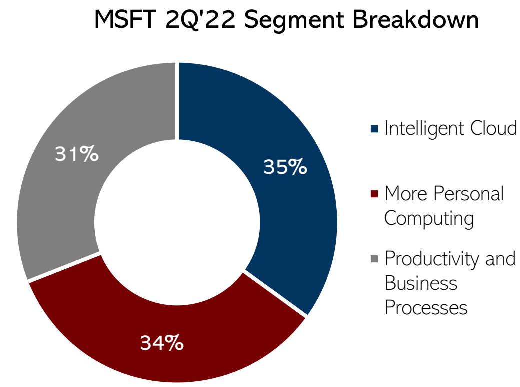
Bear Case Price Target: $250.00

12-18 Month Target Return: (13%)

Revenue grows at a 9.4% CAGR through FY'26. Revenue increases slower than expected as enterprises do not flock to one firm like MSFT for their cybersecurity needs and cloud gaming grows at a slower rate due to the failed acquisition of ATVI. Customers double down on their on-premises servers and secure them instead of migrating to the cloud. Cloud versions of other MSFT products rise but fall short of expectations. MSFT gains traction in the cloud gaming space, but struggles to make new content to attract users to its subscription service. MSFT only repurchases $12 bn in shares through FY'26 since free cash flow generation is not as strong. Dividend does not grow through FY'26. The Company issues $200 mn in debt to aid its weakening cash position. MSFT loses some dominance to due to the highly competitive markets it operates in.

BUSINESS OVERVIEW

Long before the pandemic, MSFT had already cemented its position as the number one name in the software industry. Its massive growth since its inception has been a byproduct of the multiple household names that it has created within various industries, including software (MS Office), hardware (Xbox), cloud (Azure), and cybersecurity (Dynamics 365).



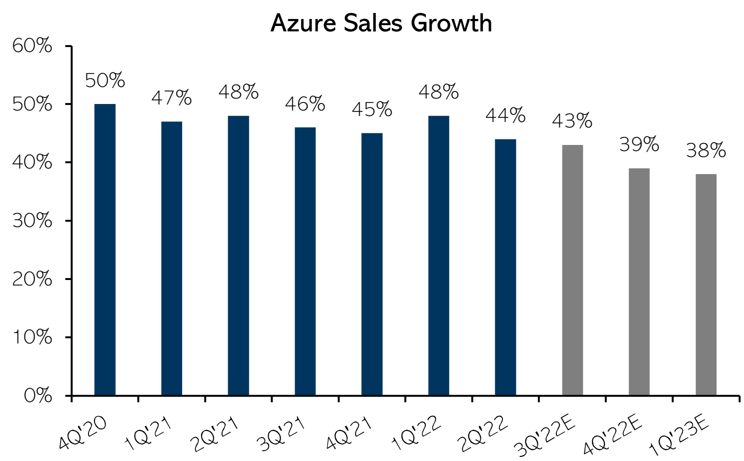
Source: Company Financials

With the onset of COVID-19, companies were forced to migrate their assets into a digital environment, benefiting firms, such as MSFT, who bet big within the cloud computing industry. This was illustrated by the immense growth of its Intelligent Cloud segment (40% - 50% YoY), which is comprised of Azure and related services, helping this segment become the largest revenue driver (35% of total company revenue in 2Q'22) for the first time.

Intelligent Cloud

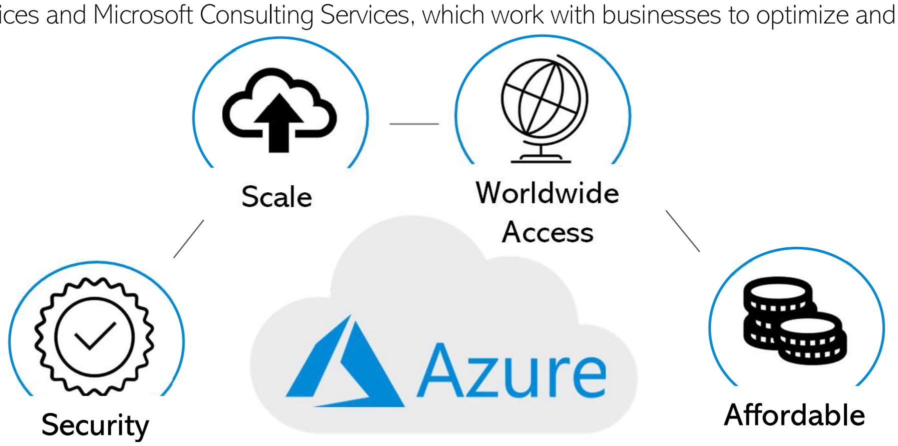
MSFT's Intelligent Cloud segment consists of its public, private, and hybrid server products and cloud services. The Company's cloud services operate with the goal to power modern businesses and developers. Its most notable cloud computing service, Azure, is the flagship product in this segment that drives substantial revenue growth.

Server Products and Cloud Services: consists of MSFT's cloud-related products and services. Its public cloud, Azure, is one of the "Big Three" public clouds, rivaling Google Cloud and Amazon Web Services (AWS). This business also includes servers such as SQL Server, Windows Server, and products like Visual Studio, an integrated development application, and GitHub, a provider of internet hosting for software development, which the Company acquired in 2018 for $7.5 bn.



Source: Bloomberg

Enterprise Services: provides planning, implementation, maintenance, optimization, and education services to enterprises across the world. These solutions are provided through MSFT's Enterprise Support Services and Microsoft Consulting Services, which work with businesses to optimize and simplify processes.



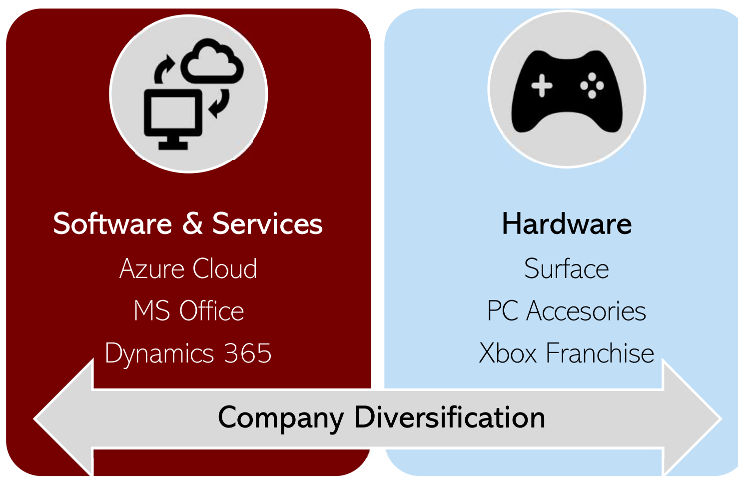
More Personal Computing

The Company's More Personal Computing segment includes various products and services that put customers at the center of their experience with technology. It includes software and services such as the Windows operating system and hardware like its Surface tablets and Xbox console brand.

Windows: encompasses MSFT's Windows Operating System, the most popular in the world, with a 70% market share in the desktop, tablet, and console markets. The OS also includes bolt-on services like Windows Cloud, Windows IoT, and other commercial services.

Devices: relates to the Company's hardware-driven business. It includes both Surface, the Company's premier brand of tablets and computers, and well as PC-related hardware to optimize the user experience.

- Surface is MSFT's version of a tablet and computer combined into a single device. It is a traditional laptop with a display fixed to a keyboard base. It allows the user to access all the traditional personal computer features while also having the capability to detach from its screen and be utilized as a tablet.
- The Company also provides a vast array of PC accessories to its customers. Hardware such as charging cables, keyboards, mice, headsets (wired and wireless), and many others are marketed to consumers to increase the quality of their digital experience.



Gaming: is driven by the Xbox brand, which includes vast libraries of digital content and in-app purchases, as well as the traditional system hardware. While the Company receives revenue from the purchase of hardware and content, it has prioritized building out recurring revenue in the form of the Xbox Game Pass and other subscription services. According to Statista, the Xbox currently holds a 53% market share in the console market in the United States.

Productivity and Business Processes

This segment consists of products and services within the Company's vast portfolio of productivity, communication, and information services. It maintains a goal of optimizing business processes and increasing productivity, spanning all devices within a company. It includes SaaS offerings, such as the famous Microsoft Office suite, as well as LinkedIn, an employment-oriented service, and Dynamics 365, which is a suite of ERP and CRM applications that power customer insights to enhance internal company operations and bolster external revenue generation.

Microsoft Office: includes both Office Commercial and Office Consumer, which offer identical services, but differ only in their pricing options to enterprises or an everyday customer. The Office Suite includes programs like Word, Excel, PowerPoint, and others, which are SaaS solutions that can be licensed on-premise or off-premise and aid in document creation, management, and storage. Office dominates the productivity software market, with an 89% market share in 2021, according to Statista.

LinkedIn: is the world's largest professional network on the internet, helping consumers market themselves to find employment opportunities. Recurring revenues are generated from premium user memberships and other sales come from talent and marketing solutions, and advertising. The social media platform boasts more than 810 mn users in 200 countries and was acquired by MSFT in 2016 for $26.2 bn in an all-cash transaction.

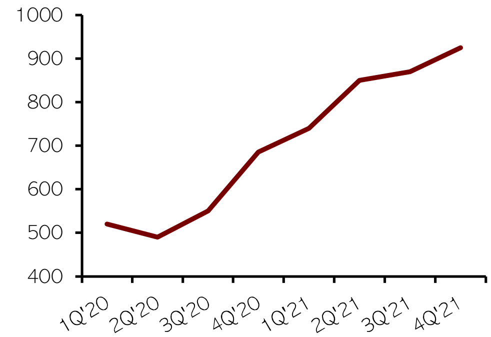
Dynamics 365: is a product line of enterprise resource planning (ERP) and customer relationship management (CRM) applications. These apps are cloud-based and look to enhance business operations within the digital age. Trusted by companies such as GNC, HPQ, and CVX, among others,

INDUSTRY OVERVIEW

Hackers Be Hackin'

Since 2H'20, the US has experienced a large increase in the number of cyber-attacks in both the public and private sectors. According to SonicWall, ransomware attacks increased 62% YoY worldwide from 2019 to 2020 and increased by 158% YoY in North America alone during the same period. The pandemic only accelerated this trend, with a 61% increase in 2021, and cyber-attacks per week for an organization hit an all-time high of 925 in 4Q'21. Overall, there has been a 50% YoY increase in attacks on corporate networks in 2021. Not only are ransomware attacks rising, but they are becoming more high profile. In the past two years, there have been several cyber-attacks making headlines in the news.

