Fundamental Research Corp.
Investment Analysis for Intelligent Investors

June 17, 2020

Microsoft Corp. (MSFT)

Rapid headway in cloud services and stable commercial business helping tech giant navigate through difficult times – Initiating Coverage

BUY
Current Price: $193.57
Fair Value: $212.58
Risk: 2

Sector / Industry: Technology

Click here for more research on the company and to share your views

Highlights

- Microsoft Corporation is one of the biggest broad-based technology companies with a dominant market position in operating systems (80% global share) and cloud computing (10%).
- **Under the leadership of Satya Nadella, MSFT has shifted focus to software and services**, more specifically, on growing its Commercial Cloud business (Office 365 Commercial, Azure, commercial portion of LinkedIn, and Dynamics 365). Aided primarily by its dominant position in legacy IT and accelerating adoption of its Azure platform (>50% growth over past 3 years), Microsoft is well positioned to capitalize on the growing demand for cloud products, and **could emerge as the largest cloud company in the upcoming years surpassing Amazon (NASDAQ: AMZN) web services**.
- **Minimal impact of COVID on Microsoft:** While several companies in the traditional consumer-centric businesses, and those in the hardware tech business bore the brunt of COVID-19, Microsoft has experienced minimal impact on its overall business, with accelerating cloud and stable commercial businesses more than offsetting vulnerabilities in its consumer business.
- **COVID-19 has also created some new opportunities in collaboration software (Microsoft teams)**, as more companies shift to a remote work-from-home or meetings model.
- Amid slowing console sales, **Microsoft's gaming strategy has changed with a primary focus on the creation of games than consoles**.

Investment Risks

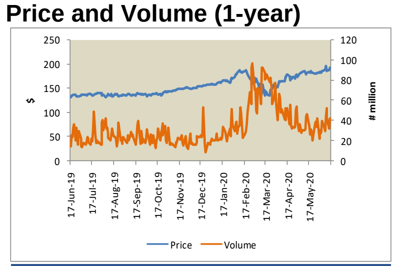
- Intense competition in the software, devices, cloud services markets could result in loss of market shares for MSFT.
- Although COVID has had minimal impact on MSFT so far, a second wave of COVID cases and delay in vaccine development could hamper MSFT's business.
- MSFT's new strategy on Xbox gaming could not work as expected as consumer perceptions may change from time to time.
- Microsoft secures a significant portion of its revenue from global business, exposing it to currency exchange risks.

Key Financial Data (YE June 30, $ million)	2020 (9M)	2020E	2021E
Cash and cash equivalent	137,626	140,506	154,764
Working Capital	111,798	109,654	123,578
Total Assets	285,449	288,479	310,373
Revenue	104,982	140,269	159,714
Net Income	33,079	43,269	48,089
EPS ($)	4.34	5.69	6.33

*See last page of this report for important disclosures, rating and risk definitions. All figures in US$ unless otherwise specified.

Sid Rajeev, B.Tech, MBA, CFA
Head of Research

Price and Volume (1-year)



	YTD	12M
Ret.	22.7%	46.1%
SPX	-3.3%	8.2%

Company Data

52 Week Range	$130.78 - $198.50
Shares O/S	7,583M
Market Cap.	$1.5 trillion
Yield (forward)	1.08%
P/E (forward)	30.60
P/FCF	28.27

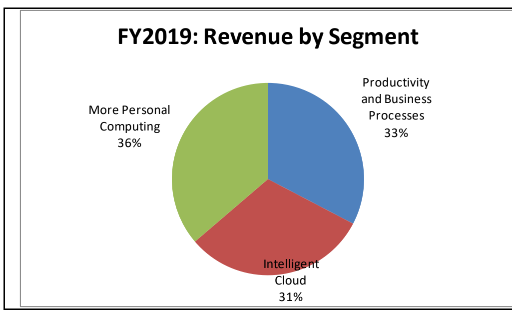
Company Overview

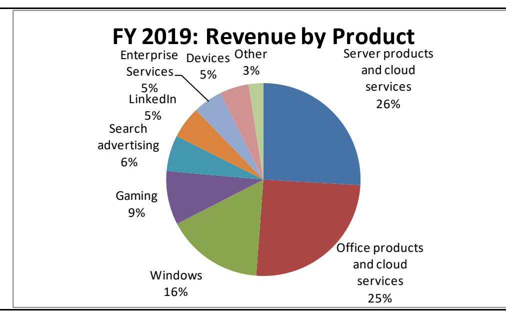
MSFT holds 80% market share in operating systems

Founded in 1975, Microsoft Corporation is one of the biggest technology companies, engaged in developing and supporting software products, services, and devices. The company has a dominant position in the personal computers (PC) market with more than 80% of the market share for its operating systems. The company's software products include operating system software, server application software, business and consumer applications software, software development tools, and Internet and intranet software. Besides, Microsoft also designs, manufactures, and sells a range of devices, including personal computers (PCs), tablets, phones, video game consoles, and digital music entertainment devices. It offers services such as cloud-based solutions, and provides solution support and consulting services. The company's platforms and tools are widely used by individuals, small and large businesses, startups, and both public and private sector companies to drive productivity and efficiency.

Under the leadership of the current CEO, Satya Nadella, MSFT has shifted focus to software and services, more specifically on growing MSFT's Commercial Cloud business comprising Office 365 Commercial, Azure, the commercial portion of LinkedIn, and Dynamics 365. We expect Commercial Cloud to be the primary driver of growth going forward. MSFT's diverse portfolio across cloud, edge, hybrid, and on-premise environments positions it well for the future, although temporarily shrouded by the COVID-19 uncertainty.

Microsoft has three business segments: Productivity and Business Processes, Intelligent Cloud, and More Personal Computing.





Source: Source: 10K 2019, FRC

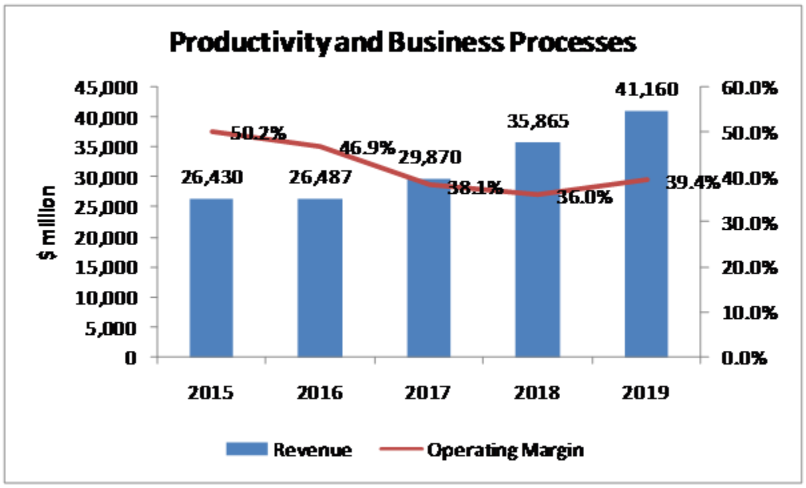
Productivity and Business Processes

Microsoft's Productivity and Business Processes segment offers a portfolio of products to enhance corporate productivity, communication, and information services. One of the segment's major products is Microsoft's Office software suite, including both Commercial and Consumer divisions. The segment also comprises business solutions products such as Dynamics and LinkedIn, a professional networking site. In FY 2019, the segment generated revenue of $41.2 billion (~33% of total revenue) and operating income of $16.2 billion (~39% of segment revenue).

The segment has been benefiting from its offering of productivity and collaboration tools and services (Office 365, Dynamics business solutions, Teams, Relationship Sales solution, Power Platform and LinkedIn), providing the company a strong base of recurring revenue, having multiyear contracts with commercial clients. Microsoft has continued to move its product portfolio to the cloud, and we believe this will drive future growth, underpinned by its strong market position (>80% of market share) in enterprise Office Suites, further helping the company's hybrid-cloud ambitions.

Strong recurring revenue stream from productivity tools through multiyear contracts with commercial clients

Although continued investment in cloud,AI engineering, and expenses related to commercial sales capacity weighed on margins over the past few years, we believe they will improve to previous levels as the business starts maturing in the upcoming years.



Source: Source: 10K 2019, FRC

Office Commercial

Office Commercial offers a range of products and services to enhance personal, team, and organizational productivity and is widely used in new markets such as first-line workers, small- and medium-sized enterprises, and growth markets for communication, collaboration, analytics, security, and compliance. The core offerings include Office 365 (recently rebranded as Microsoft 365) subscriptions and Office licensed on-premises, comprising Office,Exchange, SharePoint, Microsoft Teams, Office 365 Security and Compliance, Skype for Business, and related Client Access Licenses (CALs).

Office commercial revenue has been benefiting from continued growth in Office 365 Commercial, driven by installed base expansion across all workloads and customer segments. In Q3 2020, Office Commercial products and cloud services revenue grew 15% y/y on a costant currency basis (cc) (vs. 14% in Q2). Whereas, Office 365 Commercial revenue increased 27% y/y cc, with Office 365

Commercial subscription growth of 20% to reach 258 million active users. For Q4 2020, the management expects Office 365 to be the growth driver for Office commercial revenue, with a strong upsell opportunity, particularly for its advanced security solutions.

Office Consumer

Office Consumer mainly focuses on individuals and families, offering Office 365 subscriptions and Office licensed on-premises, and Office Consumer Services, including Skype, Outlook.com, and OneDrive.

Rebranded Office 365 as Microsoft 365

The office consumer segment holds strong recurring subscription revenue on the back of a strong Office 365 Consumer subscriber base, which reached 39.6 million in Q3 2020, benefiting from the increased demand for its products and cloud services. Office Consumer products and cloud services revenue recorded growth of 17% y/y cc in Q3 2020.

