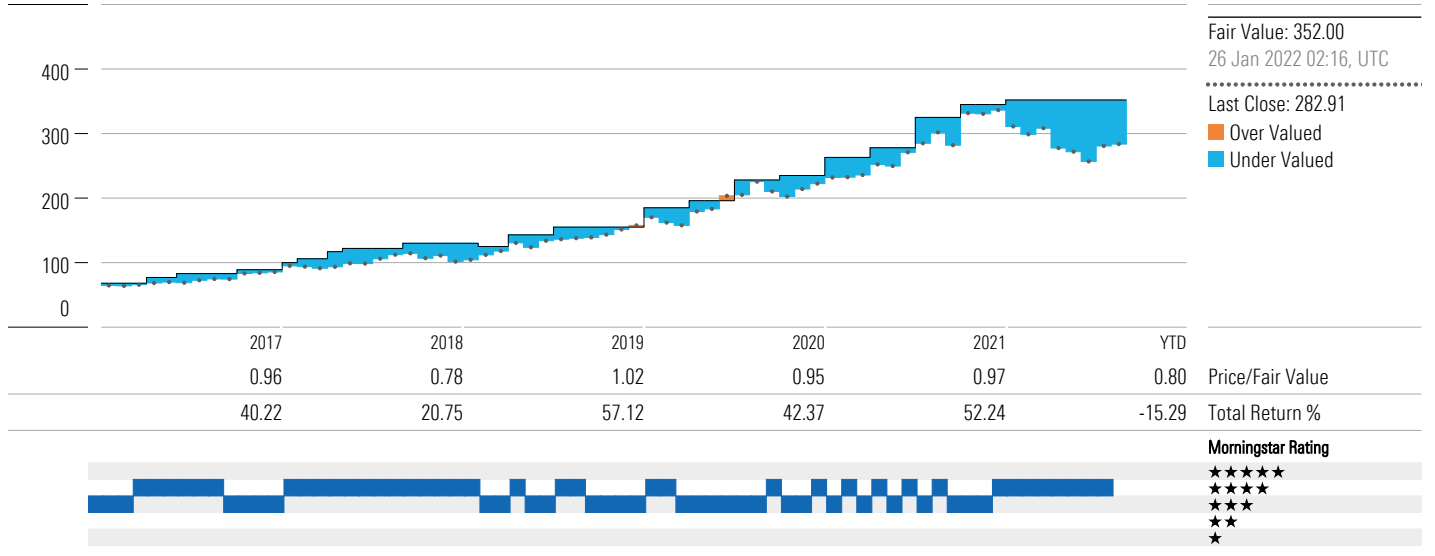


Microsoft Corp MSFT ★★★★★ 4 Aug 2022 21:26, UTC

Last Price 282.91 USD 5 Aug 2022	Fair Value Estimate 352.00 USD 26 Jan 2022 02:16, UTC	Price/FVE 0.80	Market Cap 2.12 USD Tril 5 Aug 2022	Economic Moat™ Wide	Moat Trend™ Stable	Uncertainty Medium	Capital Allocation Exemplary	ESG Risk Rating Assessment¹ 3 Aug 2022 05:00, UTC
---	--	--------------------------	--	-------------------------------	------------------------------	------------------------------	--	---

Price vs. Fair Value



Total Return % as of 4 Aug 2022. Last Close as of 5 Aug 2022. Fair Value as of 26 Jan 2022 02:16, UTC.

Contents

- Business Description
- Business Strategy & Outlook (3 Aug 2022)
- Bulls Say / Bears Say (3 Aug 2022)
- Economic Moat (3 Aug 2022)
- Fair Value and Profit Drivers (25 Jan 2022)
- Risk and Uncertainty (3 Aug 2022)
- Capital Allocation (3 Aug 2022)
- Analyst Notes Archive
- Financials
- Research Methodology for Valuing Companies

Important Disclosure

The conduct of Morningstar's analysts is governed by Code of Ethics/Code of Conduct Policy, Personal Security Trading Policy (or an equivalent of), and Investment Research Policy. For information regarding conflicts of interest, please visit: <http://global.morningstar.com/equitydisclosures>.

The primary analyst covering this company does not own its stock.

¹The ESG Risk Rating Assessment is a representation of Sustainalytics' ESG Risk Rating.

Microsoft Flexing Cloud Muscle


Business Strategy & Outlook Dan Romanoff, CPA, Senior Equity Analyst, 3 Aug 2022


Since taking over as CEO in 2014, Satya Nadella has reinvented Microsoft into a cloud leader such that it has become one of two public cloud providers that can deliver a wide variety of PaaS/IaaS solutions at scale. Additionally, Microsoft embraced the open-source movement and has largely transitioned from a traditional perpetual license model to a subscription model. The company has also enjoyed great success in upselling users on higher priced Office 365 versions, notably to include advanced telephony features. These factors have combined to drive a more focused company that offers impressive revenue growth with high and expanding margins.