Global Weekly Cyber Attacks per Organization



Source: Check Point Research

- In early 2020, SolarWinds, a major US information technology firm, was hacked and its Orion network monitoring software became compromised due to malicious code. The breach compromised its over 18,000 customers including the US Treasury, Justice, and Commerce Departments as well as other government agencies, giving the hackers access to emails and other sensitive information.
- In May 2021, a ransomware attack on the Colonial Pipeline forced the company to halt operations for days, resulting in fuel shortages across the East Coast. The hackers stole 100 gigabytes of data and demanded a ransom payment of 75 Bitcoin (~$5 mn) or the data would be released on the internet. The company paid the ransom shortly after the attack, but it still took six days to get the pipeline restarted.

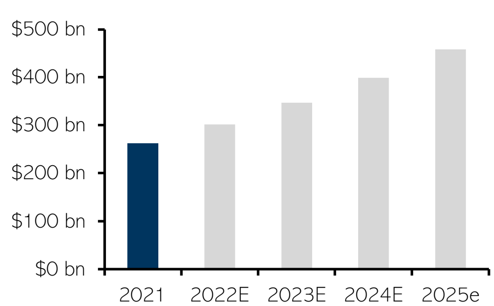
Why has there been an increase in attacks?

It is a combination of many factors, but the main reason is companies' willingness to pay the ransom. The risk management approach for cyber-attacks for many companies is to just pay the ransom to get their data back to resume operations. Hackers know this and see attacking companies as an easy way to make money. The other factors include the rise of Bitcoin, a decentralized, currency that makes paying ransoms harder to track, and the overall increase of online activity incited by the pandemic, which has increased the amount of sensitive user data that can be stolen and sold for a high price to malicious organizations.

Breaking out the Checkbook for More Security

The increase in cyber-attacks has more companies switching their approach from paying the ransom to bolstering security measures. According to Cybercrime Magazine, CEOs now identify cybersecurity as the most significant risk to the organization's growth over the next three years. The frequent interruptions and payments associated with the ransomware attacks have proven costly that now it makes sense to spend more to reduce the occurrence. In a survey conducted by PwC, 69% of organizations expect an increase in cyber spending in 2022, and 26% expect an increase greater than 10%. Cybersecurity Ventures estimates cybersecurity spending to grow at a 15% CAGR through 2025, reaching $459 bn.

Global Cybersecurity Spending



Source: Cybersecurity Ventures

An increase in spending doesn't always yield the results that companies are searching for because they might not be spending it wisely. Traditionally, the majority of security budgets consist of security services and infrastructure protection. However, there has been increased spending in smaller areas like cloud security and data security, with 41% and 18% YoY increases respectively that are more beneficial in an ever-increasing digital world.

Historically, gamers have been confined to three distinct groups, defining the consumer as someone who plays on either a mobile device, console, or PC. However, with advancements in 5G and cloud infrastructure, a new form of gaming is rapidly growing and becoming a favorite among consumers. What if there was a way to play any game you wanted, without having to download it, and without being confined to a specific console? Welcome to the world of cloud gaming, where the user experience is enhanced, and the possibilities are limitless.

The Future of Gaming: Welcome to the Cloud

What is Cloud Gaming?

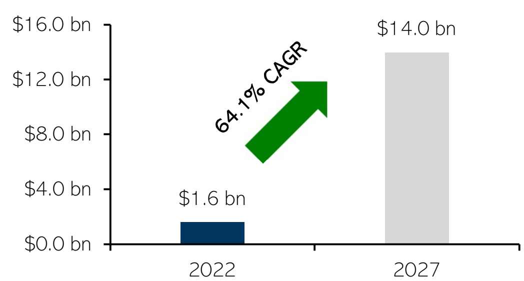
Cloud gaming is a method of playing video games using off-premise, remote servers housed in data centers. Instead of the traditional form of paying for a game and installing it on a device, cloud gaming allows the user to access content without having to download it. Think of cloud gaming as akin to Netflix - instead of downloading the movie on your TV, you utilize the platform to stream it, just as you would with playing a video game.

Since a brand-new console, such as an Xbox One S or a PS5 is not necessary, the possibilities for gaming are limitless. Rather than needing a new system or a powerful graphics card, all the user needs is a strong internet connection to handle the streaming capabilities of the video game.

Who Offers Cloud Gaming?

Since this concept was popularized in 2019, it is still in its infancy, causing there to be only a few major providers of cloud gaming services, including Nvidia GeForce Now, Microsoft xCloud, Google Stadia, PlayStation Now, and Amazon Luna. These main providers compete for the current 23.7 mn paid users and $1.6 bn TAM. Although this may seem insignificant in terms of current revenue generation, the cloud gaming market is expected to grow at a CAGR of 64.1% and reach $14 bn in 2027, so the market participants that establish themselves now will reap the benefits in the coming years.

Cloud Gaming Market Size



Source: Global News Wire

How is Revenue Generated?

Cloud gaming services generate revenue based on a subscription model, rather than the traditional form of selling a disc copy and having incurred a one-time sale. By charging players repeatedly, it allows companies to generate more predictable revenue and gauge necessary investments for content and infrastructure buildout. Typical subscriptions can range from $5.99 to $24.99/month based on accessibility, graphics, and content availability.

All Eyes on the Content

What is important to the consumer?

For cloud gamers, the content and selection of games is the deciding factor when choosing a service provider. Because this type of gaming is utilizing a “stream-to-play” model, it operates just like any other streaming service like Netflix or Hulu – the platform with the best content will be the favorite among consumers because it gives them the most accessibility to the current and most popular titles. This simple fact has caused cloud gaming providers to prioritize improving their games and titles as well as acquiring other firms to bolster their content portfolios.

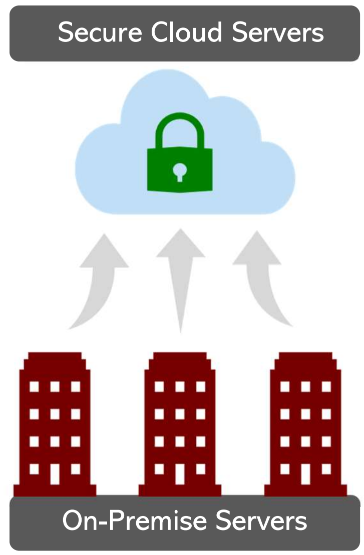
What is important to the provider?

Since games are being streamed and not downloaded on the server of the gamer, a cloud gaming provider requires an extensive infrastructure of data centers and server farms to run the games and handle the high-bandwidth internet connections. Estimates from analysts believe it costs around $0.40 per consumer hour to host, so pricing a subscription is essential so that it does not lose money if a gamer plays for extended hours during the month. Essentially, the more that a customer plays, the more the hosting company will be forced to pay. However, with an extensive library of content, firms can increase prices to justify providing the best games to their customers.

CATALYSTS & DRIVERS

Locking Down the Cloud

With the widespread increase in cyberattacks, many companies have been impacted and MSFT is not an exception. Early in 2021, MSFT experienced a wave of cyberattacks and data breaches on its on-premises Microsoft Exchange Servers after several vulnerabilities were discovered. These vulnerabilities gave the hackers full access to user emails and passwords, administrator privileges, and connected devices on the impacted servers. The Company estimated that 250,000 servers were impacted by the breach, many belonging to SMBs, local institutions, and local governments. In March, MSFT patched the vulnerability with updates for Microsoft Exchange Server, but the damage was already done. In the wake of the data breaches, MSFT has doubled down on improving security to maintain its reputation and leading position in the field with **plans to spend more than $20 bn on cyber security over the next five years**. Although it is a negative to have security breaches, it acts as a catalyst for enterprises to reevaluate their security needs and make the switch to MSFT's more secure cloud offerings of Exchange and the Company's other productivity applications.



- With on-premises servers, the protected firm is responsible for maintaining the servers and creating a security system to protect them from attacks, which requires in-house time and money. Companies often have a false sense of security and spend less on cybersecurity with on-premises servers since there is more control and fewer people have access to them, but it leaves the servers more vulnerable than the alternative option: the cloud. The advantage of shifting to the cloud is that it transfers all responsibility from the customer to MSFT. All maintenance, up-to-date software, security, and support responsibilities for the servers are handled by MSFT in exchange for monthly subscription fees. This results in increased security since MSFT can use all of its resources to protect customers' data. According to Gartner estimates, **public cloud workloads result in at least 60% fewer security incidents than those in traditional data centers.**

Although cybersecurity is not the first thing that comes to mind when you think of MSFT, it is a quickly growing business for the Company. In FY'21, security generated $15 bn in revenue, a 45% increase YoY, which is faster than most other security providers in the industry. This can be attributed to MSFT's advantage over all competitors: integration with core products. MSFT's Office 365 has been a staple for companies worldwide for decades, with 1.2 bn users at over a million companies worldwide. **Enterprises are more likely to choose security options that are extensions of their core products,** and MSFT's productivity apps dominate the market with an 89% market share, according to Statista, and these apps are widely used across all industries. With its strong existing customer base, MSFT stands to benefit from the increased enterprise spending on cyber security.