With the addition of new functionalities, the company recently rebranded its Office 365 subscription service as Microsoft 365, thereby further expanding its end-market share and ensuring meaningful monetization over time. Moreover, its large Office user base and higher security spending helps to widen the lead over rivals.

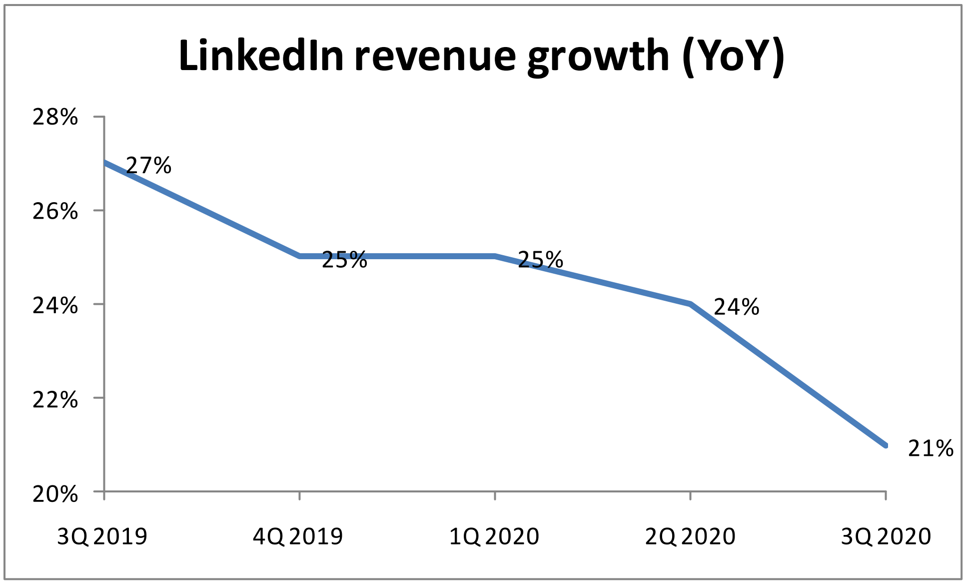
LinkedIn

Acquired LinkedIn in late 2016, expanding its offerings to the professional network

LinkedIn, acquired by Microsoft in 2016, is the world's largest professional network on the Internet, offering various free services including hiring, marketing, selling, and learning. In addition to free services, LinkedIn offers three categories of monetized solutions to both enterprises and individuals: Talent, Marketing, and Premium, including Sales Solutions. These solutions also comprise elements such as hiring, learning and development, advertising, and professional networking. On November 16, 2018, LinkedIn acquired Glint - an employee engagement platform for businesses and other organizations - to expand its Talent Solutions offerings.

In Q3 2020, LinkedIn revenue increased 21% y/y (22% cc) to $2.1 billion, reflecting continued innovation across its Talent portfolio: Talent Solutions, Talent Insights, Glint, and LinkedIn Learning. With the acceleration in engagement, LinkedIn sessions continued to grow, reaching 690 million (as of Q3) professional members who connect to learn new skills and find new opportunities.

With fewer job postings amid the COVID-19 pandemic, lower search revenue and weakness in transactional revenue could weigh on LinkedIn’s revenue in Q4 2020, with deceleration trending in the mid-single digits.



Source: Company Filings, FRC

Dynamics

Microsoft Dynamics business solutions, including Dynamics 365, provide cloud-based and on-premises business solutions to small and medium-sized businesses, large organizations, and divisions of global enterprises, helping them in financial management, enterprise resource planning (ERP), customer relationship management (CRM), supply chain management, and analytics.

In order to securely digitize critical business processes, Dynamic 365 continues to support organizations in their operations (curbside pickup, contactless shopping, and remote customer assistance), driving the adoption of Dynamics. Companies including C3.ai, Patagonia Inc., CBRE Group, Inc. (NYSE: CBRE) and American Express Co. (NYSE: AXP) chose Dynamic 365 as a part of their operations. In Q3 2020, Dynamics products and cloud services revenue increased 20% y/y cc, with Dynamics 365 revenues surging 49% cc.

We believe, with the recent trend of moving processing workloads to the cloud in order to save costs and improve agility, Dynamics cloud products will see strong demand, with double-digit revenue growth.

Intelligent Cloud

The Intelligent Cloud segment comprises the company's public, private, and hybrid server products, and cloud services for business, including Microsoft SQL Server, Windows Server, Visual Studio, System Center, and related CALs, GitHub, and Azure. Its enterprise services include Premier Support Services and Microsoft Consulting Services. The segment generated revenues of $39 billion (31% of total revenue) and operating profit of $13.9 billion (~36% of segment revenue) in FY 2019, and marked as the fastest growing revenue segment in FY 2019.

Continued momentum in Azure - revenue growing at high double digits - >50% over the past 12 quarters and 61% in the latest quarter

The segment generates 80% of revenue from the earn out on existing annuity contracts, agreement renewals, and consumption from existing Azure workloads, while the remaining 20% comes from new annuity agreements, transactional licensing, and Enterprise Services consulting revenue. In Q3 2020, Intelligent Cloud segment revenue increased 27%, higher than both the Productivity and Business Processes segment (+15%) and More Personal Computing segment (+3%).

The segment has been benefiting from strong momentum in Azure, with a continuously expanding customer base across 58 regions and contributing 30.9% to FY 2019 revenues. In Q3 2020, Azure revenue increased 61% y/y cc. In our view, Azure, a good alternative to Amazon, will strengthen the company's position in cloud computing, further increasing commercial-cloud revenue, underpinned by the consumption-based business. We discuss Azure in more detail in the Investment Thesis section.

Server Products and Cloud Services

Server Products and Cloud Services, used by IT professionals, developers, and enterprises, provide value addition in terms of productivity and efficiency. These products are designed to support software applications built on the Windows Server operating system, including the server platform, database, business intelligence, storage, management and operations, virtualization, service-oriented architecture platform, security, and identity software. Cloud Services (Azure) enables clients to build, deploy, and manage applications on any platform or device. Azure enables customers to dedicate more resources to development and use applications that benefit the organization, rather than managing on-premise hardware and software.

MPC: Delivered higher than expected performance in Q3 2020 revenue growth

Continued customer demand for hybrid and premium offerings, and end of support for Windows Server 2008, amid the COVID-19 pandemic, helped the segment to advance Server product revenue by 12% y/y cc in Q3 2020. During the same period, Server products and cloud service revenue increased 32% cc. Azure growth continued to remain the catalyst.

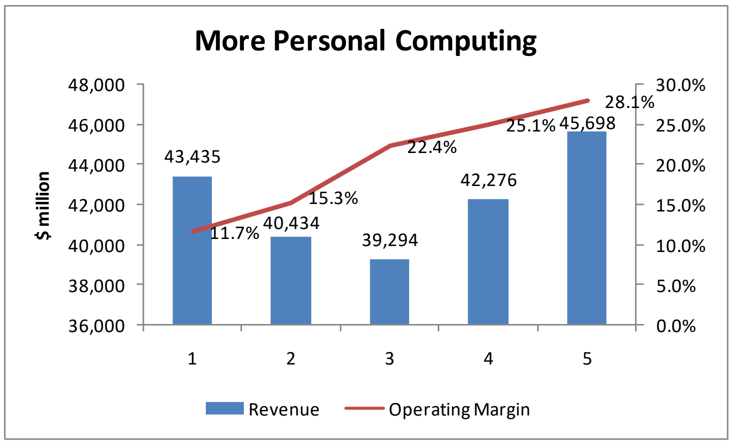
Enterprise Services

Enterprise Services, including Premier Support Services and Microsoft Consulting Services, assists customers in developing, deploying, and managing Microsoft server and desktop solutions and provide training and certification to developers and IT professionals on various Microsoft products.

More Personal Computing

Microsoft's More Personal Computing provides products and services aiming toward "harmonizing the interests of end users, developers, and IT professionals" across all devices. In FY 2019, the segment generated revenue of $45.7 billion or 36% of total revenue, the highest among the three segments, with operating income generating $12.8 billion (~28% of segment revenue).

In 3Q 2020, More Personal Computing (MPC) has been the highlight segment, delivering higher than expected revenue growth (+4% y/y cc vs. -2% street expectations) in Q3 2020. In February, Microsoft mentioned that due to supply chain disruptions following the outbreak of the corona virus infection worldwide, the More Personal Computing segment could miss revenue guidance. However, the segment performed within its original guidance range from February and beat consensus by a wide margin - +4% y/y vs -1.0% guidance - driven by better than expected Windows OEM, Surface, and Gaming revenue, partially offset by lower Search revenue. The segment comprises high margin and mature products.



Source: 10K 2019, FRC

Windows

Windows comprises of OEM licensing and other non volume licensing of the Windows operating system, Windows Commercial, Windows cloud services, and other Windows commercial offerings, patent licensing, Windows Internet of Things (IoT), and MSN advertising.

Windows OEM Pro experienced a major slowdown in Q3 2020

Windows commercial products and cloud services are the key drivers of the segment's growth, underpinned by Microsoft 365 and demand for advanced security solutions. However, during Q3-2020, Windows OEM Pro experienced a major slowdown in growth (+5% vs. +15% last year same period), while OEM non-Pro declined during the period, mainly attributable to supply chain constraints.

Devices

Growth in hardware sales continues to be muted

Microsoft is engaged in designing, manufacturing, and selling devices, including Surface, PC accessories, and other intelligent devices, enabling clients to connect to both people and content through Windows and integrated Microsoft products and services.

The segment's key product "Surface" recorded revenue of $1.34 billion in Q3, an increase of 1% y/y, driven by remote work and an online learning-led demand increase. However, supply chain constraints in China have limited growth.