We believe that Azure is the centerpiece of the new Microsoft. Even though we estimate it is already an approximately \$45 billion business, it grew at a staggering 45% rate in fiscal 2022. Azure has several distinct advantages, including that it offers customers a painless way to experiment and move select workloads to the cloud creating seamless hybrid cloud environments. Since existing customers remain in the same Microsoft environment, applications and data are easily moved from on-premises to the cloud. Microsoft can also leverage its massive installed base of all Microsoft solutions as a touch point for an Azure move. Azure also is an excellent launching point for secular trends in AI, business intelligence and Internet of Things, as it continues to launch new services centered around these broad themes.

Microsoft is also shifting its traditional on-premises products to become cloud-based SaaS solutions.

Microsoft Corp MSFT ★★★★★ 4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

Sector	Industry
 Technology	Software - Infrastructure

Business Description

Microsoft develops and licenses consumer and enterprise software. It is known for its Windows operating systems and Office productivity suite. The company is organized into three equally sized broad segments: productivity and business processes (legacy Microsoft Office, cloud-based Office 365, Exchange, SharePoint, Skype, LinkedIn, Dynamics), intelligence cloud (infrastructure- and platform-as-a-service offerings Azure, Windows Server OS, SQL Server), and more personal computing (Windows Client, Xbox, Bing search, display advertising, and Surface laptops, tablets, and desktops).

Critical applications include LinkedIn, Office 365, Dynamics 365, and the Power platform, with these moves now beyond the halfway point and no longer a financial drag. Office 365 retains its virtual monopoly in office productivity software, which we do not expect to change in the foreseeable future. Lastly, the company is also pushing its gaming business increasingly toward recurring revenues and residing in the cloud. We believe that customers will continue to drive the transition from on-premises to cloud solutions, and revenue growth will remain robust with margins continuing to improve for the next several years.

Bulls Say Dan Romanoff, CPA, Senior Equity Analyst, 3 Aug 2022

- ▶ Public cloud is widely considered to be the future of enterprise computing, and Azure is a leading service that benefits the evolution to first to hybrid environments, and then ultimately to public cloud environments.
- ▶ Shift to subscriptions accelerates growth after the initial growth pressure, and the company has passed the margin inflection point now such that margins are increasing again and have returned to pre-Nokia and pre-“cloud” levels.
- ▶ Microsoft has monopoly like positions in various areas (OS, Office) that serve as cash cows to help drive Azure growth.

Bears Say Dan Romanoff, CPA, Senior Equity Analyst, 3 Aug 2022

- ▶ Momentum is slowing in the ongoing shift to subscriptions, particularly in Office, which is generally considered a mature product.
- ▶ Microsoft lacks a meaningful mobile presence.
- ▶ Microsoft is not the top player in its key sources of growth, notably Azure and Dynamics.

Economic Moat Dan Romanoff, CPA, Senior Equity Analyst, 3 Aug 2022

For Microsoft overall we assign a wide moat rating arising from switching costs, network effects, and cost advantages. We believe that Microsoft's different segments and products benefit from different moat sources.

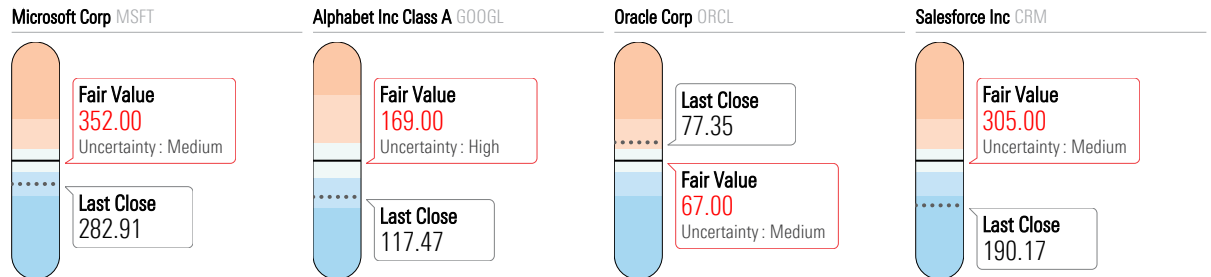
Microsoft's Productivity and Business Processes segment includes Office, Dynamics, and LinkedIn. We assign the segment a wide moat rating based on high switching costs and network effects.

We believe that Microsoft Office, including both 365 and the perpetual license version, is protected by a wide moat driven by high switching costs and network effects. Office 365 is the cloud-based version of the traditional perpetual license Microsoft Office productivity suite. Office 365 is available for a monthly subscription. Together, the two products account for approximately 26% of revenue and are growing in the low double-digit area. Office 365 represents more than half of Office revenue. We expect perpetual license sales of Office to continue to decline in terms of both absolute dollars and as a percent of

Microsoft Corp MSFT ★★★★★ 4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	3 Aug 2022 05:00, UTC