- MSFT's cybersecurity products are not limited to the MSFT brand, as they are compatible with other cloud providers such as AWS and Google Cloud. With Microsoft Defender for Cloud, it provides Cloud Security Posture Management and Cloud Workload Protection across the three major providers in a single place. Although GOOG recently acquired Mandiant, it will still be competing with MSFT for its customers' security needs.

Although cybersecurity is the reason enterprises are switching to the cloud, it is not going to be the main beneficiary of the revenue. Once its cybersecurity products entice enterprises to move to the cloud, the Company will then encourage the enterprise to switch to its extensive cloud offerings from the legacy options. The most significant winner from this would be Office 365. MSFT's office products and cloud services made up 22% of total revenue in 2Q'22, and Bloomberg expects it to **grow by double digits in the next year, in addition to increased average revenue per user (ARPU) growth as the one-time payment licensing option for on-premises servers turns into monthly recurring revenue for the Company.**

Gaming: All in One

Closing the Gap Between the Cloud and the Consumer

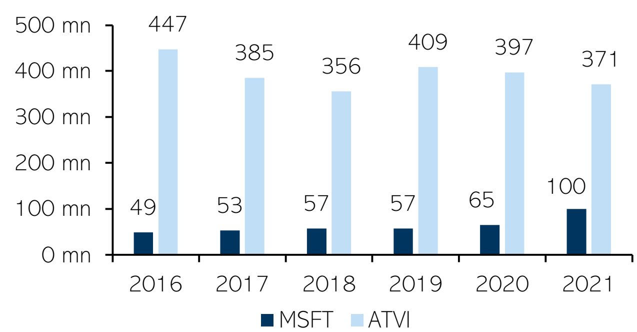
MSFT released its Xbox Game Pass in 2017, revolutionizing the concept of cloud gaming. While traditional forms of gaming blossomed during the pandemic, their growth prospects are now uncertain due to a myriad of factors. Looking ahead, all eyes will be on the content, as opposed to the system. We are confident that cloud gaming will emerge as a best-in-class service as it bridges the gap between console, mobile, and PC gaming. **By leveraging its extensive library of content and 25 mn paid Game Pass users, MSFT is best suited to capitalize on this rapidly-growing market**, and its capabilities will only be bolstered by its acquisition of ATVI.

- The Xbox Game Pass currently costs $14.99/month on Xbox and $9.99/month on PC and is set to contribute $4 bn to the Company's revenue in 2022. Overall, MSFT's gaming segment accounts for ~9% of revenue ($18 bn), with the bulk of it currently coming from content and hardware sales.
- MSFT currently possesses the most subscribers (25 mn) among any competing service, and although this is promising in terms of growth capabilities, the switching costs for customers are extremely low, so it will be up to MSFT to continuously add high-quality games and content to its Game Pass service to entice customers to stay subscribed. Management has realized the requirement for top-tier content, and the Company has found its solution to this need by announcing in Jan'22 that **it intends to acquire Activision Blizzard Inc. (ATVI) for $68.7 bn**, the largest acquisition in the history of both MSFT and the Information Technology sector.

Why Acquire ATVI?

Despite recent scrutiny over employee misconduct and poor management practices, **ATVI remains an attractive acquisition target due to its extensive library of highly popular content and its diverse delivery of this content**. ATVI's titles such as *Candy Crush* and *Call of Duty* possess extremely loyal fanbases which can be transferred into paid members of the Game Pass, and ATVI also maintains a strong foothold in the extremely fast-growing mobile gaming market, as well as low risk, high reward international markets, like India.

Xbox Live vs ATVI MAUs



Sources: Company Filings, Statista

- According to Bloomberg, ATVI is home to 400 mn MAUs across its various titles, which is a substantial increase relative to MSFT's 100 mn MAUs in Jan'21. Despite some overlap between the two services, this massive userbase opens the door for extensive monetization within the Game Pass. **Analysts expect that the ATVI acquisition will increase gaming's contribution to revenue to 11% - 12% in FY'24**, up from 8% - 9% in FY'21. It will also expand **its market share in the global gaming space from 6.5% to 10.7%, a 65% increase in size.** While this increase represents a small portion of the overall market and may seem minuscule in the near term, it will only continue to gain traction among players as cloud gaming expands.
- Unlike in China, **the Indian gaming market faces less regulatory and government scrutiny, making it a safer bet and more attractive for growth**. Currently, ATVI's *Candy Crush Saga* and *Call of Duty: Season 1* are among the top 10 highest-grossing mobile games in India. Furthermore, the country is home to 430 mn mobile gamers, with the TMV currently estimated at $1.6 bn and growing at 35% - 40% annually.
- All things considered, MSFT's strong execution in its gaming segment in the past gives our team confidence that it has what it takes to revitalize ATVI's business and reform it into the industry leader that it once was. With MSFT's growth story historically being centered around Azure and its quarterly growth, we believe that **the high growth opportunities within cloud gaming will attract investors and cause them to reward MSFT's multiple** as it continues to grow and establish its market share within this new form of gaming.

UNDERVALUATION & THESIS

A Name for the Short and Long Term

In recent weeks, technology stocks have continued their decline, yet the negative returns seem to be slowing down. Since the environment remains relatively unchanged from the beginning of the year, we are confident that our criteria of a large company, with stable and predictable cash flows, that is intrinsically undervalued while also containing catalysts for future growth, will help us bring another strong name into the portfolio. We believe that strong name is MSFT, the largest software company in the world with proven resilience against any market downturns given its longevity. Its consistent cash flows from recurring revenue and its myriad of products put the Company in a strong position to "weather the storm" in the short term and expand in the digital world in the future. We are confident that MSFT is one of a handful of stocks that investors would be confident in holding for years to come, and we believe that adding it to the Fund's Technology portfolio will provide growth and stability beyond our investment horizon.

At a Rare Discount

MSFT currently trades at an NTM P/E multiple of 30.3x, representing a 10% discount to its one-year median of 33.5x and a 15% contraction YTD from its 35.7x multiple at the beginning of the year. The Company has strong fundamentals and has nothing to prove to investors as it delivers strong financial results every quarter, making the occurrence of MSFT being intrinsically undervalued a rare opportunity. **In the last twelve months, the Company has only traded at a discount to its three-year median of 31.8x for 45 days.** MSFT has been a victim of the technology stock selloff due to rising bond yields since the beginning of 2022 in addition to a less than enthusiastic reaction from investors to its announced acquisition of ATVI in January. These factors have caused the stock price to fall 14% YTD, leaving many questioning its future growth potential, except for us.

Our team believes that the investor reactions to these two factors are unjustified. While rising rates are a major concern for some technology companies, MSFT is not one of them. The Company has stable cash flows and hasn't missed analyst estimates for EPS, revenue, EBITDA, or any other metric in the past two years. MSFT has shown its ability to grow and adapt to be able to succeed in any environment, and rising interest rates are no exception. It does not change anything fundamentally for the business, giving us confidence that MSFT will be able to continue its strong financial performance. The potential acquisition of ATVI gives MSFT a larger exposure to the gaming industry and pairs well with its Xbox franchise but also brings regulatory concerns and internal issues with it. Since ATVI is a leader in gaming, there is uncertainty if the acquisition will be approved given that regulators are cracking down on anti-competitive behavior. In addition, ATVI has been in the news for having a toxic work culture, but management has taken corrective steps moving forward to promote diversity and inclusion. Although there is uncertainty and improvements to be made, we believe this acquisition will be beneficial for MSFT in the long run. MSFT needed to find a use for its large cash reserves of $138 bn (third highest in the S&P 500) and saw ATVI as an opportunity to expand its gaming offerings. If the deal falls through, it will not dampen MSFT's cloud gaming prospects since the Company is already making a name for itself in the space; the acquisition of ATVI would simply accelerate its existing momentum in terms of increasing market share and revenue.

Why Software Again?

Although the IT portfolio remains software heavy with AVGO being our only non-software equity holding, MSFT provides the portfolio with more than just software exposure. MSFT caters to a wide variety of customers and most software names cannot match the Company's large presence in the hardware and gaming industries with its laptops and tablets in addition to Xbox and its emerging presence within cloud gaming. We are diversifying with one all-encompassing company in MSFT that reaches many different industries instead of diversifying with a few companies. To make room in the portfolio, we are pitching MSFT on a swap for SAP since MSFT has more to offer and is better positioned in the short and long term.

MSFT is a better option for the Fund and, in our opinion, it is a clear upgrade over SAP. Although SAP has a strong cloud business and is a leader in the ERP market, we would maintain that exposure with MSFT's Azure and Dynamics 365. While MSFT is rarely intrinsically undervalued, SAP is the opposite, trading at a discount to its three-year median of 22.0x for 170 days in the past year.

PEER GROUP ANALYSIS

Cloud & Software Peers

MSFT's primary peer group consists of companies operating in both the cloud computing and software industries.

Companies such as ORCL, SAP, and ADBE offer SaaS solutions that are comparable to Dynamics 365 and MSFT's ERP and CRM offerings. GOOG also provides its Google Suite of products that rival the Microsoft Office Suite.

Firms such as AMZN and GOOG compare to MSFT's cloud offerings, specifically Azure, by offering their own comparable services through AWS and Google Cloud.

Cloud Gaming Peers

MSFT's Cloud Gaming peer group consists of companies who currently offer cloud gaming services to their clients.

Each company has its own unique brand and content that it provides to entice customers to stay subscribed to its service or transfer from another existing company.

NVDA offers GeForce Now, SONY provides PlayStation Now, AMZN operates Amazon Luna, GOOG offers Stadia, and IBM provides data centers and infrastructure for cloud gaming and hosting capabilities.