Gaming

Microsoft's gaming platform provides a variety of entertainment using its devices, peripherals, applications, online services, and content. Since its launch in 2001, several versions of the console have been released with enhanced features - the latest versions include Xbox One S (Aug 2016) and Xbox One X (Nov 2017), which were complemented with the launch of Mixer (May 2017), offering interactive live streaming, and Xbox Game Pass (June 2017), providing unlimited access to over 100 Xbox titles. The company acquired PlayFab (January 2018), enabling developers to utilize game services, LiveOps, and analytics for player acquisition, engagement, and retention.

Xbox Live had a record 90 million active users as of Q3

Microsoft continued to invest in gaming, enabling gamers to play the games they want, with anyone, anywhere, on any device, with its game streaming service. In Q3, Microsoft reported record high engagement in gaming amid stay-at-home order guidelines, noting that Xbox Live had a record 90 million active users. Aggregate gaming revenue was well ahead of expectations - down only 1% versus guidance for a low double-digit decline.

Search

Search revenue missed expectations on lower advertising spend

Microsoft's Search business (Bing and Microsoft Advertising) offers online advertising to a global audience and provides and monetizes search queries through several partnerships with other companies, including Verizon Media Group (NYSE: VZ).

In Q3 2020, Search revenue, excluding traffic acquisition costs (TAC), missed expectations, recording just 1% growth due to significantly reduced advertising spend.

Investment Thesis

COVID-19 impact on MSFT's business overall neutral…

Overall impact on Tech companies – hardware vulnerable but software relatively unscathed: The COVID-19 pandemic has impacted several sectors significantly, attributable to lower demand amid the restrictions imposed by governments worldwide, disruptions in supply chains, and closure of businesses. Consequently, many companies are compelled to cut down their earnings estimates by high single-digits. In February, Microsoft also cut its guidance for the MPC segment due to weakness in its PC and hardware business, but the segment performed within the old guidance range in 3Q 2020. Companies with significant cash flow generation capabilities and manageable balance sheets(low leverage ratio) would be least impacted by the COVID-19 outbreak and emerge relatively unscathed from the crisis.

Within the tech companies, the hardware sector and OEM space, Hewlett Packard Enterprise Co. (NYSE: HPE), Lenovo (HKG: 0992), and Dell (NYSE: DELL)) are experiencing structural weaknesses following a demand slump, now amplified by COVID-19. Specifically, companies with larger end-consumer exposure have been hit hard, given the travel restrictions/entry bans imposed on travel and supply chain disruptions, and will likely report double-digit declines in their earnings in the upcoming quarter. A positive sign for the sector is the growing demand for cloud services (collaboration software) amid the shift to remote working, which has driven usage across the board, benefiting companies with vast public-cloud infrastructures.

Companies with larger end-consumer exposure have been hit hard due to COVID

However, most of the big tech companies reported a decent set of results in their latest quarter - Facebook (NASDAQ: FB - reported stability in ad revenue), Google's parent company Alphabet (NASDAQ: GOOGL - beat revenue consensus estimates), Netflix (NASDAQ: NFLX - reported nearly double the amount of new subscribers it had anticipated) and Apple (NASDAQ: AAPL - made up for of its lost iPhone sales) proved that they are immune to the coronavirus, getting rewarded by investors for their resilience in the current economic downturn. Within this space, Microsoft also reported a 15% jump in sales for last quarter, making it the most valuable publicly traded company in the world.

Minimal impact on Microsoft: While several companies in traditional consumer-centric businesses (manufacturing, auto, and travel and leisure), and those in the hardware tech business, bore the brunt of COVID-19, Microsoft has experienced minimal impact on its overall business, with the accelerating cloud and stable commercial businesses more than offsetting the vulnerabilities in its consumer business.

Continued growth in cloud and stable commercial business offsetting weaknesses in consumer and hardware segments: Microsoft's vast portfolio of cloud software in infrastructure and applications, including Office 365, Teams, Azure, Dynamics, and LinkedIn are continuing to mitigate the fallout of the current weak economic conditions. We will discuss in-depth about the key cloud business later in this report. Relatively, the company's commercial business is resistant to the temporary economic fluctuations as it generates recurring revenues with long-term annuity subscriptions closer to 80%-90%with large enterprises. Moreover, the large installed base of Office 365 users, with mostly long-term subscriptions, is again a stable element for Microsoft. In FY 2019, Office 365 Commercial recorded robust growth (+33%), leading to double digit (+13%) growth in office commercial revenue. However, the consumer business segment witnessed some weakness in PC sales (particularly hardware sales) amid supply chain concerns, but increased demand for Microsoft's chat-collaboration product (Teams) during the lockdown has offset the weakness.

Microsoft's well balanced product mix has helped to deliver double-digit sales

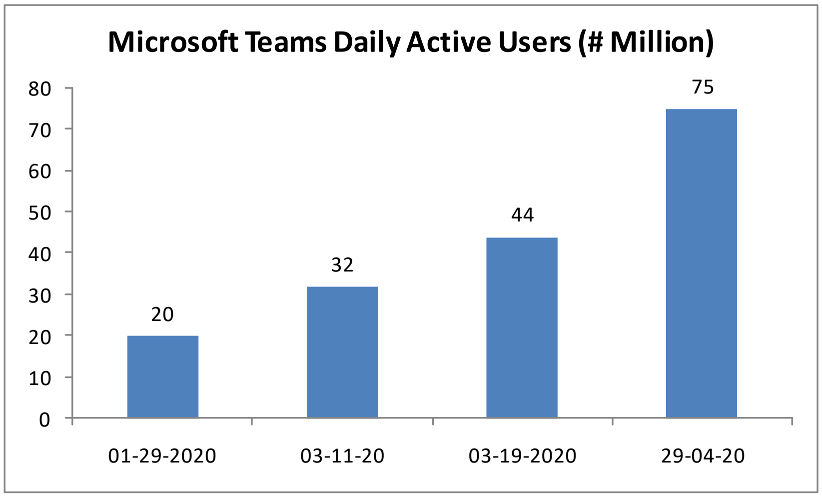
Microsoft Teams has attracted much popularity and witnessed rapid growth during the lockdown

growth during 3Q20, closing March with a sharp jump in bottom-line value, exceeding guidance across segments, and driven by recurring revenue streams (contractual software subscriptions and support), increased use of gaming products, Office 365, and other cloud services. However, it may be difficult for the company to repeat such a stellar performance in 4Q20, which will be the first full COVID-19 hit quarter. Nonetheless, compared to other tech companies, we believe Microsoft will fare much better aided by its superior, COVID-proof products.

…while creating new opportunities in collaboration software

COVID-19 has also created some new opportunities in collaboration software (Microsoft teams), as more companies shift to a remote work-from-home or meetings model. The pandemic has impacted life and business, forcing people to work remotely. As a result, Microsoft's chat-collaboration product (Teams) has attracted much popularity and witnessed rapid growth during the lockdown, as most companies continue to work remotely, further strengthening its position in the cloud world. Microsoft Teams supports multiple communications modalities in a shared workspace, providing meetings, calls, chats, collaboration with the power of Office, and business process workflows in a single, integrated user experience alongside high security and compliance. As firms aggressively seek transformation in working behavior while finding new ways for coordination (shifting from e-mail to chat-based products), this trend will likely continue in the near future. The immediate need of collaboration software should add new users as well as encourage enterprises to upgrade their Office 365 licenses. In our view, Teams could be the next major growth catalyst for Microsoft on the back of increasing demand for chat-collaboration products, benefiting the company with double-digit sales growth in the Office 365 suite of products over the next year.

Microsoft continues to accelerate Teams innovation, adding new capabilities and comprehensive solutions to organizations, while safeguarding security and privacy. Active users of Teams almost quadrupled in four months to reach more than 75 million in April 2020, compared to around 20 million in January 2020, strengthening the company's competitive position in the enterprise communication market versus Slack (NYSE: WORK) and Zoom(NASDAQ: ZM).



Source: Company filings, FRC

IDC projects the team collaboration software market to grow 35% in 2020

According to International Data Corporation (IDC), the market for team collaboration software is expected to grow by 35% to $3.1 billion in 2020,from $2.3 billion in 2019; however, given the rising demand for collaboration products (Teams and Slack) - amid the accelerated adaptation to working remotely - we believe growth may surpass the forecasted figure significantly.

Rapid digital transformation to drive Microsoft's growth post COVID-19 crisis

MSFT to emerge stronger post COVID

In the current COVID-19 crisis, Microsoft has supported the pace of digital transformation, continuously helping companies to operate their businesses with a remote workforce. We believe, Microsoft will continue to retain its leadership position in the software space and emerge stronger than most of its rivals post the COVID-19 crisis. Organizations worldwide are keen to spend more on upgrading their infrastructure and applications to improve operations, while lowering their costs. Thus, on the back of its deep portfolio of cloud products, client relationships, and security spending, this trend would create more opportunities for Microsoft to drive its sales growth.

Yet, we cannot ignore headwinds such as the SMB churn, lower transactional purchasing, weakness at LinkedIn, pressure on search advertising income, and longer sales cycles; however, opportunities arising from increasing use of productivity tools and cloud products (Windows devices, Azure resources), which translate into longer-term relationships/contracts, would continue to offset the pressure, thus maintaining our strong long-term outlook.