Competitors



	Microsoft Corp MSFT	Alphabet Inc Class A GOOGL	Oracle Corp ORCL	Salesforce Inc CRM
Economic Moat	Wide	Wide	Narrow	Wide
Moat Trend	Stable	Stable	Negative	Positive
Currency	USD	USD	USD	USD
Fair Value	352.00 26 Jan 2022 02:16, UTC	169.00 27 Jul 2022 05:42, UTC	67.00 14 Jun 2022 03:30, UTC	305.00 1 Jun 2022 00:40, UTC
1-Star Price	475.20	261.95	90.45	411.75
5-Star Price	246.40	101.40	46.90	213.50
Assessment	Under Valued 5 Aug 2022	Under Valued 5 Aug 2022	Over Valued 4 Aug 2022	Significantly Undervalued 4 Aug 2022
Morningstar Rating	★★★★★ 4 Aug 2022 21:26, UTC	★★★★★ 4 Aug 2022 21:25, UTC	★★★ 4 Aug 2022 21:26, UTC	★★★★★ 4 Aug 2022 21:26, UTC
Analyst	Dan Romanoff, Senior Equity Analyst	Ali Mogharabi, Senior Equity Analyst	Julie Bhusal Sharma, Equity Analyst	Dan Romanoff, Senior Equity Analyst
Capital Allocation	Exemplary	Exemplary	Poor	Standard
Price/Fair Value	0.80	0.70	1.15	0.62
Price/Sales	10.79	5.69	5.08	6.77
Price/Book	12.70	6.04	47.38	3.23
Price/Earning	29.39	22.01	32.12	189.38
Dividend Yield	0.85%	—	1.65%	—
Market Cap	2,115.43 Bil	1,545.86 Bil	206.27 Bil	190.31 Bil
52-Week Range	241.51 — 349.67	101.88 — 151.55	63.76 — 106.34	154.55 — 311.75
Investment Style	Large Growth	Large Core	Large Core	Large Growth

revenue, with growth in Office 365 more than offsetting the declines.


An office productivity suite generally consists of spreadsheet (Excel), word processing (Word), and presentation (PowerPoint) software applications. Other applications can also be bundled in. Microsoft offers a variety of versions of the Office 365 suite, and increasingly fewer perpetual license versions. Office 365 starts at approximately \$6 per month and tops out at approximately \$35 per user per month. Lower-cost and even free versions are available for students and the education vertical more generally. The perpetual license version is \$150. Office 365 already has more than 165 million subscribers.

While Office 365 and is ubiquitous among white collar workers, there are a variety of other office productivity suites available. Many of these are available for free, notably Google Docs and Apache OpenOffice.

Microsoft eventually came to completely own this market but certainly was not there first. Lotus 1-2-3

© Morningstar 2022. All Rights Reserved. Unless otherwise provided in a separate agreement, you may use this report only in the country in which its original distributor is based. The information, data, analyses and opinions presented herein do not constitute investment advice; are provided solely for informational purposes and therefore are not an offer to buy or sell a security; and are not warranted to be correct, complete or accurate. The opinions expressed are as of the date written and are subject to change without notice. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages or other losses resulting from, or related to, the information, data, analyses or opinions or their use. The information contained herein is the proprietary property of Morningstar and may not be reproduced, in whole or in part, or used in any manner, without the prior written consent of Morningstar. Investment research is produced and issued by subsidiaries of Morningstar, Inc. including, but not limited to, Morningstar Research Services LLC, registered with and governed by the U.S. Securities and Exchange Commission. To order reprints, call +1 312-696-6100. To license the research, call +1 312-696-6869. Please see important disclosures at the end of this report.

Microsoft Corp MSFT ★★★★★ 4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

and WordPerfect dominated office productivity throughout the 1980s and remained popular even into the 1990s. We believe Microsoft continues to enjoy a dominant market share position in Office Suites, with Google being the only other vendor of consequence. Given that so many users are willing to pay a minimum of \$70 per year to use Office 365 when free versions that are generally similar in terms of features and interface are available, we are impressed with the company's pricing power and believe it supports our wide moat stance.

Microsoft Office also benefits from high switching costs. Because of the significant installed base, and the fact that critical business processes are often centered around Microsoft Excel, we believe it would be highly disruptive for a company to pivot to an office suite other than Office 365. Broadly speaking, critical reports within the financial function of countless enterprise users are pulled from an Oracle, SQL, or other popular database into an Excel file that can then be manipulated and analyzed further.

Lastly, Office 365's moat is supported by a network effect. A large installed base draws in software developers to create products specifically for Microsoft Office. For example, in the financial community, a wide variety of add-ins for Excel designed to smoothly integrate popular platforms such as Factset, Bloomberg, and CapitalIQ have been created.


Microsoft Dynamics, including both Dynamics 365 and traditional license versions, has a narrow moat, in our view, that is supported primarily by high switching costs. Dynamics is an enterprise resource planning (ERP) suite of applications designed to help mid-sized companies, or divisions of larger companies, run their businesses. We estimate Dynamics accounts for approximately 2% of total revenue and is growing in the low double-digit area. The Dynamics revenue base is shifting from a perpetual license and maintenance model into a subscription model (Dynamics 365). Microsoft has invested considerable resources in these applications, which now benefit from being re-architected and modular, creating a strong value proposition for customers. As such, Dynamics has increased its profile and is slowly gaining share market share. Dynamics 365 is a leading cloud-based CRM and ERP package that generally competes with Salesforce.com, Oracle (standalone), Netsuite (owned by Oracle), Workday, and SAP, among others.