Cloud & Software Peers

				Sales		EPS		EBITDA Margin		Profit Margin		Enterprise Value / EBITDA		Enterprise Value / Sales		Price / Earnings	
	Ticker	Market Cap	Enterprise Value	LTM	2022E	LTM	2022E	LTM	2022E	LTM	2022E	LTM	2022E	LTM	2022E	LTM	2022E
Microsoft Corporation	MSFT	$2,208,502	$2,163,507	20.6%	18.3%	40.0%	17.2%	49.1%	49.4%	38.5%	35.8%	22.9x	22.0x	11.5x	10.9x	30.9x	31.0x
Oracle Corporation	ORCL	199,776	255,812	5.1%	4.6%	7.2%	5.8%	44.5%	50.6%	24.8%	31.4%	13.7x	11.9x	6.3x	6.0x	21.6x	15.0x
SAP SE	SAP	114,725	121,303	1.8%	6.8%	2.4%	19.2%	23.2%	33.3%	18.9%	21.2%	17.2x	12.2x	4.3x	4.1x	21.7x	18.2x
Adobe Inc.	ADBE	218,784	217,659	22.7%	13.7%	(7.5)%	37.7%	40.4%	49.0%	30.5%	36.7%	32.7x	24.8x	13.4x	12.1x	45.1x	33.2x
Alphabet Inc.	GOOG	1,753,988	1,642,847	41.2%	17.8%	91.4%	3.5%	35.4%	40.1%	29.5%	25.5%	17.3x	13.5x	6.3x	5.4x	23.5x	22.7x
Amazon.com, Inc.	AMZN	1,540,353	1,583,743	21.7%	15.1%	54.9%	(24.3)%	12.6%	15.5%	7.1%	4.6%	22.5x	18.9x	3.2x	2.9x	44.9x	61.4x
High		$1,753,988	$1,642,847	41.2%	17.8%	91.4%	37.7%	44.5%	50.6%	30.5%	36.7%	32.7x	24.8x	13.4x	12.1x	45.1x	61.4x
Mean		765,525	764,273	18.5%	11.6%	29.7%	8.4%	31.2%	37.7%	22.2%	23.9%	20.7x	16.3x	6.7x	6.1x	31.4x	30.1x
Median		218,784	255,812	21.7%	13.7%	7.2%	5.8%	35.4%	40.1%	24.8%	25.5%	17.3x	13.5x	6.3x	5.4x	23.5x	22.7x
Low		114,725	121,303	1.8%	4.6%	(7.5)%	(24.3)%	12.6%	15.5%	7.1%	4.6%	13.7x	11.9x	3.2x	2.9x	21.6x	15.0x

Company		General Statistics			Returns Analysis			2021A Leverage Analysis: Total Debt /			2021A Coverage Analysis			Liquidity Profile		Credit Profile	
	Ticker	Tax Rate	Beta	Dividend Yield	ROIC	ROE	ROA	Cap	EBITDA	Equity	EBITDA / Int. Exp.	(EBITDA - Capex)/Int.	EBIT / Int. Exp.	Quick Ratio	Current Ratio	S&P	Outlook
Microsoft Corporation	MSFT	13.8%	0.89	0.8%	30.8%	49.1%	15.2%	0.4x	1.0x	0.6x	35.6x	26.7x	30.0x	1.90	2.08	AAA	Stable
Oracle Corporation	ORCL	18.4%	0.81	1.7%	14.5%	17.8%	9.2%	0.9x	4.7x	14.6x	7.5x	6.6x	6.3x	2.18	2.30	BBB+	Watch Neg
SAP SE	SAP	21.5%	1.04	1.9%	9.1%	15.1%	5.2%	0.2x	2.0x	0.3x	32.7x	28.9x	25.5x	1.15	1.24	A	Stable
Adobe Inc.	ADBE	15.5%	1.01	0.0%	31.4%	34.4%	14.1%	0.2x	0.7x	0.3x	57.5x	54.4x	51.3x	1.11	1.25	A+	Stable
Alphabet Inc.	GOOG	16.2%	1.07	0.0%	25.4%	32.1%	14.5%	0.1x	0.3x	0.1x	273.3x	202.1x	227.5x	2.80	2.93	AA+	Stable
Amazon.com, Inc.	AMZN	12.6%	1.13	0.0%	9.0%	28.8%	4.2%	0.5x	2.1x	1.0x	37.6x	3.8x	13.8x	0.90	1.14	AA	Stable
High		21.5%	1.13	1.9%	31.4%	34.4%	14.5%	0.9x	4.7x	14.6x	273.3x	202.1x	227.5x	2.80	2.93		
Mean		16.8%	1.01	0.7%	17.9%	25.6%	9.4%	0.4x	1.9x	3.3x	81.7x	59.2x	64.9x	1.63	1.77		
Median		16.2%	1.04	0.0%	14.5%	28.8%	9.2%	0.2x	2.0x	0.3x	37.6x	28.9x	25.5x	1.15	1.25		
Low		12.6%	0.81	0.0%	9.0%	15.1%	4.2%	0.1x	0.3x	0.1x	7.5x	3.8x	6.3x	0.90	1.14		

Cloud Gaming Peer Group

	Ticker	Market Cap	Enterprise Value	Sales LTM	Sales 2022E	EPS LTM	EPS 2022E	EBITDA Margin LTM	EBITDA Margin 2022E	Profit Margin LTM	Profit Margin 2022E	Enterprise Value / EBITDA LTM	Enterprise Value / EBITDA 2022E	Enterprise Value / Sales LTM	Enterprise Value / Sales 2022E	Price / Earnings LTM	Price / Earnings 2022E
Microsoft Corp.	MSFT	$2,208,502	$2,163,507	20.6%	18.3%	40.0%	17.3%	49.1%	49.4%	38.5%	35.8%	21.7x	22.0x	10.9x	10.9x	29.4x	31.0x
NVIDIA Corporation	NVDA	593,700	584,179	61.4%	29.4%	123.2%	45.4%	41.7%	43.1%	36.2%	40.8%	46.4x	38.9x	19.6x	16.8x	55.9x	41.8x
Sony Group Corporation	SONY	14,193,045	16,020,012	16.3%	11.0%	0.2%	(27.7)%	15.8%	17.7%	9.9%	0.0%	9.6x	9.0x	1.6x	1.6x	14.0x	--
Alphabet Inc.	GOOG	1,753,988	1,642,847	41.2%	17.7%	91.4%	3.5%	35.4%	40.1%	29.5%	25.5%	16.6x	13.5x	6.1x	5.4x	22.7x	22.7x
Amazon.com, Inc.	AMZN	1,540,353	1,583,743	21.7%	15.1%	54.9%	(24.5)%	12.6%	15.5%	7.1%	4.6%	21.0x	18.9x	3.0x	2.9x	42.0x	61.5x
International Business Machines Corpo	IBM	109,689	157,674	3.9%	5.9%	18.9%	58.0%	21.3%	27.7%	10.0%	15.0%	11.8x	9.4x	2.8x	2.6x	24.1x	12.1x
High		$14,193,045	$16,020,012	61.4%	29.4%	123.2%	58.0%	41.7%	43.1%	36.2%	40.8%	46.4x	38.9x	19.6x	16.8x	55.9x	61.5x
Mean		3,638,155	3,997,691	28.9%	15.8%	57.7%	10.9%	25.3%	28.8%	18.6%	17.2%	21.1x	18.0x	6.6x	5.9x	31.7x	34.5x
Median		1,540,353	1,583,743	21.7%	15.1%	54.9%	3.5%	21.3%	27.7%	10.0%	15.0%	16.6x	13.5x	3.0x	2.9x	24.1x	32.2x
Low		109,689	157,674	3.9%	5.9%	0.2%	(27.7)%	12.6%	15.5%	7.1%	0.0%	9.6x	9.0x	1.6x	1.6x	14.0x	12.1x

Company	Ticker	General Statistics: Tax Rate	General Statistics: Beta	General Statistics: Dividend Yield	Returns Analysis: ROIC	Returns Analysis: ROE	Returns Analysis: ROA	2021A Leverage Analysis: Total Debt / Cap	Total Debt / EBITDA	Total Debt / Equity	2021A Coverage Analysis: EBITDA / Int. Exp.	(EBITDA - Capex)/Int.	EBIT / Int. Exp.	Liquidity Profile: Quick Ratio	Liquidity Profile: Current Ratio	Credit Profile: S&P	Credit Profile: Outlook
Microsoft Corp.	MSFT	13.8%	0.89	0.8%	30.8%	49.1%	15.2%	0.4x	1.0x	0.6x	35.6x	26.7x	30.0x	1.90	2.08	AAA	Stable
NVIDIA Corporation	NVDA	1.9%	1.38	0.1%	27.1%	44.8%	17.2%	0.3x	1.0x	0.4x	48.2x	44.1x	42.5x	5.96	6.65	A-	Stable
Sony Group Corporation	SONY	0.1%	0.70	0.6%	11.6%	15.4%	2.4%	0.3x	1.7x	0.4x	119.6x	77.6x	80.3x	0.78	0.92	A-	Positive
Alphabet Inc.	GOOG	16.2%	1.07	0.0%	25.4%	32.1%	14.5%	0.1x	0.3x	0.1x	273.3x	202.1x	227.5x	2.80	2.93	AA+	Stable
Amazon.com, Inc.	AMZN	12.6%	1.13	0.0%	9.0%	28.8%	4.2%	0.5x	2.1x	1.0x	37.6x	3.8x	13.8x	0.90	1.14	AA	Stable
International Business Machines Corpo	IBM	2.6%	1.09	5.4%	8.3%	23.7%	2.5%	0.7x	4.0x	2.9x	11.8x	10.0x	5.0x	0.68	0.88	A-	Stable
High		16.2%	1.38	5.4%	27.1%	44.8%	17.2%	0.7x	4.0x	2.9x	273.3x	202.1x	227.5x	5.96	6.65		
Mean		6.7%	1.07	1.2%	16.3%	29.0%	8.2%	0.4x	1.8x	1.0x	98.1x	67.5x	73.8x	2.22	2.50		
Median		2.6%	1.09	0.1%	11.6%	28.8%	4.2%	0.3x	1.7x	0.4x	48.2x	44.1x	42.5x	0.90	1.14		
Low		0.1%	0.70	0.0%	8.3%	15.4%	2.4%	0.1x	0.3x	0.1x	11.8x	3.8x	5.0x	0.68	0.88		

RISKS TO INVESTMENT THESIS

Slowing Sales Growth Due to Tough Comps

MSFT experienced tremendous growth during the pandemic, as lockdowns caused businesses and individuals alike to invest across all of its segments. On the enterprise side, companies built out WFH infrastructure by licensing the Office Suite, Teams, and purchasing hardware to ease the transition to remote work. Firms also poured capital into the cloud and looked to digitally transform their companies to fit the "new normal." Individuals looked for new ways to occupy their time, causing a resurgence in gaming, benefitting MSFT's Xbox brand and its related hardware. With the pandemic subsiding and people beginning to return to the traditional office setting, it will be tough for MSFT to continue to beat expectations, which it has done by an average of 4% over the last eight quarters. Furthermore, a projected slowdown in global IT spending (+5.5% YoY compared to +9.5% YoY in FY'21) and rising interest rates may also affect MSFT's ability to beat expectations as technology spending begins to tighten.