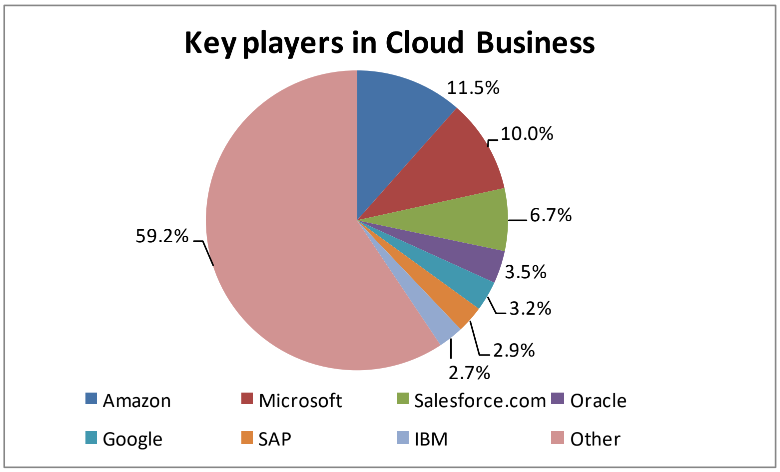
Making rapid headway in cloud expansion

Microsoft is well positioned and capable to capitalize on the growing demand for cloud products and services, aided primarily by its dominant position in legacy IT. Over the past three years, the company witnessed stellar growth in cloud products, with its Azure cloud platform registering consistent >50% annual growth. The company is poised to close the gap with Amazon in Infrastructure as a service (IaaS) and could emerge as the largest cloud company in the upcoming years.

MSFT to close the gap with AWS in IaaS, catapulting to the top spot in cloud computing

Microsoft Corp. launched its cloud application, Azure, in 2010 as an internal initiative codenamed project. At the same time, Amazon Web Services (AWS) had already launched its cloud computing service, and witnessing rapid growth in cloud computing, Microsoft rushed to capture market share to match the level of its top competitor. Over the years, Microsoft has rapidly gained market share in public cloud, and has the potential to close the gap with AWS and even surge ahead.

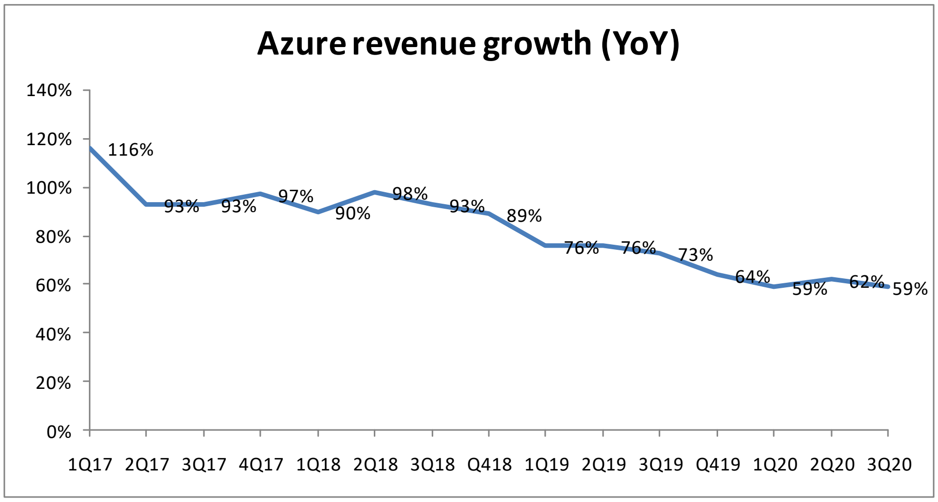
According to IDC, Microsoft holds 10.0 % of the total market share in the cloud business across all the segments, which is only 1.5% behind Amazon's market share. Given the current market scenario, Microsoft has massive opportunity, and could surpass Amazon in the near future, if there is greater adoption of Office 365 and Dynamics 365 products for its cloud landscape.



Source: IDC

Legacy Enterprises Accelerating Cloud Growth: Well-established legacy enterprises such as Citibank (NYSE: C), Pepsi (NASDAQ: PEP), Disney (NYSE: DIS), which are still tied to the traditional client-server IT infrastructure, spend over $1.5 trillion a year on technology products. They are gradually beginning to invest rapidly to move their infrastructure and applications to the cloud, as they are under threat from newer cloud-born companies. Microsoft has clinched a five-year deal with Coca-Cola (NYSE: KO) to supply business software, including its Teams chat applications, and tools for customer service agents.

Legacy enterprises: Large spend of $1.5 trillion a year on technology products presents significant opportunity for MSFT as they move some of infra to cloud



Source: Company Filings, FRC

Launched in 2017, Azure Stack is not only Microsoft's hybrid-cloud product, but also a milestone as it accelerated hybrid-cloud adoption among legacy enterprises. Although startups prefer all-in public clouds, large legacy enterprises that account for a majority of tech spending opt for a hybrid model to move workloads to the cloud depending on need, while retaining some portions on-premise. High costs of replacing customized legacy IT systems, fear of losing control over IT assets, and regulations (particularly in healthcare, financial services) are the key factors that continue to drive hybrid models among legacy enterprises. In addition to demand from startups and legacy IT, emerging technologies such as the Internet of Things (IoT) and artificial intelligence (AI) should further drive demand for cloud offerings, particularly IaaS, which is forecast to grow 30% annually to reach ~$140 billion in 2023, from $36 billion in 2018.

Apart from hybrid-cloud capabilities, Azure continues to evolve with improvements and a slew of continuous product launches and support for open source, AI, and IoT, which continues to drive adoption among enterprises. Early this year, the tech giant launched Azure Sphere, a first-of-its-kind edge solution to secure ~9 billion MCU (Micro Computer Unit)-powered endpoints (low cost computers). Azure now supports hyper-scale capabilities to relational database services with Azure SQL Database. All these features make Azure the best cloud destination for mission-critical workloads at most large organizations, including ~95% of the Fortune 500. Furthermore, the client base continues to grow, attracting several multi-million dollar clients in the latest quarter, including AT&T (NYSE: T) - the largest cloud client to date.

Rapid and swift strides in Azure have improved Microsoft's share in all cloud products - infrastructure, platform, and software. In infrastructure, the company has improved and has moved to the number two spot (10% share in 2018) from fourth position (2% share) in 2013, behind Amazon, which had the early-mover advantage with 37% share in 2018, as per IDC. The gap between Microsoft and Amazon is expected to narrow further while that between these two tech giants, and the rest of industry, is expected to widen in the upcoming years as the industry consolidates due to higher capital requirements and continuous price pressure. In software, it holds ~7% share, driven primarily by the continued shift from on-premise Microsoft Office to Office 365.

Cloud sales, Market share by segment

Company	SaaS	PaaS	IaaS	Total	% Share
Amazon	766	3,591	16,713	21,070	**11.5%**
Microsoft	7,991	5,877	4,338	18,206	**10.0%**
Salesforce.com	9,540	2,634	-	12,174	**6.7%**
Oracle	5,123	1,076	188	6,387	**3.5%**
SAP	5,099	214	-	5,313	**2.9%**
Google	3,201	1,367	1,267	5,835	**3.2%**
IBM	2,262	837	1,826	4,925	**2.7%**
Other	87,323	9,661	20,320	108,627	**59.5%**
Total	**121,305**	**25,257**	**44,652**	**182,537**	**100.0%**

Source: Bloomberg

The continued shift to cloud has had a negative impact on Microsoft's gross margins for over a decade, although they have stabilized and improved in recent years. However, longer term, gross margins would come under upward pricing pressures as the industry matures; however, gross margins and operating margin dollars would grow as Microsoft benefits from scale and expanding market opportunity.

Microsoft is advancing its vision of Azure as the world's computer, addressing customers' real-world operational sovereignty and regulatory needs, and 95% of the Fortune 500 trust Azure for their mission-critical workloads. Furthermore, Microsoft has more compliance certifications and datacenter regions than any other cloud provider globally. This will attract legacy enterprises to move toward Microsoft's cloud for optimizing and improving their IT infrastructure at less cost compared to the traditional client-server IT infrastructure.

Opportunities in Hybrid Cloud: Microsoft and IBM (NYSE: IBM) give the impression of being more situated in a hybrid IT world than Amazon and Google. While the primary leg to open the development of the cloud framework originated from new companies embracing Amazon, the following large spending boost will originate from legacy enterprises, such as Citibank and Pepsi. These organizations are primarily focusing on migrating outstanding tasks at hand to the public cloud, while proceeding to work on their current foundation. This hybrid approach is progressively becoming a major open door for Microsoft to help legacy enterprises adopt go-to-tech methodologies for most Fortune 2000 companies, and has the potential to emerge as a major supporter of open cloud development in the upcoming years.

Pentagon' JEDI cloud contract award, and rapid growth in defense cloud positions MSFT closer to AWS: In October 2019, amid heightened cloud competition, Microsoft bagged the U.S. Department of Defense Joint Enterprise Defense Infrastructure (JEDI) cloud contract, worth $10 billion for providing infrastructure and platform services for the Pentagon's business and mission operations. A positive aspect of this contract is that MSFT beat AWS in securing the contract, highlighting its cloud's specialized capabilities. With this, Microsoft has gained 42.8% CAGR growth in the defense cloud over the past three financial years, double AWS's growth in the same period. The following table illustrates Microsoft's growth in the Defense cloud platform compared to its competitors.

US Defense Cloud Spending by Vendor:

Company ($ thousand)	FY2018	FY2019	FY2020	FY 2018-20 CAGR
Amazon Web Services	89,918	134,778	136,636	23.3%
Microsoft	23,292	48,729	47,524	42.8%
Oracle	9,738	10,064	10,160	2.1%
IBM	6,718	6,854	6,991	2.0%
Akamai Technologies	1,705	1,705	1,705	0.0%
Lockheed Martin	103	103	103	0.0%

Source: US Department of Defense

Key developments highlighting Microsoft's continued robust growth in the cloud business

- Microsoft is also modifying its cloud-based software targeting healthcare organizations to support hospitals manage patients' records to promote better outcomes with innovative solutions, and this would help Microsoft grab a greater market share in the healthcare cloud business in the near future
- Nokia is collaborating with Microsoft in datacenter software infrastructure, and this synergy is expected to positively impact the latter's cloud business
- Microsoft is in the process of investing $1.5 billion in the Italian cloud business by creating its first data center in Italy. Also, under a five-year plan, Microsoft will provide access to local cloud services and launch digital skilling and smart working and AI programs for small- and medium-sized enterprises in Italy. According to Reuters, this will help Microsoft to grow at a double-digit pace in the Italian cloud market.
- During the press conference on May 5, 2020, Microsoft announced a $1 billion investment in Poland, as part of a plan that involves opening a data center to provide cloud services to businesses and the government.