An ERP system and its core modules represent the core systems of the company. These software suites represent a significant financial commitment, a steep learning curve, and a long lead-time for implementing and testing the system. Because of these investments, an ERP system has traditionally been considered a minimum 10-15 year investment. There is also substantial risk in changing from one ERP vendor to another — and enterprise customers are risk averse by their nature. The sales process alone is a one-year, if not two-year process, with implementation times running at 1-2 years as well. Modern architectures skew toward the shorter end of the range, while legacy systems skew longer.

We believe LinkedIn's narrow moat is supported by network effects. Hailed as a professional networking

Microsoft Corp MSFT ★★★★★

4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

tool, LinkedIn is at its core a free-to-use networking application similar to Facebook. LinkedIn represents mid-single digits as a percent of revenue, and is growing by more than 30%. We believe LinkedIn is the premier tool for professional networking. The company boasts more than 600 million registered users, but no longer reports the more useful figure for monthly active users, or MAU, which we estimate to be approximately 145 million. When Microsoft announced the acquisition, LinkedIn had 433 million members and 105 million MAU. In the Americas and Europe, the only larger network of its kind is Facebook (2.3 billion MAU), which is geared more toward social networking. Twitter serves a different purpose, but for context has 326 million MAU.

LinkedIn ultimately provides a large database of professionals for recruiters and companies to comb for talent, the tools to make that process easy, and a platform for targeted advertising. For professional networking, we believe that no comparable platform exists. Engagement among users remains high even as new members continue to join. The large user base attracts more users, recruiters, advertisers, which in-turn, attracts more users still. We do not see a disruptive network or software tool threatening LinkedIn over the next several years.

Microsoft's Intelligent Cloud segment includes Windows Server, SQL Data Base Management System, Azure, Enterprise Services and Visual Studio. We assign the segment a wide moat rating based on high switching costs, network effects, and cost advantages.


Windows Server is protected by a wide moat driven by high switching costs and network effects. Microsoft was the clear winner in the move from mainframe computing to client-server architecture. The PC boom helped fuel the server boom beginning in the 1980s and gaining steam in the 1990s. Much cheaper Windows-based servers were severely disruptive to the mainframe server market. Mainframes and Unix based servers have been hit hard over the last 20 years and now represent just a small piece of the market. Windows remains the server operating system leader and continues to gain share, even as Linux continues to grow faster. Linux is open-source and theoretically "free." That said, Red Hat made a business out of offering support contracts to enterprise customers for an otherwise "free" product. Despite Linux being free and being extremely stable, customers are still overwhelmingly willing to pay for Windows Server. We believe such pricing power supports our wide-moat stance.

Microsoft's presence in the PC market with both its OS and Office productivity software allowed it to easily enter the server market just as the server market was undergoing a major transformation. Great timing helped build a substantial installed base. Today the IT backbone of many of the largest companies in the world is built on Microsoft Server. We reiterate that replacing any part of the core of an enterprise's IT environment would be a significant undertaking for any company in terms of financial cost, time, and risk. In other words, switching costs are high.

Critically, we believe that Microsoft's unique ability to move clients from an on-premises Microsoft

Microsoft Corp MSFT ★★★★★

4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

environment to a cloud Microsoft environment via Azure is a structural advantage. As the cloud theme has evolved it has become increasingly apparent that companies' IT environments will be hybrid-based for years to come.

Lastly, the early lead and substantial market share led to a wide variety of developers joining the ecosystem bringing in applications, middleware, and development tools. This has helped Microsoft Server become the path of least resistance for CIOs and IT managers as well: a larger installed base attracts developers, which in turn attracts more customers.

We believe Microsoft's SQL Database Management System (DBMS) is protected by a wide moat driven by high switching costs. Over the years the company has developed a strong technology core for DBMS and continues to add to an already strong portfolio. Beyond the portfolio breadth, Microsoft's DBMS offers a good value for customers as well. In short, the company has made it easy for customers to select Microsoft and stick with them over time. We view Microsoft DBMS as one of several leading database products along with AWS, SAP, Oracle, and IBM, with Microsoft and Oracle being a cut above the others. This is a core technology in a customer's IT environment, and changing it would involve significant costs, take a long time to implement, test, train and realign with prior day to day processes, and involve needless risk. Once again, by virtue of offering clients the ability to migrate to the cloud on their own terms through Azure, we think Microsoft has solidified its position for years to come.

We believe high switching costs and cost advantages drive a wide moat for Azure. Azure is clearly the growth engine for the Intelligent Cloud segment, and one of the critical products the "new" Microsoft will be built around. Azure is a next-generation service offering that builds upon the Dynamics 365 and Office 365 SaaS business to offer Infrastructure as a Service (IaaS) and Platform as a Service (PaaS). The lines are often blurry between IaaS and PaaS. In an IaaS model, the provider offers the necessary hardware, virtualization, networking, and storage as a computing service delivered over the internet. Other basic software-level functionality can be layered in and still have the offering be considered IaaS. However, as software is added, IaaS quickly becomes PaaS. In PaaS model, the provider also offers and hosts operating systems, middleware, and core IT applications (notably database). Additionally, PaaS is generally thought of as an application development platform, which is again another level of complexity. Overall, the practical boundaries between different PaaS offerings is murky. We view Azure, AWS, and Google Compute as leaders in this category, with AWS and Azure being the clear leaders. We also view Salesforce and ServiceNow as competitors in this area for some use cases.