- *Mitigant:* With the pandemic subsiding and IT spending coming off an ultra-hot yet, slowing growth is inevitable. However, we believe investors are failing to appreciate the consistent future expansion that MSFT is expected to experience across its high-growth segments dealing in software, cloud, and cloud gaming. Despite an expected slowdown in the near term which will affect the entire industry, MSFT will continue to solidify its footprint as the global leader in software within the Fund's investment horizon.
- With investors focusing on MSFT's SaaS offerings and Azure growth, we are confident that they have failed to realize its vast buildout of cloud cybersecurity infrastructure and services. MSFT is much further advanced in this service as compared to peers like GOOG and AMZN, which we believe gives investors a reason to appreciate the multiple going forward, even though widespread growth will slow.

In our bear case, we modeled revenue growing at a CAGR of 9.4% through FY'26, which is below the Street's projections and management's expectations.

Competitive Risk Intensifies as ATVI Goes AFK

High-growth industries such as software, cloud computing, and gaming come with massive revenue potential. Obviously, this draws immense competition from other industry leaders like GOOG, AZMN, NVDA, and SONY as these companies look to capitalize on the explosive growth that awaits within the digital age.

- *Mitigant:* Although a myriad of competition exists across all segments, MSFT maintains a dominant market share across its business. In the Operating Systems market, its Windows OS maintains a 70% share, its Xbox console controls 53% of its respective market (figures for cloud gaming are not yet established due to the infancy of the market), and Office 365 holds nearly 90% of the productivity applications industry. With such a dominant share that is already established and high switching costs across its businesses, we are confident that MSFT will continue to reign supreme against competitors.
- Skeptics argue that the ATVI acquisition will not clear regulators due to antitrust concerns. However, we, along with our sell-side analyst, are confident that the deal does not significantly enhance MSFT's gaming segment in a way that will give it an unfair advantage relative to peers. Currently, MSFT is the 4th largest gaming company by revenue, and it will soon be the 3rd on this list once the deal closes, which is not a significant change. According to Bloomberg, the deal currently has a 60% probability of closing.
- Furthermore, the main source of antitrust issues would be MSFT restricting ATVI titles, such as *Call of Duty* on competitor platforms like SONY's PlayStation. While this may seem like a strategy for the Company to enhance the quality of its Game Pass, it would negatively impact the top line in the future, as Bloomberg analysts expect a move like this to cause a revenue loss of up to $1.4 bn and reduce EPS by $0.16.

In our bear case, we modeled a CAGR of 1.7% revenue growth within the More Personal Computing segment to reflect the possibility of the ATVI acquisition falling through and the subsequent revenue loss. Since MSFT is already well established within cloud gaming, ATVI is not essential to its expansion.

VALUATION ANALYSIS

DCF Assumptions

In our FY'22 base case, we assume revenue growth of 18.6%, representing a 110bps increase YoY, yet lower than the Street's expectations. We expect EBIT margins across all of MSFT's segments to slightly increase, reflecting continued demand and operational improvements as macroeconomic headwinds ease. Furthermore, we anticipate FY'22 SG&A expense to decrease as well to 14% of revenue, down 100bps YoY, as interest rate hikes will ease inflationary pressures and lower the input costs of server hosting, wages, and logistics. We modeled FY'22 Capex slightly below that of FY'21, as we expect management to be conservative with strategic capital allocation ahead of the planned acquisition of ATVI. We expect share repurchases to remain strong throughout FY'22, as we project $6 bn in buybacks for the two remaining quarters of MSFT's fiscal year. Even though the Company will be utilizing some of its cash pile to acquire ATVI, it has ample capital to allocate toward returning value to shareholders, and management has reiterated that this is a continued priority of the Company. Furthermore, we do not expect MSFT to issue any debt, and we believe the Company will consistently pay back $500 mn of its debt balance over the next year. Finally, we expect dividends to grow at a constant 10% each quarter as this has historically occurred.

Discounted Cash Flow	2019	2020	2Q22	3Q22e	4Q22e	2022e	2023e	2024e	2025e	2026e
Revenue	$125,843.0	$143,015.0	$51,728.0	$48,696.7	$53,679.4	$199,421.1	$229,875.8	$257,666.8	$289,955.3	$327,557.6
EBITDA	56,555.0	69,281.0	29,299.0	23,688.2	25,641.9	97,138.1	115,848.2	131,934.9	150,084.3	170,870.5
EBIT	42,959.0	52,959.0	26,649.0	20,159.4	22,017.2	84,661.7	99,822.0	114,899.0	129,756.2	147,069.2
Income Tax Benefit (Expense)	(4,448.0)	(8,755.0)	(19.0)	(3,589.3)	(3,928.9)	(11,287.2)	(17,856.0)	(20,612.1)	(23,331.2)	(26,497.1)
NOPAT (EBIAT)	$38,511.0	$44,204.0	$26,630.0	$16,570.2	$18,088.3	$73,374.4	$81,966.0	$94,286.9	$106,425.0	$120,572.1
% YoY Growth		*14.8%*				*22.1%*	*11.7%*	*15.0%*	*12.9%*	*13.3%*
Depreciation & Amortization			3,496.0	3,528.7	3,624.7	13,861.4	16,026.2	17,035.9	20,328.1	23,801.3
Stock-Based Compensation			1,897.0	1,785.8	1,968.6	7,353.4	8,430.1	9,449.3	10,633.4	12,012.4
Capital Expenditures			(5,865.0)	(5,356.6)	(5,904.7)	(22,936.4)	(29,883.9)	(33,496.7)	(37,694.2)	(42,582.5)
Goodwill Impairment			-	-	-	-	-	-	-	-
(Increase)/Decrease in Working Capital			(5,297.0)	(7,126.7)	(2,711.6)	(5,547.3)	(1,776.0)	(340.6)	(4,265.4)	(4,969.8)
(Increase)/Decrease in LT Items			(1,640.4)	(2,957.1)	(3,164.1)	(3,385.6)	(3,622.6)	(13,129.4)	(3,876.2)	(4,147.5)
Unlevered Free Cash Flow			$19,220.6	$6,444.3	$11,901.1	$62,720.2	$71,140.0	$73,805.6	$91,550.9	$104,686.1
% YoY Growth							*13.4%*	*3.7%*	*24.0%*	*14.3%*
Discountable Unlevered Free Cash Flow			$0.0	$6,444.3	$11,901.1	$18,345.4	$71,140.0	$73,805.6	$91,550.9	$104,686.1
Full-Year Discount						*0.29*	*1.29*	*2.29*	*3.29*	*4.29*
Mid-Year Discount						*0.15*	*0.79*	*1.79*	*2.79*	*3.79*
Discount Factor						*0.99*	*0.95*	*0.89*	*0.83*	*0.78*
Present Value of Future Free Cash Flow						$18,169.5	$67,515.6	$65,568.2	$76,134.4	$81,493.1
% Growth							*271.6%*	*(2.9%)*	*16.1%*	*7.0%*

Exit Multiple

	20.0x	21.0x	22.0x	23.0x	24.0x
5.8%	$418.09	$436.34	$454.58	$472.83	$491.07
6.3%	$411.19	$429.11	$447.03	$464.95	$482.87
6.8%	$404.43	$422.04	$439.64	$457.25	$474.86
7.3%	$397.82	$415.12	$432.42	$449.72	$467.01
7.8%	$391.36	$408.36	$425.35	$442.35	$459.34

Exit Multiple

	20.0x	21.0x	22.0x	23.0x	24.0x
5.8%	45.6%	52.0%	58.3%	64.7%	71.0%
6.3%	43.2%	49.4%	55.7%	61.9%	68.2%
6.8%	40.8%	47.0%	53.1%	59.2%	65.4%
7.3%	38.5%	44.6%	50.6%	56.6%	62.6%
7.8%	36.3%	42.2%	48.1%	54.0%	60.0%

Multiples Valuation

	Perpetuity Growth Rate				
	2.0%	2.5%	3.0%	3.5%	4.0%
5.8%	$289.33	$317.90	$353.94	$400.80	$464.23
6.3%	$284.71	$312.77	$348.17	$394.20	$456.51
6.8%	$280.18	$307.75	$342.53	$387.75	$448.95
7.3%	$275.76	$302.84	$337.01	$381.43	$441.57
7.8%	$271.43	$298.04	$331.61	$375.26	$434.34

	Perpetuity Growth Rate				
	2.0%	2.5%	3.0%	3.5%	4.0%
5.8%	0.8%	10.7%	23.3%	39.6%	61.7%
6.3%	(0.9%)	8.9%	21.2%	37.3%	59.0%
6.8%	(2.4%)	7.2%	19.3%	35.0%	56.3%
7.3%	(4.0%)	5.5%	17.4%	32.8%	53.8%
7.8%	(5.5%)	3.8%	15.5%	30.7%	51.3%