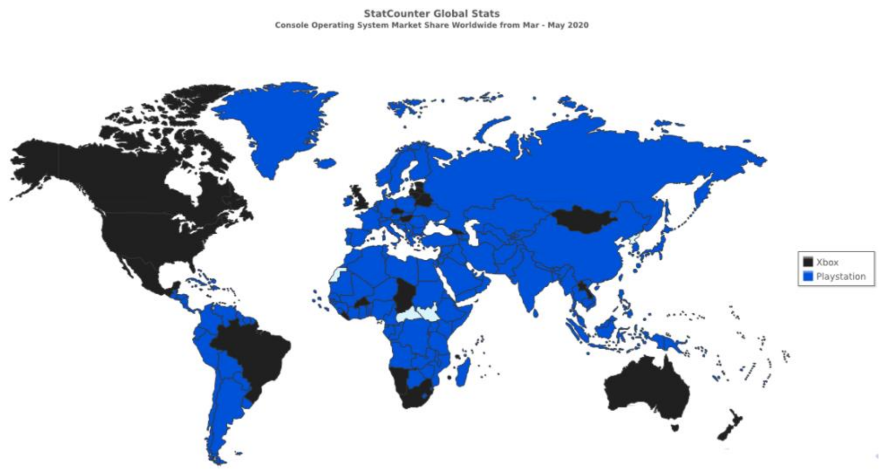
Amazon's Retail Disruption Favoring Microsoft to Grab Market Shares in Retail Cloud: During a single generation, Amazon has grown from a fledgling online bookseller to one of the most valuable and powerful corporations in modern history. During this journey, Amazon has disrupted traditional retail business, with a majority of retail companies reluctant to work with AWS. This provides Microsoft the opportunity to pitch retailers for its cloud services and the prospect to gain a share in the fast growing (15% CAGR over next five years) area of retail cloud.

A new strategy in Xbox – focusing on creating a video games ecosystem
In the Gaming Console market, since the launch of the unique Xbox Series, Microsoft has clashed with Sony PlayStation 2 with new head-to-head launches. Amid slowing console sales, Microsoft's gaming strategy has changed with a primary focus on the creation of games rather than consoles.

This vacation season, both Microsoft and Sony are launching next-generation game consoles: Microsoft's Xbox Series X and Sony's PlayStation. This time around, instead of focusing on new Xbox consoles as a replacement, Microsoft is making a different play with a digital game library that works across Xbox devices. Through this, Microsoft is pursuing an expansive opportunity to transform how games are distributed, played, and viewed. The new breakthrough game streaming service, Project XCloud, is expected to enter public trials in fall 2020. It will put gamers at the center of a users' gaming experience, enabling them to play games in high-fidelity wherever and whenever they want, on any device. This ends head-to-head competition with Sony, and will likely have a significant positive impact on Microsoft's revenues in personnel computing.

Opportunity for External Game Development with New Strategy: Microsoft's gaming platform brings together tools and services to empower external game developers - from independent creators to the biggest game studios - to build, operate, and scale cloud-first games across mobiles, PCs, and consoles. This will enhance users' gaming experience. Microsoft's effort to grow Xbox Live's community is the key to this approach and, for the first time, Microsoft is enabling developers to reach these highly engaged gamers on iOS and Android. Microsoft also increased the first-party game studio to 15 to deliver differentiated content for fast-growing subscription services such as Xbox Pass, which is available on both Console and PC. Microsoft is willing to continue to connect gaming assets across PCs, consoles, and mobiles, and work toward growing and engaging the Xbox Live members' network more deeply and frequently with services like Mixer and Xbox Game Pass. This approach will enable gamers to play the games they want, with the people they want, and on the devices they want.

Xbox Market Shares in Gaming Business: More recently, from May 2019 to May 2020, there was a no- holds-barred rivalry between Xbox and PlayStation for gaining market share in the overall industry. As of May 2020, according to Stat counter Global Stats, Microsoft's Xbox held 33.47%, PlayStation held 65.96%, and Nintendo held 0.57% market share of the overall industry worldwide, with 46.8% for Xbox, 52.6% for PlayStation, and 0.6% for Nintendo in the US market. This shows progressively that users favor Xbox in the US. The geographical charts below illustrate the worldwide market share of Xbox and PlayStation in the console operating industry from March 2019 to May 2020.

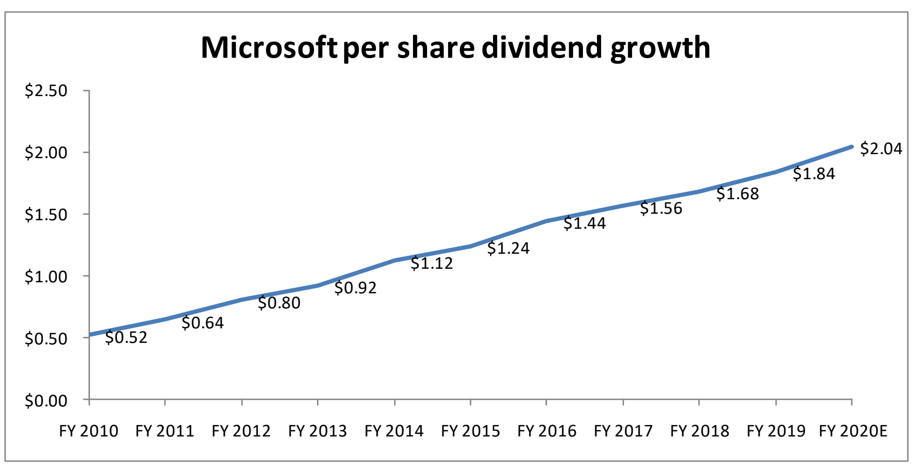


Source: Statcounter Global Stats

Dividend growth stock backed by steady cash flow

Microsoft has been consistently increasing its dividend per share over the past decade, marking CAGR of ~15% from FY 2010 to FY 2020E. During 9M-2020, the company spent a total of $28.5 billion on repurchasing common stock (~$17.2 billion) and dividend obligations (~$11.3 billion), which was fully covered by its free cash flow (~$31.3 billion) during the period, reflecting a high-quality cash flow profile, and enabling to continue per-share future dividend growth. Based on the dividend of $2.04 per share for FY 2020E, the dividend yield measures around 1.1% at the current level.

Dividend per share increased at 15% CAGR over the past decade



Source: Company website, FRC

Steady cash flow driven by recurring earnings stream: Microsoft has a dominant position in enterprise Office Suites with more than ~80% market share. The company's operating systems and collaboration products provide recurring earnings as it moves its product portfolio to the cloud. Moreover, these legacy products earn high margins and have a large maintenance-revenue base, with multiyear contracts with commercial clients. Microsoft is continuing large-scale expansions in its cloud business, benefiting from higher gross margins as these cloud products mature. Moreover, continued efforts on cost cutting could also help to grow margins and cash flow.

Microsoft Financials

Quarterly Results – Q3 2020

Strong earnings beat market estimates; Azure's strength continues to be the highlight

In Q3 2020, Microsoft reported strong results which topped most metrics, surpassing consensus estimates across the P&L. The More Personal Computing segment has been the key highlight, with 3% y/y revenue growth reported even after the company lowered guidance due to COVID-19 concerns. The other two segments, Productivity and Business Processes (+15%) and Intelligent Cloud (+27%) also posted robust growth in revenue on the back of increased cloud usage (Teams, Azure, Windows Virtual Desktop, advanced security solutions, and Power Platform) amid the shift to remote working.

Robust earnings topped most metrics across P&L

Total revenue reported was $35.0 billion, an increase of 15% y/y. Operating income came in at $13.0 billion and net income was reported at $10.8 billion, representing growth of 25% and 22%, respectively. Diluted earnings per share grew 23% to $1.40, mainly driven by greater execution and strong demand for commercial cloud. Moreover, the solid uptick in Teams due to remote working remained the key driver. However, this was partially offset by the slowdown in transactional licensing and reduction in advertising spends on LinkedIn amid the spread of coronavirus. Sequentially, total revenue declined 5% in the quarter. Overall, Q3 2020 results showed that Microsoft remained resilient, supporting its customers through the challenging period, reporting net minimal impact to the company as a whole.

Income Statement (YE June 30, $ million)	Q1-2020	Q2-2020	Q3-2020	2020 (9M)
Revenue	33,055	36,906	35,021	104,982
QoQ Growth %		*12%*	*-5%*	-
Total Revenue	**33,055**	**36,906**	**35,021**	**104,982**

Source: Company Filings, FRC

Margins and Expenses

For Q3, the company reported a gross margin of 69%, improving 2 points y/y and attributable to a favorable segment sales mix and growth across the segments. EBITDA (calculated) increased 21% to $16.1 billion, leading to margin expansion of 256 bps to 46%. EBIT margins of 38% reflects an improvement on y/y basis. However, on a quarterly basis, EBIT margins declined to 37% from 38% in the last quarter due to higher operating expenses, partially offset by lower marketing and travel spend amid the lockdown impact. Net margin for the quarter came in at 31%, compared to 32% in the last quarter, and 29% in same quarter previous year.

Favourable sales mix improved margins

Margin Analysis	Q1-2020	Q2-2020	Q3-2020
Gross	69%	67%	69%
EBITDA	47%	46%	46%
EBIT	38%	38%	37%
Net	32%	32%	31%

Source: Company Filings, FRC

During the quarter, research and development (R&D) expenses and general and administrative expenses saw an increase, while sales and marketing related expenses were relatively flat due to the pause in business activities amid the lockdown guidelines.