We estimate revenue from Azure itself is a mid-to-high single-digit percentage of revenue, growing by more than 75% annually. We believe the company's presence in traditional on-premises deployments of Server (and SQL database) have helped guide customers toward Azure for both fully public and hybrid deployments. It is simply the path of least resistance for many CIOs—Microsoft offers a worry-free

Microsoft Corp MSFT ★★★★★

4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

product and a seamless transition from on-premises to Azure. Users would overwhelmingly not even notice the company shifted workloads to the cloud.

Further, we believe it is cheaper initially for companies to move workloads to the cloud, as there are less upfront costs and a lower bar to clear for maintenance and administration. Along those lines, Microsoft offers scale advantages to Azure clients in that at least some cloud offerings are cheaper relative to AWS, and it has scale by being larger than all but one competitor and possessing the largest worldwide data center footprint, with 54 locations around the world. Compliance regulations in many countries are increasingly requiring local data storage, so a global footprint is critical.



We believe that given the commodity-like nature of consulting services, as evidenced by its low(er) margin structure, Microsoft Enterprise Services (MES) is not protected by a true moat. However, we believe MES should be able to maintain its market position as a result of being part of the largest software company in the world. The move from on-premises to cloud and/or hybrid environments remains a complex task. Given the company's position as a leader in both traditional (Windows Server and SQL products) and cloud (Azure), we believe customers will continue to engage with Microsoft for professional services. This is also supported by the broader trend within technology to consolidate vendors to ease the burden on CIOs and IT management professionals.

Visual Studio's narrow moat is supported by high switching costs and network effects. Visual Studio is an integrated development environment (IDE) used to develop computer applications, mobile apps, websites, and web apps. Visual Studio supports more than 35 languages with code editing, automated code completing, and debugging. Additionally, Microsoft includes the .NET framework with its Windows OS license. Microsoft .NET is effectively a library of source code that developers can access for ensuring common functions work correctly without having to actually write the code themselves. Thus it saves time and requires no de-bugging. To further bolster Visual Studio, Microsoft acquired Xamarin. Xamarin is a software development tool that allows for cross platform application development. For example, one set of code written in C# (or various other languages) can be used for the same app on both iOS and Android. Once again, Microsoft has used its presence to attract more users, which in turn attract more developers in a virtuous circle. Additionally, developers have a lot invested in terms of man-hours sunk into learning certain languages and how to efficiently write software under a given umbrella. Our experience informs us that it would be a time-consuming, and therefore costly endeavor to learn additional languages on a different platform.

The GitHub acquisition (closed Oct. 26, 2018) bolsters Microsoft's position for developers' tools. Given that GitHub is a repository for source code and an online collaboration community for software developers, it enjoys some level of network effect as the "Facebook for programmers," and makes Visual Studio a stickier product. Our preliminary assessment of the company suggests it reinforces our narrow

Microsoft Corp MSFT ★★★★★

4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	 Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

moat rating. GitHub will retain its developer-first mentality, operate independently, and remain an open platform. It will be incorporated into the Intelligent Cloud segment so that Microsoft and GitHub will work together to empower developers to achieve more at every stage of the development lifecycle, accelerate enterprise use of GitHub, and expand its community of developers. The company was exploring an IPO and last saw a public valuation in 2015 at approximately \$2 billion. Google, Apple, Amazon, Facebook, and Microsoft each have a material presence on GitHub and use it for documentation and code. It remains to be seen if these mega-cap tech competitors will allow their developers to continue to use GitHub.

Microsoft's "More Personal Computing" segment includes Windows, Gaming, Devices, and Search. We assign the segment a narrow moat rating based on high switching costs and network effects.


Microsoft Windows' wide moat is supported by high switching costs and a network effect. Windows accounts for approximately 18% of total revenue and is growing in the mid-single-digit area. It enjoys an 83% global market share for PC operating systems. Apple has the next largest share at 13%. The only other realistic alternatives are Linux and Chrome. We believe Windows has very slowly been bleeding market share with the rise of Apple and the introduction of some alternative PC operating systems. Despite a slow bleed of market share over a decade, Windows revenue has grown for three consecutive years. We simply do not believe there is a viable OS alternative. Additionally, other than IT managers and CIOs, PC users overwhelmingly do not contemplate their operating system.

At the core of Windows longevity is the fact that its predecessor, Microsoft DOS, enjoyed a first mover advantage, coupled with a liberal licensing strategy that allowed it to quickly become the de facto standard in desktop operating systems from the outset. The timing could not have been better, as this was right as the PC was born and the market opportunity was completely greenfield.