	NTM P/E				
	30.9x	31.9x	32.9x	33.9x	34.9x
$7.90	$243.78	$251.67	$259.57	$267.46	$275.36
$8.88	$274.25	$283.13	$292.01	$300.90	$309.78
$9.87	$304.72	$314.59	$324.46	$334.33	$344.20
$10.86	$335.19	$346.05	$356.91	$367.76	$378.62
$11.84	$365.66	$377.51	$389.35	$401.19	$413.04

	NTM P/E				
	30.9x	31.9x	32.9x	33.9x	34.9x
$7.90	(15.1%)	(12.4%)	(9.6%)	(6.9%)	(4.1%)
$8.88	(4.5%)	(1.4%)	1.7%	4.8%	7.9%
$9.87	6.1%	9.6%	13.0%	16.4%	19.9%
$10.86	16.7%	20.5%	24.3%	28.1%	31.9%
$11.84	27.3%	31.5%	35.6%	39.7%	43.8%

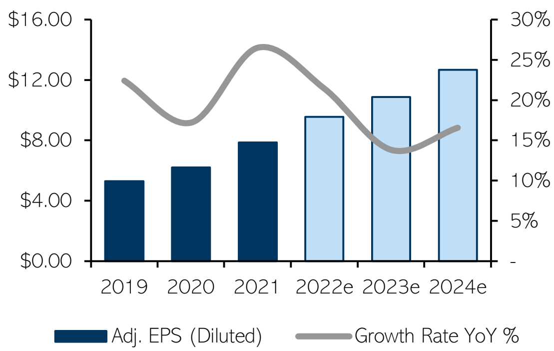
Returns Profile		
Methodology		Implied Return
	DCF	
20.0%	*Exit Multiple*	*52.5%*
50.0%	*Perpetual Growth Rate*	*19.3%*
	Historical Multiples	
30.0%	*NTM P/E*	*13.0%*
	Weighted Average	*24.0%*

FINANCIAL ANALYSIS

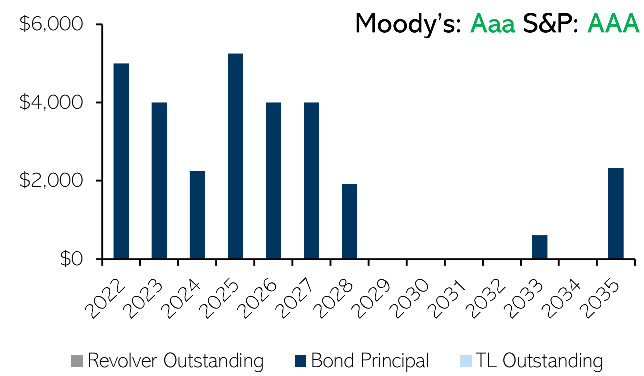
Revenue Build

Summary	2019	2020	2021	2022e	2023e	2024e	2025e	2026e
Total Company Revenue	$125,843.0	$143,015.0	$168,088.0	$199,421.1	$229,875.8	$257,666.8	$289,955.3	$327,557.6
% Growth YoY		*13.6%*	*17.5%*	*18.6%*	*15.3%*	*12.1%*	*12.5%*	*13.0%*
Productivity and Business Processes Revenue	$41,160.0	$46,398.0	$53,915.0	$63,443.1	$73,593.9	$80,953.3	$89,048.7	$97,953.5
% Growth YoY		*12.7%*	*16.2%*	*17.7%*	*16.0%*	*10.0%*	*10.0%*	*10.0%*
% of Total Revenue	*32.7%*	*32.4%*	*32.1%*	*31.8%*	*32.0%*	*31.4%*	*30.7%*	*29.9%*
Intelligent Cloud Revenue	$38,985.0	$48,366.0	$60,080.0	$75,907.3	$92,606.8	$111,128.2	$133,353.9	$160,024.6
% Growth		*24.1%*	*24.2%*	*26.3%*	*22.0%*	*20.0%*	*20.0%*	*20.0%*
% of Total Revenue	*31.0%*	*33.8%*	*35.7%*	*38.1%*	*40.3%*	*43.1%*	*46.0%*	*48.9%*
More Personal Computing Revenue	$45,698.0	$48,251.0	$54,093.0	$60,070.8	$63,675.0	$65,585.3	$67,552.8	$69,579.4
% Growth		*5.6%*	*12.1%*	*11.1%*	*6.0%*	*3.0%*	*3.0%*	*3.0%*
% of Total Revenue	*36.3%*	*33.7%*	*32.2%*	*30.1%*	*27.7%*	*25.5%*	*23.3%*	*21.2%*

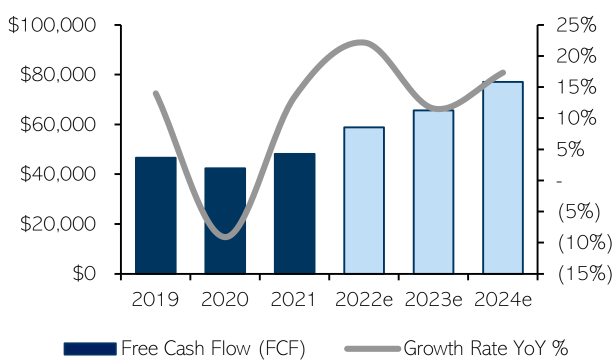
Earnings Per Share



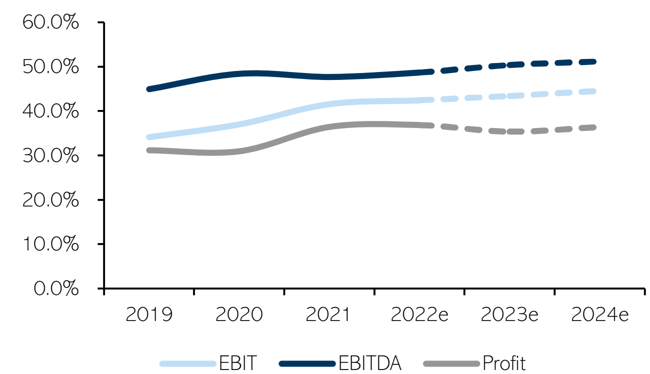
Debt Distribution



Free Cash Flow



Margins



APPENDIX

Exhibit I: Sell Side Discussion Summary

Analyst: Noah Herman | Equity Research Associate | JP Morgan

- **An Imperative Note:** As a preface to our sell side discussion, we want to make it clear that Noah does not actually cover MSFT. Previously, he worked in ER at Oppenheimer, where he covered the name, but he recently moved positions into JPM and has switched his coverage to fully integrated software stocks, such as ADBE. Although we were not aware of this before discussing our thesis with him, we left the call feeling satisfied, as he was completely transparent with us in his thoughts on the Company. In our opinion, it was better to hear the positives and negatives about the Company from an impartial analyst, as opposed to listening to a bullish analyst tell us how strong the Company is and how well it will do in the future.
- **MSFT's Fit in the Fund:** With Noah's tenure in the Fund, as well as him continuing to keep track of our holdings, he agrees with our team's thesis that MSFT would be a superior addition when compared to SAP. Due to MSFT's overall diversification and its various revenue streams, it is essentially hedged from supply chain constraints, slowdowns in cloud spending, or any lackluster performance in its gaming business. Its various streams of revenue make it much more attractive than SAP, which is heavily reliant on its newly-established cloud business to drive multiple expansion. Furthermore, even though MSFT is trading at a higher multiple relative to SAP, Noah believes this is warranted due to Azure's immense growth and the Company's superior market shares across a variety of its segments that make it a more valuable investment for the long-term.
- **ATVI and Overall Antitrust Risk:** When asked about the risk of antitrust against MSFT, Noah provided us with a two-sided answer. In terms of ATVI, he does not harbor concern about the deal not being finalized, as he believes it does not significantly increase MSFT's size and scale in the gaming industry. An antitrust suit and delayed acquisition would be much more feasible if MSFT chose to acquire a company like SONY, as their combined gaming businesses would dwarf competitors and essentially monopolize the industry. However, since MSFT is only going from the 4th biggest gaming company to the 3rd, it should not acquire a significant or unfair advantage over its peers. Overall, the risk of antitrust and scrutiny against MSFT and the rest of Big Tech is always a risk, especially given the Biden administration's commitment to breaking down the leverage and scale that these companies possess. With Lina Khan as the current chair of the FTC and her history of voicing strong distaste for Big Tech, the risk of increased regulation is something that we see as probable in the long-term, but there is not enough risk that we see in the Fund's investment horizon to justify us choosing to not pitch MSFT at such a rare discount.
- **How the Current Environment Affects MSFT:** Similar to ADBE, Noah believes that rising interest rates and widespread market turmoil make industry leaders, like MSFT, even more attractive. However, Noah believes that a primary factor that will drive valuations in the near-term is the ability of a firm to "beat and raise." This means that a Company will need to beat estimates and then raise guidance for the coming quarter or year. This proves to investors that historical growth was strong, and future expansion expectations remain. In our eyes, MSFT is the poster child for strong earnings and guidance, as it has beat on every metric in the last eight quarters by at least 4%, and its most recent guidance was better-than-expected.
- **How to Approach the Pitch Process:** When discussing with Noah about the pitch and how we frame our story, he explained that it is paramount to keep our pitch as simple as possible and focus on MSFT as a whole as opposed to each of its business segments. This resonated with us, as one of our criteria at the beginning of the semester was to stick to the basics of picking a fundamentally strong company. After reading the pitch, we are sure that it can be confusing when taking a deep dive into the cloud and MSFT's segments, however, it is important to focus on the undervaluation and the rare discount that the Company is trading at, and why it is an attractive opportunity to enter a position for the Fund's future growth and alpha generation.