Expenses as % of Revenues	Q1-2020	Q2-2020	Q3-2020
Research and development	14%	12%	14%
Sales and marketing	13%	13%	14%
General and administrative	3%	3%	4%

Source: Company Filings, FRC

Commercial business continued to be a key driver

Commercial business continued to be a key driver, positively impacting earnings and revenues in Q3. Commercial bookings grew 7% y/y (+12% cc), driven by robust renewal performance on a modest expiry base. The commercial revenue annuity mix increased 2% to 92%, attributable to the continued shift to cloud. Commercial cloud revenues were $13.3 billion, surging 39% y/y (+40% cc), with gross margins at 67%, driven by an improvement in Azure's gross margins.

Investor Metrics	FY19 Q3	FY19 Q4	FY20 Q1	FY20 Q2	FY20 Q3
Commercial bookings growth *(y/y)*	30% / 34%	22% / 25%	30% / 35%	31% / 30%	7% / 12%
Commercial remaining performance obligation *(in billions)*	$72	$87	$86	$90	$89
Commercial revenue annuity mix	90%	90%	91%	89%	92%
Commercial cloud revenue *(in billions)*	$9.6	$11.0	$11.6	$12.5	$13.3
Commercial cloud gross margin percentage	63%	65%	66%	67%	67%

Growth rates include non-GAAP CC growth (GAAP % / CC %).

Source: Company Presentation

Productivity and Business Processes

Productivity and Business revenue up 15% y/y, beating market consensus, attributable to both office consumer and office commercial

Microsoft's Productivity and Business segment revenue was up 15% y/y (+17% cc) to $11.7 billion, beating market consensus estimates (+13%), attributable to growth in revenue for both office consumer (+15%) and office commercial (+13%), and driven by Office 365 revenue. Notably, Office 365 commercial revenue grew 25% y/y, and Office consumer was up by 15%, mainly on continued subscription growth in both areas. Moreover, LinkedIn and Dynamics segments grew 21% and 17%, respectively.

Operating income increased 20% to $4.8 billion, leading to a margin expansion of 192 bps to 40.8%, partially offset by investment in LinkedIn and cloud engineering, which led to higher operating expenses.

Source: Company Presentation

Intelligent Cloud

Total Intelligent Cloud revenue came in at $12.3 billion, an increase of 27% y/y (+29% cc), beating market consensus estimates (+4%), driven by continued growth in Azure, strong customer demand for hybrid offerings, and an uplift from end of support for Windows server 2008, mainly benefited by the pandemic as more workloads move to the cloud to drive cost savings and improve agility.

Intelligent Cloud revenue remains the fastest growing segment at 27% y/y growth in revenue

Azure's revenue grew 59% y/y (+61% cc), driven by growth in its consumption-based business, whereas On-premise server products were up 11% y/y (+12% cc).

Operating income increased 42% y/y (+46% cc) to $4.6 billion, implying margin expansion of 388 bps to 37.1%, powered by Azure, offset partially by an increased mix in cloud revenue. Operating expenses increased 19% due to continued investments in Azure.

Source: Company Presentation

More Personal Computing (MPC)

More Personal Computing recorded revenue of $11 billion, an increase of 3% (+4% cc), beating the company's revised expectation, given the mid-quarter guidance update, and attributable to growth in revenues of Windows OEM, Surface, and Gaming, offset partially by lower Search revenue on reduced advertising spend. OEM and Surface revenues were underpinned by faster-than-expected improvements to the supply chain in China and demand for remote work and learning scenarios.

MPC revenue grew 3%, higher than expectations

Windows OEM revenue increased more than 1% y/y, pushed primarily by OEM Pro growth (+5%), offset partially by OEM non-Pro revenue (-10%) amid continued pressure in the entry-level category. Surface revenue was up 1% y/y (+2% cc), driven by increased demand for remote scenarios. On the gaming side, Microsoft reported record high gaming engagement as users sought social interaction amid social distancing policies, noting that Xbox Live had a record 90 million active users. Aggregate gaming revenue was well ahead of expectations—down only 1% versus guidance for a low double-digit decline (relatively unchanged on cc basis).

Operating expenses declined 3%, attributable to redeployment of engineering resources to higher growth opportunities. As a result, operating income was up 15% y/y (+17% cc) to $3.6 billion, leading to an increase in the margin by 345 bps to 33.0%.

Source: Company Presentation

Guidance and Outlook

Microsoft guided wider ranges in its fourth quarter, given the COVID-19-related uncertainties. Productivity and Business Processes (PBP) revenue is expected in the range of $11.65 - $11.95 billion. As approximately 80% of PBP revenue derives from existing contracts, guidance suggests that transactional sales and LinkedIn will be materially impacted in the June quarter. Management expects continued solid growth for Office 365, while LinkedIn is likely to experience a slowdown to mid-single digit revenue growth, down due to muted advertising spending and hiring needs. For Intelligent Cloud, revenue is projected between $12.9 and $13.15 billion. In the segment, on-premises server licensing (due to transactional weakness) and enterprise services (delays in consulting business projects) are expected to see low single-digit declines. More Personal Computing (MPC)is expected to generate revenue between $11.3 and $11.7 billion, with growth in Windows OEM, Surface, and Gaming (due to WFH tailwinds) is expected to be somewhat offset by a mid-20% decline in Search and muted growth in Windows Commercial.

Q4 2020 Guidance

MSFT guided a wider range in the June quarter due to the full impact of COVID

$ million	Low	High	Mid-point
Productivity & Business Processes	11,650	11,950	11,800
Intelligent Cloud	12,900	13,150	13,025
More Personal Computing	11,300	11,700	11,500
Total Revenue	**35,850**	**36,800**	**36,325**
Cost of Goods	11,550	11,750	11,650
Gross Profit	**24,300**	**25,050**	**24,675**
Gross Margin	67.8%	68.1%	68.0%
Operating Expenses	11,800	11,900	11,850
Operating Income	**12,500**	**13,150**	**12,825**
Operating margin	34.9%	35.8%	35.3%

Source: Company Filings, FRC

Balance Sheet

As of March 31, 2020, Microsoft reported a cash and short-term investments balance of $137.63 billion, up from $134.25 billion from the previous quarter, reflecting excellent execution by the management. During the same period, total debt (long-term plus current portion) came in at $66.61 billion versus $69.61 billion at the end of the prior quarter, translating to a net-cash position of $71.02 billion. The total debt-to-capital and long term debt-to-capital ratios stood at 37% (vs 41% at FY2019), and 35% (vs 38% at FY2019), respectively. MSFT reported working capital of ~$112 billion, with a current ratio of 2.9x. In our view, the company's healthy balance sheet with strong cash balance provides strength to pursue a growth strategy organically and via acquisitions. Importantly, a low total debt-to-capital ratio compared to the industry also strengthens its profile.

Liquidity and Capital Structure (YE June 30, $ million)	Q3-2020
Cash	137,626
Working Capital	111,798
Current Ratio	2.9
LT Debt	62,862
Total Debt	66,610
Total Debt/Capital	37%
Total Debt/Capital	35%

Source: Company Filings, FRC

Healthy balance sheet to provide flexibility to pursue growth

Statement of Cash Flows

In 9M 2020, the company reported operating cash flow of $42 billion, increased from $36 billion in the prior period. Moreover, larger cash outflows in financing due to continued dividend and share repurchase activity reflects the company's commitment towards rewarding shareholders. Free cash flow came in at $30 billion, up from $24 billion in the prior period, reflecting its top investment strategy which, we believe, will help the company to continue its dividend payment and share buyback activity in the foreseeable future and sustain the current payout ratio.

Summary of Cash Flows (YE June 30, $ million)	2019 (9M)	2020 (9M)
Cash Flows from Operations	36,077	42,002
Cash Flows from Investing	-8,516	-7,761
Cash Flows from Financing	-28,201	-33,769
Exchange Rate	-94	-118
Net Change	-734	354
Free Cash Flows	**24,096**	**30,434**

Source: Company Filings, FRC

Strong free cash flow to strengthen MSFT's ability to reward shareholders

Key metrics analysis – historical and comparison with peers

Microsoft has been a consistent performer vis-à-vis other large cap tech stocks in key metrics such as FCF, ROE and margins. Among these four metrics, MSFT ranks among the top 3 along with stable growth over the past five years.

In FCF, MSFT generated $38 billion, second only to APPL but with a consistent track record over the past five years compared to APPL. MSFT's ROE more than doubled to 42% in 2019 (third in our peer list) on the back of strong growth in net income. In gross margins too, the company ranks third with a consistent and upward trending (FY 2015-19: 64-66%) trajectory compared to the downward trend seen in GOOGL (62-56%) and in APPL (40-38%).

Microsoft has relatively a high debt-capital ratio compared to its own historical standards as well as compared to peers such as GOOGL and SAP. This ratio shot up to 50% in 2017, from 31% in 2015, primarily attributable to the LinkedIn acquisition. However, it has been trending down since reaching 41% in 2019.