At the enterprise level, CIOs and IT managers require proven reliability, significant software support, and a product roadmap to insure their investment in IT infrastructure will offer an appropriate return. Windows is ubiquitous and proven. There have literally been billions of instances of Windows installed. Enterprises will often skip Windows versions and overwhelmingly not even upgrade to newer versions until the first (or second) service pack is released. We believe there is simply too much at stake in financial, operational, and informational terms to warrant companies switching to competing operating systems.

Additionally, software is overwhelmingly written for Windows. Because of the first mover advantage and concurrent de facto status as the standard in desktop OS software, software was initially written for Windows. Initially, this was a virtuous circle, as developers wrote software for the large installed base of DOS-based PCs, and users quickly coalesced around DOS because it became the most useful. Over time, Microsoft introduced a variety of other software solutions that brought it additional users and

Microsoft Corp MSFT ★★★★★ 4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

developers. The same applies today, when business software is overwhelmingly written for the Windows OS. Consumer PC software is also predominantly written for Windows.

We do not believe Microsoft's Gaming segment warrants an economic moat; while the lifecycle of a gaming console has been expanding but is realistically still a 4-6 year time horizon, we do not have enough confidence that the business can generate excess returns over the next 10 years. We believe that Gaming is supported by high switching costs and a network effect, but that such benefits are not necessarily maintainable over the next decade. Gaming includes Xbox unit sales; game software sales; Xbox Live transactions, subscriptions, and advertising, and third-party video game royalties. Gaming revenue is approximately 9% of total and is growing in the low-double-digit area.

High switching costs are explicit in the hardware platform, which for leading edge units is \$500, while trailing versions of the device are \$250. New games typically retail for \$60. Battery packs, second controllers, and headsets will cost another \$100 in aggregate. In short, with a handful of games, essential accessories, and the console itself, a user is looking at an investment of approximately \$1,000. Games have typically been backward compatible but in recent new platform releases, console makers have skipped this, which has certainly angered users.

Gamers inevitably enjoy gaming with friends or within a community of gamers they are familiar with, and cross platform gaming has generally not been possible. Therefore, users tend to want to be on the same platform as their friends. More gamers on a particular console attract developers to write more games and offer exclusive content on a given platform, which in turn attracts more gamers. Microsoft currently boasts 56 million MAU on Xbox Live. Meanwhile, Microsoft has added features over the years to make the Xbox platform more sticky for its gaming community, including Xbox Live, xCloud streaming, various apps on the console itself, networking functionality, free games, and Xbox Game Pass (Netflix for video games).

We do not believe the Microsoft Surface enjoys a moat of any kind. We do not believe that there is much, if any long-lived differentiation between a Microsoft Surface and generally competitive products such as a Windows or Mac laptop, an Apple iPad, or a Google ChromeBook. This is generally reflected in low(er) product gross margins. Other devices within this category include computer peripherals (keyboards, mice, etc) and the HoloLens. On the HoloLens in particular, we remain skeptical on virtual and augmented reality within the next several years. Microsoft has not enjoyed much success in noncore devices in recent years, with the high-profile Zune and large acquisition of Nokia serving as reminders that hardware is a challenging business. Finally, we also do not believe there is a durable moat in Microsoft's Bing search engine.

Fair Value and Profit Drivers Dan Romanoff, CPA, Senior Equity Analyst, 25 Jan 2022

Microsoft Corp MSFT ★★★★★

4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

Our fair value estimate for Microsoft is \$352 per share, which implies a fiscal 2022 enterprise value/sales (EV/S) multiple of 13 times, adjusted price/earnings, or P/E, multiple of 36 times, and a 3% free cash flow yield.

We model a 5-year compound annual growth rate, or CAGR, for revenue of approximately 13%. We foresee stronger revenue growth ahead as Microsoft's prior decade was bogged down by the downturn in 2008, the complete evaporation of mobile handset revenue from the disposal of the Nokia handset business, as well as the onset of the model transition to subscriptions (which initially results in slower revenue growth). We believe revenue growth will be driven by Azure, Office 365, Dynamics 365, and LinkedIn. Azure, in particular, is the single most critical revenue driver over the next 10 years, in our view, as hybrid environments (where Microsoft excels) drive mass cloud adoption. We believe the combination of Azure, DBMS, Dynamics 365, and Office 365 will drive above-market growth as CIOs continue to consolidate vendors. We believe More Personal Computing will grow modestly above GDP over the next 10 years.

We also model operating margins increasing modestly from 42% in fiscal 2021 (actual) to 43% in fiscal 2026, driven by improvements in gross margin as Azure continues to scale as well as some operating leverage. However, we do expect some pressure on both gross margin and operating margin in fiscal 2022 as an accounting change becomes a headwind and a pick-up in expenses from returning to business as usual after COVID-19 occurs.


Risk and Uncertainty Dan Romanoff, CPA, Senior Equity Analyst, 3 Aug 2022

Microsoft faces risks that vary among the products and segments. High market share in the client-server architecture over the last 30 years means significant high margin revenue is at risk, particularly in OS, Office, and Server. Microsoft has thus far been successful in growing revenues in a constantly evolving technology landscape, and is enjoying success in both moving existing workloads to the cloud for current customers and attracting new clients directly to Azure. However, it must continue to drive revenue growth of cloud-based products faster than revenue declines in on-premises products.