J.P.Morgan

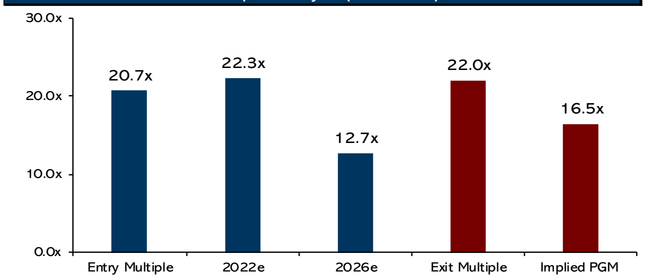
Exhibit II: Model Output

Microsoft Corp. (MSFT) Valuation Overview

$ in Millions Except Per Share Data

Price Target Scenario:	Base Case
Current Share Price:	$287.15
Valuation Date:	3/15/2022

Multiples Analysis (EV/EBITDA)

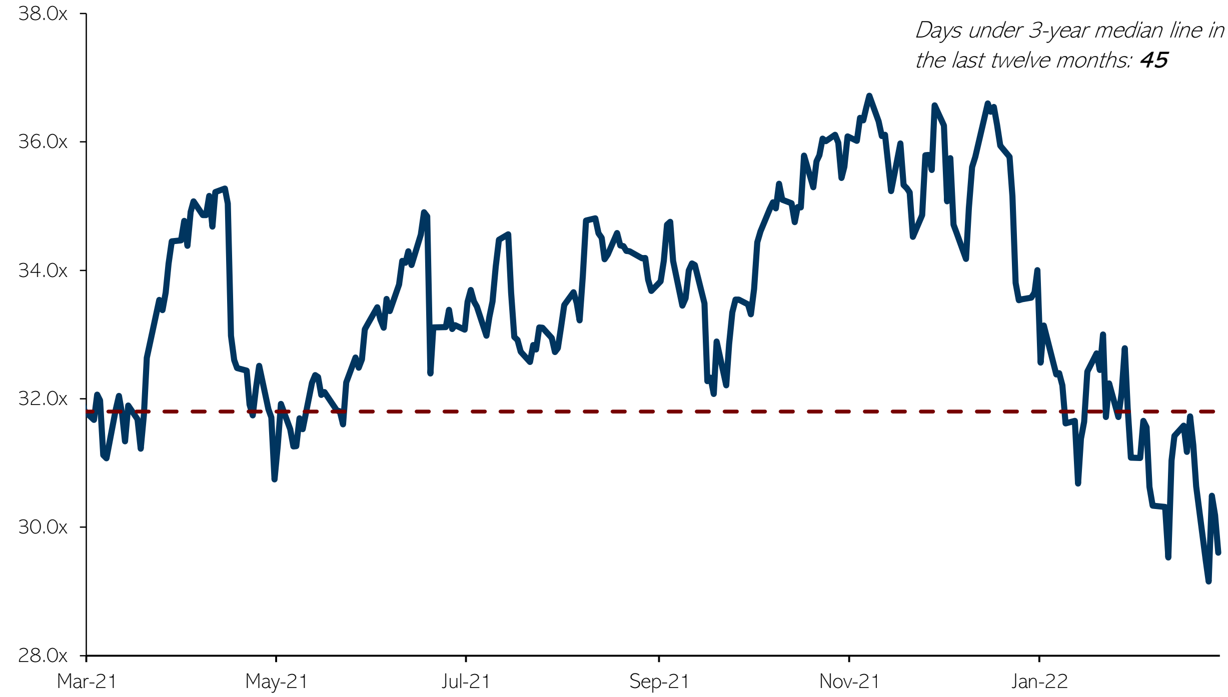


Return Summary	
Exit Multiple Method	
Implied Enterprise Value:	$3,235,200
Implied Equity Value:	3,321,506
Implied Share Price:	$440
% Return:	53.1%
Perpetuity Growth Method	
Implied Enterprise Value:	$2,501,476
Implied Equity Value:	2,587,782
Implied Share Price:	$343
% Return:	19.3%

	Annuals							CAGR	CAGR
Consolidated Financials	2020	2021	2022e	2023e	2024e	2025e	2026e	Historical	Projected
Revenue	$143,015	$168,088	$199,421	$229,876	$257,667	$289,955	$327,558	*15.6%*	*14.3%*
YoY % Growth	*13.6%*	*17.5%*	*18.6%*	*15.3%*	*12.1%*	*12.5%*	*13.0%*		
Gross Profit	$96,937	$115,856	$136,769	$158,440	$179,316	$202,245	$228,959	*18.2%*	*14.6%*
% Margin	*67.8%*	*68.9%*	*68.6%*	*68.9%*	*69.6%*	*69.8%*	*69.9%*		
YoY % Growth	*16.9%*	*19.5%*	*18.1%*	*15.8%*	*13.2%*	*12.8%*	*13.2%*		
EBITDA	$69,281	$80,228	$97,138	$115,848	$131,935	$150,084	$170,870	*27.6%*	*16.0%*
Margin	*48.4%*	*47.7%*	*48.7%*	*50.4%*	*51.2%*	*51.8%*	*52.2%*		
YoY % Growth	*23.3%*	*32.0%*	*21.1%*	*17.9%*	*15.1%*	*12.9%*	*13.3%*		
Net Income (Loss)	$44,281	$61,271	$73,520	$81,344	$93,900	$106,287	$120,709	*25.0%*	*14.5%*
Margin	*31.0%*	*36.5%*	*36.9%*	*35.4%*	*36.4%*	*36.7%*	*36.9%*		
YoY % Growth	*12.8%*	*38.4%*	*20.0%*	*10.6%*	*15.4%*	*13.2%*	*13.6%*		
Adj. EPS (Diluted)	$6	$8	$10	$11	$13	$15	$17	*21.8%*	*16.1%*
YoY % Growth	*17.2%*	*26.5%*	*21.4%*	*13.9%*	*16.6%*	*14.3%*	*14.7%*		
Free Cash Flow	$42,465	$48,195	$58,897	$65,710	$77,098	$84,655	$96,958	*1.6%*	*13.3%*
YoY % Growth	*(9.1%)*	*13.5%*	*22.2%*	*11.6%*	*17.3%*	*9.8%*	*14.5%*		

	Annuals							Average	Average
Capitalization and Key Ratios	2020	2021	2022e	2023e	2024e	2025e	2026e	Historical	Projected
Leverage									
Total Debt / EBITDA	0.9x	0.7x	0.5x	0.4x	0.4x	0.3x	0.2x	*1.0x*	*0.4x*
Total Debt / Equity	0.5x	0.4x	0.3x	0.2x	0.2x	0.1x	0.1x	*0.6x*	*0.2x*
Total Debt / Total Assets	0.2x	0.2x	0.1x	0.1x	0.1x	0.1x	0.1x	*0.2x*	*0.1x*
Liquidity									
Current Ratio	2.7x	2.3x	2.2x	2.2x	2.6x	2.8x	3.0x	*2.6x*	*2.6x*
Quick Ratio	2.5x	2.1x	2.0x	2.0x	2.4x	2.6x	2.9x	*2.4x*	*2.4x*
Cash Ratio	2.0x	1.6x	1.5x	1.5x	1.9x	2.1x	2.4x	*1.9x*	*1.9x*
Profitability									
Return on Assets (ROA)	14.7%	18.4%	19.5%	18.8%	19.3%	18.8%	18.3%	*15.6%*	*18.9%*
Return on Equity (ROE)	37.4%	43.2%	41.6%	36.5%	33.4%	30.3%	27.8%	*39.6%*	*33.9%*
Return on Inv. Capital (ROIC)	24.4%	30.6%	32.1%	29.9%	28.7%	26.9%	25.4%	*25.8%*	*28.6%*
Coverage									
Interest Expense	$0	$0	$921	$1,771	$1,675	$1,588	$1,501	*$0*	*$1,491*
Capital Expenditures	15,441	20,622	22,936	29,884	33,497	37,694	42,582	*16,663*	*33,319*
EBIT / Interest	N/A	N/A	92.0x	56.4x	68.6x	81.7x	98.0x	*#DIV/0!*	*79.3x*
EBITDA / Interest	N/A	N/A	105.5x	65.4x	78.7x	94.5x	113.8x	*#DIV/0!*	*91.6x*
(EBITDA - CapEx) / Interest	N/A	N/A	80.6x	48.5x	58.8x	70.8x	85.5x	*#DIV/0!*	*68.8x*
Efficiency									
Asset Turnover	0.5x	0.5x	0.5x	0.5x	0.5x	0.5x	0.5x	*0.5x*	*0.5x*
Days Sales Outstanding	78.5	76.1	77.5	77.4	73.0	73.0	73.0	*72.3*	*74.8*
Days Inventory Outstanding	15.7	15.8	15.7	15.1	14.5	14.5	14.5	*17.3*	*14.9*
Days Payables Outstanding	86.8	96.8	97.7	100.5	100.0	100.0	100.0	*84.6*	*99.6*
Cash Conversion Cycle	7.4	(4.9)	(4.4)	(8.0)	(12.5)	(12.5)	(12.5)	*5.0*	*(10.0)*