Microsoft has been a consistent performer vis-à-vis other large cap tech stocks in key metrics

Key metrics of select large cap tech stocks

FCF					
Ticker	2015	2016	2017	2018	2019
MSFT	23,724	24,982	31,378	32,252	38,260
AAPL	70,019	53,497	51,774	64,121	58,896
GOOGL	16,622	25,824	23,907	22,832	30,972
AMZN	6,652	9,399	6,410	17,296	21,653
CSCO	11,325	12,424	12,912	12,832	14,922
ORCL	13,189	12,496	12,105	13,650	12,891
IBM	13,676	13,517	13,495	11,852	12,484
SAP	3,000	3,628	3,770	2,845	2,679

Debt to capital					
Ticker	2015	2016	2017	2018	2019
MSFT	31%	43%	50%	48%	41%
AAPL	35%	40%	46%	52%	54%
GOOGL	4%	3%	3%	2%	7%
AMZN	57%	51%	61%	53%	56%
CSCO	30%	31%	34%	37%	42%
ORCL	46%	48%	52%	56%	72%
IBM	69%	65%	69%	70%	76%
SAP	29%	23%	21%	29%	34%

ROE					
Ticker	2015	2016	2017	2018	2019
MSFT	15%	22%	32%	19%	42%
AAPL	46%	37%	37%	49%	56%
GOOGL	14%	15%	9%	19%	18%
AMZN	5%	15%	13%	28%	22%
CSCO	15%	17%	15%	0%	30%
ORCL	21%	19%	18%	7%	33%
IBM	101%	73%	32%	51%	50%
SAP	14%	15%	15%	15%	11%

Gross Margins					
Ticker	2015	2016	2017	2018	2019
MSFT	65%	62%	65%	65%	66%
AAPL	40%	39%	38%	38%	38%
GOOGL	62%	61%	59%	56%	56%
AMZN	33%	35%	37%	40%	41%
CSCO	60%	63%	63%	62%	63%
ORCL	80%	80%	80%	80%	80%
IBM	50%	80%	47%	46%	47%
SAP	70%	80%	70%	70%	70%

Note: FCF values are in $million

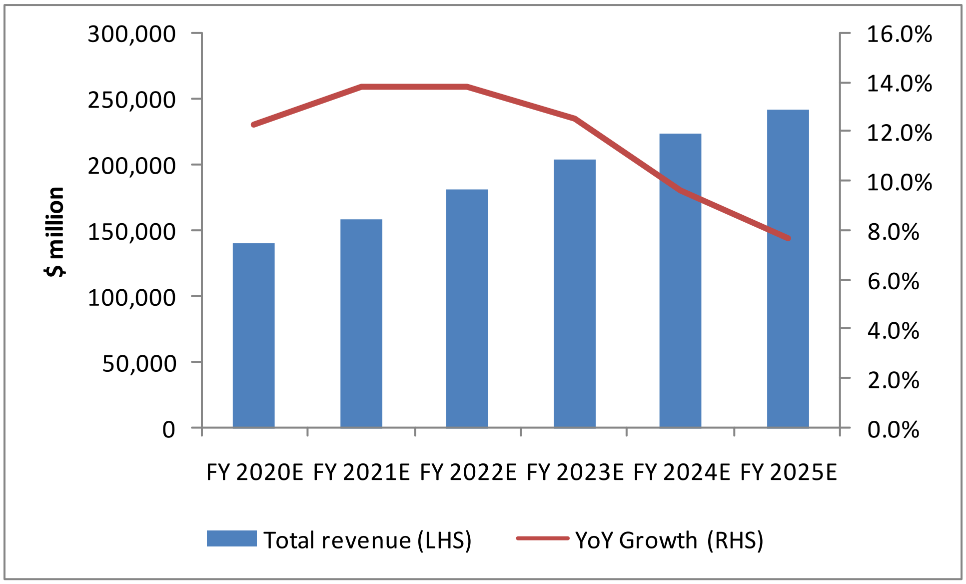
Source: Bloomberg, FRC

Risk Factors

- The software, devices, Cloud-based services markets are very dynamic and competitive and Microsoft may lose market share amid solid rivalry in the entirety of its business segments. Specifically, the company continues to struggle in the consumer business, especially hardware, while its leadership position in the enterprise is being threatened by intense competition from open source software, server products, and the public cloud.
- Although COVID has had minimal impact on MSFT so far, a second wave of COVID cases amid easing restrictions and delay in vaccine development could have a significant negative impact on the end-users of MSFT's software (manufacturing, auto, etc), which in turn could adversely affect MSFT's business.
- There is no guarantee that MSFT's new strategy on Xbox gaming will have a positive impact on the business segment, as consumer perception may change from time to time.
- Microsoft secures a significant portion of its revenue from global business, exposing it to currency exchange risks.

Valuation

The following graph depicts our revenue forecasts for Microsoft:



In $ Million	FY 2020E	FY 2021E	FY 2022E	FY 2023E	FY 2024E	FY 2025E
Revenue (LHS)	140,269	159,714	181,824	204,659	224,385	241,704
YoY Growth (RHS)	12.4%	13.9%	13.8%	12.6%	9.6%	7.7%

We forecast low single digit growth of 4.7% for 4Q20 to depict the full impact of COVID. For the full year 2020, this translates into a 12.4% growth rate.

Source: FRC

Our revenue forecasts are based on the following key assumptions:

- We have forecasted revenue growth to 2025 (thereafter, terminal growth rate of 2%). The end of our forecast period reflects the stability in revenue as we expect cloud business, the main growth driver, will reach its maturity level.
- For 2020, we expect revenue of $140billion, up11.5% y/y. Our Q4 2020 revenue forecast of $35.3 billion is close to the lower end of management guidance.
- We believe the company's muted Q4 2020 guidance of low single-digits reflects the full quarterly impact of COVID-19 as products such as Search and LinkedIn will continue to remain impacted due to lower advertising spend.
- By segment, the company expects Productivity and Business Processes revenue to be in the range of $11.65–$11.95 billion. For Intelligent Cloud, revenue is anticipated between $12.9 and $13.15 billion. The More Personal Computing segment is expected to generate revenue between $11.3 and $11.7 billion.
- We have adopted a more liberal approach for revenue growth forecast till

2022, given the company's high demand cloud services, mostly in-line with the expected growth rate for big tech companies in the US.

Our consolidated income statements for Microsoft through to 2025 are presented below.

Income Statement (YE June 30, $ million)	2020E	2021E	2022E	2023E	2024E	2025E
Server products and cloud services	40,592	52,770	67,545	82,405	94,766	104,242
Office products and cloud services	35,520	39,783	43,761	48,137	51,988	56,147
Windows	21,382	22,451	23,349	24,050	24,771	25,514
Gaming	10,652	10,758	10,866	10,975	11,084	11,195
Search advertising	8,099	8,261	8,426	8,679	8,939	9,207
LinkedIn	7,842	8,626	9,661	10,820	11,902	13,093
Enterprise Services	6,394	6,713	7,183	7,686	8,070	8,393
Devices	6,113	6,236	6,423	6,744	7,081	7,435
Other	3,675	4,116	4,610	5,163	5,783	6,477
Total Revenue	**140,269**	**159,714**	**181,824**	**204,659**	**224,385**	**241,704**
COGS	45,384	52,705	60,002	67,537	74,047	79,762
Gross Margin	**94,885**	**107,008**	**121,822**	**137,121**	**150,338**	**161,942**
Research and development	18,995	21,561	24,546	27,629	30,292	32,630
Sales and marketing	19,121	22,360	25,455	28,652	31,414	33,839
General and administrative	4,690	5,111	5,818	6,549	7,180	7,735
EBIT	**52,079**	**57,976**	**66,002**	**74,291**	**81,452**	**87,739**
Depreciation and Amortization	12,442	12,965	13,680	14,642	15,838	17,238
EBITDA (calculated)	**64,521**	**70,941**	**79,682**	**88,933**	**97,290**	**104,977**
Other income (expense)	-38	-38	-38	-38	-38	-38
EBT	**52,041**	**57,938**	**65,964**	**74,253**	**81,414**	**87,701**
Provision for income taxes	8,772	9,849	11,214	12,623	13,840	14,909
Net Income	**43,269**	**48,089**	**54,750**	**61,630**	**67,573**	**72,791**

Source: Company filings, FRC

Additional assumptions include:

- Long-term gross margins of 67%, which is in-line with MSFT's historical average.
- We also have taken the historical average to forecast long-term R&D expenses (13.5% of total revenue), sales and marketing expenses (14%) and general and administrative expenses (3.2%).
- In the long term, we believe the dividend payout ratio will be around 40%.

Blended Valuation

We use the blended valuation method comprising of discounted cash flow (DCF) and peer group multiples to arrive at a value of ~$213 per share for Microsoft, *Blended valuation at $213 per share*

representing a respectable upside of ~9.8% from the current price despite the sharp movement in stock prices over the past several months. The total return including dividends (yield of 1.2% assuming dividend payout of 36% in 2021E) comes to 11.0%. We assigned a weight of 50% to DCF and 25% each to P/FCF and P/E to arrive at the target price.

DCF valuation at $198 per share

In our DCF valuation methodology, we used a weighted average cost of capital ("WACC") of 7.2%, suggesting a low risk profile. Cost of equity came in at 7.4%, while after-tax cost of debt is 2.7%, reflecting MSFT's strong position in the tech market. We use a terminal growth rate of 3%, in line with the US long-term GDP growth rate. Consequently, the company's Enterprise Value (EV) is calculated at $1.45 trillion, arriving at an equity value of $1.52 trillion after considering total debt of $67 billion and total cash of $138 billion, as per Q3 2020 results. Our DCF valuation on Microsoft's shares is $198 per share.