Microsoft is acquisitive, and while many small acquisitions are completed that fly under the radar, the company has had several high-profile flops, including Nokia and aQuantive. The LinkedIn acquisition was expensive but served a purpose and seems to be working out well in our view. It is not clear how much Microsoft bought in the Permira-led Informatika LBO, and it may have been an important strategic investment, but Informatika was certainly not a growth catalyst. GitHub was expensive but strategic and seems to be shaping up as a success, while the ZeniMax deal should boost the company's first party video game publishing efforts. We expect the Nuance acquisition to be digestible but the recently announced Activision Blizzard acquisition is the company's largest ever and might warrant more attention.

Microsoft Corp MSFT ★★★★★

4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

The public cloud build-out remains in its early phases. AWS has taken the market by storm, with Azure trailing, but the two are seen as clear leaders. This is a rapidly evolving market and Microsoft must continually adjust its offerings, add solutions to the stack, and compete with a company that has built a business around aggressive pricing.

While we do not see significant ESG risks, we note Microsoft faces strong competition for software engineers on the hiring front, and also faces risks arising from a potential data breach within its data centers.

Capital Allocation Dan Romanoff, CPA, Senior Equity Analyst, 3 Aug 2022

We assign Microsoft an Exemplary Capital Allocation rating. The rating reflects our assessments of a sound balance sheet, exceptional investments, and appropriate shareholder distributions. We think investments back into the business are most likely to be the key driver of total shareholder returns and are therefore appropriately prioritized over other capital returns such as dividends and buybacks, although given the firm's prodigious free cash flow generation, we see share dividends, buybacks and acquisitions continuing.

The balance sheet is sound with a net cash position, including \$105 billion in cash and \$55 billion in debt. Gross leverage is under one times trailing EBITDA. We expect the balance sheet to remain sound as the company has typically maintained a conservative balance sheet and generates more than enough free cash flow to fund growth, pay dividends, buy back shares, and execute its acquisition strategy.


Microsoft's capital deployment strategy centers around re-investing in the business, paying dividends, buying back shares, and making generally small tuck-in acquisitions. Deal sizes picked up in calendar 2021 and 2022 with the completed acquisition of Nuance and the pending bid for Activision. Still, we expect deals to return to smaller absolute sizes as a normal course of business. We expect the share count to continue to decline over time and see dividends growing generally in line with earnings. We also think the company will continue with its acquisition strategy.

Satya Nadella took over as CEO of Microsoft in February 2014, after Steve Ballmer resigned in August 2013. Nadella joined Microsoft in 1992 and worked his way up to a variety of business unit leadership roles, mainly involving Cloud, Business, and Server & Tools groups. He was the President of the Server & Tools Division for the three years prior to becoming CEO. The company he took over is very different than the company we see today, and the transformation has been nothing short of dramatic.

We can point to several specific actions Nadella has undertaken. The first was the \$2.5 billion acquisition of Mojang in 2014, which brought in the popular Minecraft title to the Gaming division. His next move in 2015 was to invest alongside Permira in its acquisition of Informatica (INFA), a data integration middleware provider. INFA is available on Azure as part of Microsoft's PaaS offering. In

Microsoft Corp MSFT ★★★★★

4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

2016, Microsoft wrote Nokia off and jettisoned the division. We believe the Nokia acquisition was a desperate attempt to have a relevant presence in the mobile world. Unfortunately, it was too late by then, as Apple and Alphabet had already come to dominate the market in mobile operating systems. Almost immediately after selling the remaining Nokia assets, Microsoft announced the LinkedIn (LNKD) acquisition for \$26.2 billion. LinkedIn's Recruiter tool was an important SaaS offering that can be either a standalone offering or as part of Dynamics. LinkedIn also served to provide something Microsoft badly needed—a meaningful internet presence. He has also shifted the company's culture in important ways as well, such as the embrace of open source, as well as driving large solution-based sales, rather than point product sales. We think these changes make the company more relevant for today's software developers and more nimble as an organization.

These direct and indirect actions, and perhaps good timing, led naturally to pushing Azure as a centerpiece of the new company. While it has certainly taken some investment and patience, Azure has taken off. While Microsoft does not disclose figures directly, the company noted that Azure grew by approximately 45% in fiscal 2022, to \$45 billion by our estimate. We believe hybrid deployments will carry the day over the course of the next several years and that Nadella's leadership has significantly strengthened Microsoft's competitive position. The company is also making other moves into what should be significant markets. Microsoft is increasingly talking about artificial intelligence, "Internet of Things," and virtually reality, and is introducing new offerings on Azure to capitalize on these substantial opportunities. While we are skeptical in the near term on the HoloLens and virtual reality, artificial intelligence is already being integrated into various solutions. Further, Internet of Things is an interesting market to explore how a Windows OS, Azure, and Power BI combination can help distill insights from an ocean of data.