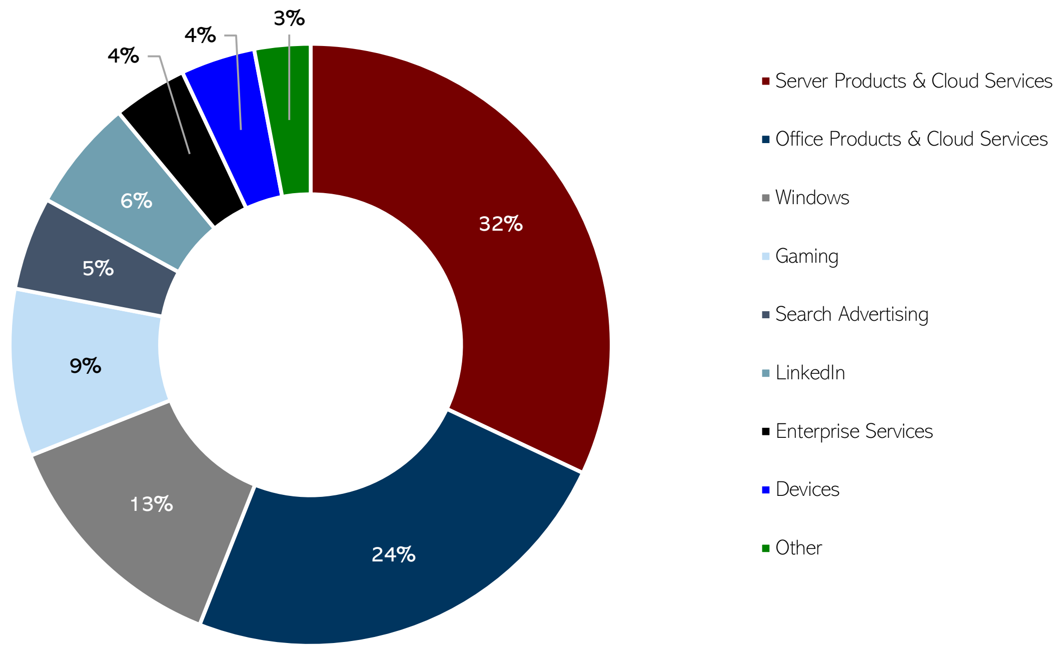
Exhibit III: MSFT (Top) & SAP (Bottom) 1-Year NTM P/E (3-Year Median Line)



Source: Bloomberg

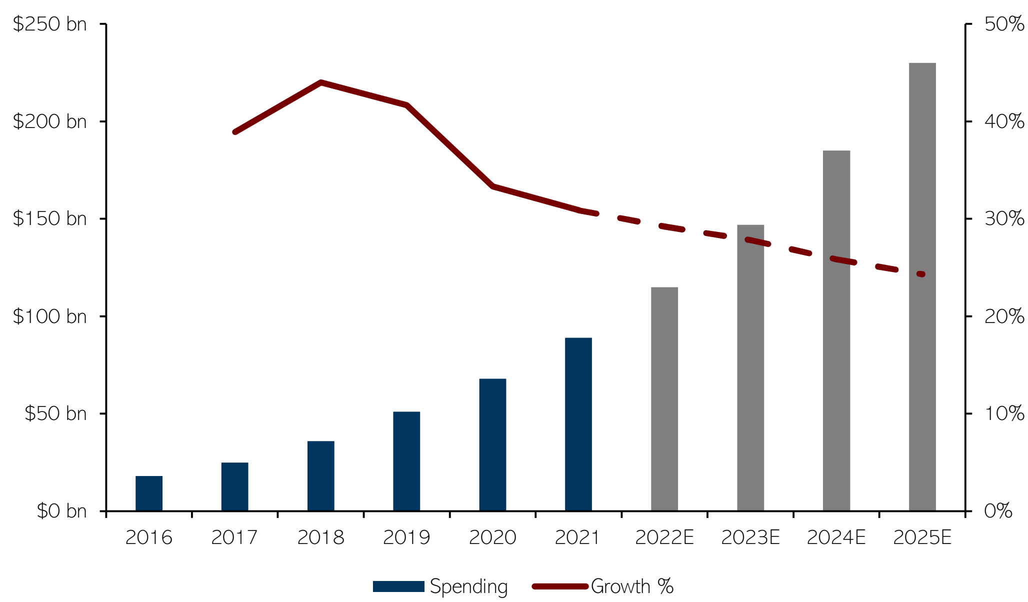
Source: Bloomberg

Exhibit IV: Trailing 12 Months Revenue Breakdown



Source: Bloomberg

Exhibit V: IaaS Market-Spending Forecast



Source: Bloomberg

Exhibit VI: MSFT/ATVI Combined Pro-Forma Income Statement

	MSFT CY'23	ATVI CY'23	Pro-Forma CY'23
Total Revenue	$238,160	$10,540	$248,700
Gaming Contribution (%)	8% - 9%		11% - 12%
Gross Profit	$165,870	$8,198	$174,068
Gross Margin (%)	69.6%	77.8%	70.0%
Research & Development	$28,480	$1,269	$29,748
As a % of Sales	12.0%	12.0%	12.0%
Sales & Marketing	$27,184	$1,121	$28,305
As a % of Sales	11.4%	10.6%	11.4%
General & Administrative	$7,084	$653	$7,737
As a % of Sales	3.0%	6.2%	3.1%
Operating Profit	$103,122	$5,157	$108,279
Operating Margin (%)	43.3%	48.9%	43.5%
Pre-Tax Income	$103,693	$5,105	$108,798
Income Taxes	$17,463	$1,068	$18,531
Income Tax Rate (%)	16.8%	20.9%	17.0%
Net Income	$86,230	$4,037	$90,267
Diluted EPS	$11.51		$12.04

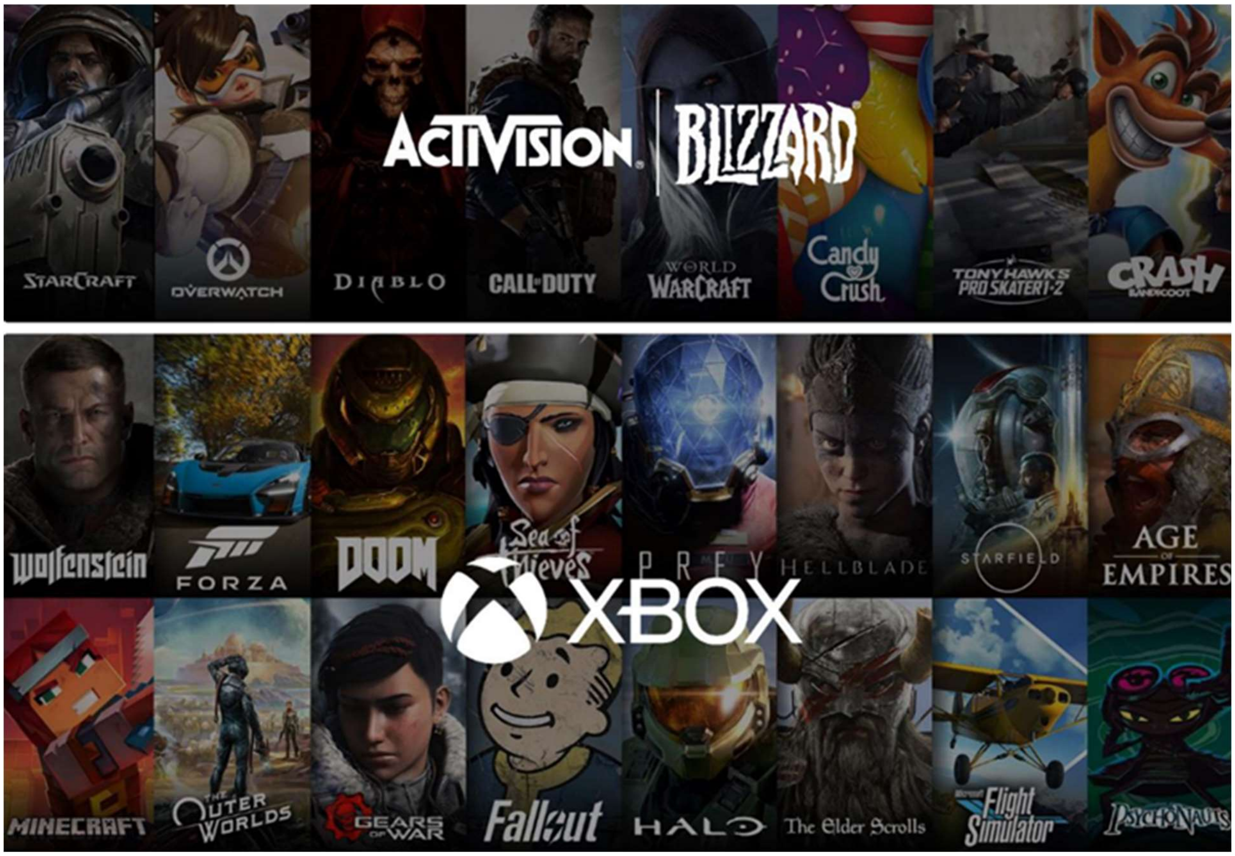
Source: Bloomberg

Exhibit VII: Cybersecurity Spending Growth by Segment

Market Segment	2020	2021	Growth (%)
Application Security	$ 3,333	$ 3,738	12%
Cloud Security	$ 595	$ 841	41%
Data Security	$ 2,981	$ 3,505	18%
Identity Access Management	$ 12,036	$ 13,917	16%
Infrastructure Protection	$ 20,462	$ 23,903	17%
Integrated Risk Management	$ 4,859	$ 5,473	13%
Network Security Equipment	$ 15,626	$ 17,020	9%
Other Information Security Software	$ 2,306	$ 2,527	10%
Security Services	$ 65,070	$ 72,497	11%
Consumer Security Software	$ 6,507	$ 6,990	7%
Total ($ mn)	**$133,776**	**$150,409**	**12%**

Source: Gartner

Exhibit VIII: MSFT/ATVI Combined Content



Source: Bloomberg

Exhibit IX: Cloud Gaming Competition

Company	Service	Monthly Cost	# of Users
NVIDIA	GeForce Now	$20/month	12 mn
SONY	PlayStation Now	$5/month	3.2 mn
Google	Stadia	$10/month	2 mn
a	Luna	$10/month	N/A*

Source: Company Filings

*Note: *Amazon Luna just launched on March 1*

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- Provide students with hands-on investment management experience
- Enable students to work in a team-based setting in consultation with investment professionals.
- Connect student participants with nationally recognized money managers and financial institutions

Earnings from the fund will be reinvested net of fund expenses, which are primarily trading and auditing costs and partial scholarships for student participants.

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