$ million	2019	2020E	2021E	2022E	2023E	2024E	2025E
Time Remaining (Years)	0	0.04	1.04	2.04	3.04	4.04	5.04
EBIT	42,959	52,079	57,976	66,002	74,291	81,452	87,739
Tax Rate (%)	10%	17%	17%	17%	17%	17%	17%
Post Tax Operating Profit	38,585	43,301	48,120	54,782	61,662	67,605	72,823
Add: D&A	11,682	12,442	12,965	13,680	14,642	15,838	17,238
Less: Change in Working Capital	3,866	1,435	798	2,944	994	2,429	2,133
Less: Capex	13,925	14,579	15,971	18,182	20,466	22,439	24,170
FCFF	40,208	42,599	45,911	53,223	56,832	63,434	68,024
FCFF Growth		0.1%	0.1%	0.2%	0.1%	0.1%	0.1%
Discount Factor		1.0	0.9	0.9	0.8	0.8	0.7
PV of FCFF		42,494	42,718	46,193	46,008	47,901	47,913
Total - PV of FCFF	273,227						
Terminal Value (TV)	1,665,159						
PV of TV	1,172,870						
Enterprise Value ($ M)	**1,446,097**						
Less: Debt	66,610						
Add: Cash	137,626						
Equity Value ($M)	**1,517,113**						
Shares Outstanding	7,675						
Target Price ($)	**197.67**						
Current Price ($) (As of June 15, 2020	193.57						
Upside/Downside	**2.1%**						

		Terminal Growth Rate				
	197.67	2.0%	2.5%	3.0%	3.5%	4.0%
WACC	4.2%	380.38	479.92	661.87	1,100.94	3,654.26
	5.2%	264.93	306.50	366.90	462.67	637.74
	6.2%	204.39	226.66	255.88	295.90	354.04
	7.2%	167.13	180.78	$\boxed{197.67}$	219.12	247.26
	8.2%	141.89	150.99	161.84	174.98	191.26
	9.2%	123.68	130.11	137.57	146.33	156.78
	10.2%	109.93	114.66	120.05	126.24	133.43

Source: FRC

We forecast Microsoft's EPS at $5.69, and $6.33, for FY20, and FY21, respectively, implying growth of 13.3% and 12.4% on the back of strong revenue growth and stable margins. Our FCF calculation came in at $46 billion and $50 billion for FY 2020 and FY 2021, representing growth of 28% and 10%, respectively.

For relative valuation, we used 35x for both P/FCF and P/E (both premium to peers) on 2021, yielding fair values of $229 and $226 per share, respectively. We believe they are reasonable multiples given the company's strong growth profile and strong market position. There is already evidence to this trend as MSFT has run up sharply over the past few months to currently trade at all-time highs, taking its forward P/FCF and P/E multiples higher also – 31x and 34x for FY2020E, and 28x and 31x for FY2021E.

Comparable Companies	Ticker	Market Cap ($ millions)	Price/FCF			P/E		
			FY20E	FY21E	FY22E	FY20E	FY21E	FY22E
Microsoft Corp	MSFT	1,467,927	31.02	28.27	24.44	34.01	30.60	26.88
Apple Inc	AAPL	1,526,033	24.44	22.78	21.04	28.30	23.70	21.30
Alphabet Inc	GOOGL	986,042	30.58	22.31	17.94	27.18	21.29	17.55
Amazon.com Inc	AMZN	1,304,434	50.27	32.29	24.15	79.29	50.27	36.37
Cisco Systems Inc	CSCO	196,252	14.98	13.89	13.33	14.81	14.75	13.85
Oracle Corp	ORCL	172,154	14.20	13.66	13.69	13.45	12.42	11.61
International Business Machines Corp	IBM	111,120	9.99	9.39	9.53	11.21	10.09	9.54
SAP SE	SAP	147,298	36.01	26.30	23.04	24.06	21.14	18.61
Average Market Multiples			**26.4x**	**21.1x**	**18.4x**	**29.0x**	**23.0x**	**19.5x**
Median Market Multiples			**27.5x**	**22.5x**	**19.5x**	**25.6x**	**21.2x**	**18.1x**

P/FCF valuation at $229 per share and P/E valuation at $226 per share

Relative Valuation - MSFT	
FCF 2021e ($ million)	50,320
EPS 2021e ($)	6.4
Target Price/FCF Multiple for 2021E (x)	35.0x
Target P/E multiple for 2021E (x)	35.0x
Fair value per share ($) - P/FCF Multiple	**229.47**
Fair value per share ($) - P/E Multiple	**225.53**

Weighted Average Fair Value - MSFT

Valuation Method	Fair Value per share ($)	Weight	Weighted value per share ($)	Upside/downside
DCF Valuation	197.7	50.0%	98.835	2.1%
Relative Valuation - P/FCF	229.5	25.0%	57.368	18.5%
Relative Valuation - P/E	225.5	25.0%	56.382	16.5%
Target Price ($)		**212.58**		
CMP ($)		193.57		
Upside/(Downside)		**9.8%**		
Forward Dividend Yield 2021E		1.2%		
Total return Including dividend		**11.0%**		

Source: FRC

After reviewing Microsoft's business, its industry-leading market position in several product categories (cloud services, productivity tools and operating systems) underpinned by strong management execution and our model, we are initiating coverage on Microsoft with a BUY rating and a fair value estimate of $212.58 per share (average of our two valuation models). Our risk rating is 2.

APPENDIX

Income Statement (YE June 30, $ million)	2020E	2021E
Revenue	140,269	159,714
Total Revenue	**140,269**	**159,714**
COGS	45,384	52,705
Gross Margin	**94,885**	**107,008**
Research and development	18,995	21,561
Sales and marketing	19,121	22,360
General and administrative	4,690	5,111
EBIT	**52,079**	**57,976**
Depreciation and Amortization	12,442	12,965
EBITDA (calculated)	**64,521**	**70,941**
Other income (expense)	-38	-38
EBT	**52,041**	**57,938**
Provision for income taxes	8,772	9,849
Net Income	**43,269**	**48,089**
EPS (basic)	5.69	6.33
Shares	7,602	7,602

Balance Sheet (YE June 30, $ million)	2019	2020E	2021E
Assets			
Total cash, cash equivalents, and short-term investments	133,819	140,506	154,764
Accounts receivable, net	29,524	21,269	24,066
Inventories	2,063	1,787	2,022
Other	10,146	8,536	8,536
Total current assets	**175,552**	**172,098**	**189,388**
Property and equipment, net	36,477	41,953	44,959
Operating lease right-of-use assets	7,379	8,448	8,448
Equity and other investments	2,649	2,660	2,660
Goodwill	42,026	42,064	42,064
Intangible assets, net	7,750	7,561	9,158
Other long-term assets	14,723	13,696	13,696
Total assets	**286,556**	**288,479**	**310,373**
Liabilities and stockholders' equity			
Accounts payable	9,382	10,354	11,418
Short-term debt	0	0	0
Current portion of long-term debt	5,516	3,748	3,748
Short-term unearned revenue	32,676	29,641	31,943
Other liabilities	21,846	18,701	18,701
Total current liabilities	**69,420**	**62,444**	**65,810**
Long-term debt	66,662	57,344	53,594
Long-term unearned revenue	4,530	3,529	3,993
Other long-term liabilities	113,034	108,438	111,804
Total liabilities	**184,226**	**169,311**	**169,391**
Common stock and paid-in capital	78,520	81,196	87,233
Retained earnings	24,150	35,296	51,073
Total stockholders' equity	**102,330**	**119,168**	**140,982**
Total liabilities and stockholders' equity	**286,556**	**288,479**	**310,373**

Cash Flow (YE June 30, $ million)	2019	2020E	2021E
Net income	39,240	43,269	48,089
Depreciation, amortization, and other	11,682	12,442	12,965
Stock-based compensation expense	4,652	5,323	6,037
Changes in operating assets and liabilities:			
Accounts receivable	-2,812	8,208	-2,798
Inventories	597	276	-235
Accounts payable	232	1,100	1,064
Unearned revenue	4,462	-3,791	2,766
Other	-5,868	-4,934	0
Net cash from operations	**52,185**	**61,893**	**67,888**
Financing			
Repayments of debt	-4,000	-11,036	-3,750
Common stock cash dividends paid	-13,811	-15,178	-17,312
Other	-19,076	-19,979	-15,000
Net cash from (used in) financing	**-36,887**	**-46,193**	**-36,062**
Investing			
Additions to property and equipment	-13,925	-14,579	-15,971
Acquisition of companies, net of cash acquired, and purchases of intangible and othe	-2,388	-1,577	-1,597
Other	540	3,807	0
Net cash used in investing	**-15,773**	**-12,348**	**-17,568**
Effect of foreign exchange rates on cash and cash equivalents	-115	-118	0
Net change in cash and cash equivalents	**-590**	**3,234**	**14,258**
Cash and cash equivalents, beginning of period	11,946	11,356	14,590
Cash and cash equivalents, end of period	**11,356**	**14,590**	**28,848**
Free Cash Flows	35,872	45,738	50,320
Growth %	*14.4%*	*27.5%*	*10.0%*

Fundamental Research Corp. Equity Rating Scale:
Buy – Annual expected rate of return exceeds 12% or the expected return is commensurate with risk
Hold – Annual expected rate of return is between 5% and 12%
Sell – Annual expected rate of return is below 5% or the expected return is not commensurate with risk
Suspended or Rating N/A— Coverage and ratings suspended until more information can be obtained from the company regarding recent events.

Fundamental Research Corp. Risk Rating Scale:
1 (Low Risk) - The company operates in an industry where it has a strong position (for example a monopoly, high market share etc.) or operates in a regulated industry. The future outlook is stable or positive for the industry. The company generates positive free cash flow and has a history of profitability. The capital structure is conservative with little or no debt.

2 (Below Average Risk) - The company operates in an industry where the fundamentals and outlook are positive. The industry and company are relatively less sensitive to systematic risk than companies with a Risk Rating of 3. The company has a history of profitability and has demonstrated its ability to generate positive free cash flows (though current free cash flow may be negative due to capital investment). The company's capital structure is conservative with little to modest use of debt.

3 (Average Risk) - The company operates in an industry that has average sensitivity to systematic risk. The industry may be cyclical. Profits and cash flow are sensitive to economic factors although the company has demonstrated its ability to generate positive earnings and cash flow. Debt use is in line with industry averages, and coverage ratios are sufficient.

4 (Speculative) - The company has little or no history of generating earnings or cash flow. Debt use is higher. These companies may be in start-up mode or in a turnaround situation. These companies should be considered speculative.

5 (Highly Speculative) - The company has no history of generating earnings or cash flow. They may operate in a new industry with new, and unproven products. Products may be at the development stage, testing, or seeking regulatory approval. These companies may run into liquidity issues and may rely on external funding. These stocks are considered highly speculative.

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