Analyst Notes Archive

Microsoft Calms Fears With a Positive Outlook; FVE Stable at \$352, Shares Undervalued Dan Romanoff, CPA, Senior Equity Analyst, 27 Jul 2022

Microsoft reported headline fiscal fourth-quarter revenue and EPS results just below the low end of the lowered guidance range from June 2. However, we believe that Microsoft's fundamentals remain sound, as the company's performance was hurt mainly by things beyond its control, such as a stronger U.S. dollar, persistent supply chain issues, further scaling back in Russia, and general macroeconomic pressures. We are encouraged by several pockets of strength, such as Azure, the continued migration to Office E5, and traction with the Power platform. We consider guidance to be quite good in the face of investors' intense fear. We see results as reinforcing our thesis centering on the proliferation of hybrid cloud environments and Azure, as the firm continues to use its on-premises dominance to allow clients to move to the cloud at their own pace. We also think Microsoft's strong pipeline of large deals bode well for the broader software industry overall. We are maintaining our \$352 per share fair value

Microsoft Corp MSFT ★★★★★ 4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

estimate for wide-moat Microsoft and view shares as attractive.

For the June quarter, revenue grew 12% year over year as reported to \$51.87 billion, compared with the low end of guidance of \$51.94 billion and FactSet consensus at \$52.39 billion. Results include headwinds from incrementally worse currency of \$595 million, \$300 million in supply chain issues in China and an eroding PC market, and \$100 million in lower Bing and LinkedIn advertising revenue. Compared to the year-ago period, Productivity and Business Processes grew 13%, Intelligent Cloud grew 20%, and More Personal Computing grew 2%. While we expected decelerating revenues, results are slightly light across all segments, which is overwhelmingly explained by currency that continued to worsen throughout June. Key pillars of our growth narrative from the quarter included year-over-year growth as reported in Azure of 40%, Dynamics 365 of 31%, and LinkedIn of 26%.

Microsoft Defies Fears With Azure Strength and Constructive Guidance; FVE Stable at \$352 Dan Romanoff, CPA, Senior Equity Analyst, 27 Apr 2022


Wide-moat Microsoft reported solid results overall, with revenue and EPS coming in a bit better than we expected despite some existing and new headwinds, such as inflation, a growing currency headwind, a change in licensing practices for on-premises transactional business, worsening supply chain conditions again, the Russian invasion of Ukraine. More importantly, even though the guidance was a hair shy of FactSet consensus on revenue and operating income, we think the outlook should be viewed positively in light of these headwinds. We think digital transformation projects continue to fuel overall demand and we are also encouraged by strength in Azure, which saw tier-one workloads moving to the cloud in the form of larger and longer-term deals than ever before. Microsoft remains impressive in its ability to drive both growth and margins at scale and we think there is more to come on both fronts. We see results as reinforcing our thesis centering on the proliferation of hybrid cloud environments and Azure, as the firm continues to use its on-premises dominance to allow clients to move to the cloud at their own pace. Solid results and guidance hold our fair value estimate stable at \$352 per share and we see shares as undervalued.

For the third quarter, revenue grew 18% year over year to \$49.36 billion, compared with our model at \$49.03 billion and FactSet consensus at \$48.98 billion. Results include \$111 million in revenue from the Nuance acquisition, which closed March 4, offset by the suspension of sales in Russia, which was a \$130 million top-line hit, and a 100 basis point hit from worse-than-expected currency moves. Compared to the year-ago period, Productivity and Business Processes grew 17%, Intelligent Cloud grew 26%, and More Personal Computing grew 11%. All segments were above the midpoint of guidance, if not just above the high end of the ranges provided. Azure grew 46% year over year, aided by tier-one workloads, large deals, and long-term contracts.

Microsoft's Solid Results and Outlook Are Disconnected From the Stock's Recent Slide; FVE Up to \$352 Dan Romanoff, CPA, Senior Equity Analyst, 26 Jan 2022

Microsoft Corp MSFT ★★★★★

4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

Wide-moat Microsoft reported solid results driven by strength in more personal computing, while enterprise related revenues were more in line with our robust expectations. Given the ongoing sell-off in software, we are encouraged by results, which suggest digital transformation-led demand remains intact. Third-quarter guidance was ahead on revenues compared to FactSet consensus as well. Management sees no signals that demand is slowing. Azure remains a bright spot, with Windows and Gaming also performing well. Commercial bookings and RPO were both good and underscore management's confident outlook. Microsoft remains impressive in its ability to drive both growth and margins at scale and we think there is more to come on both fronts. We see results as reinforcing our thesis centering on the proliferation of hybrid cloud environments and Azure, as the firm continues to use its on-premises dominance to allow customers to move to the cloud easily and at their own pace. Quarterly strength and good guidance drive our fair value estimate to \$352 from \$345 per share and we see shares as undervalued.

For the second quarter, revenue growth was 20% year over year to \$51.73 billion, compared with our model at \$51.07 billion and FactSet consensus at \$50.85 billion. All segments came in near the high end of guidance ranges, except for More Personal Computing, which was \$700 million above the top end of the guidance range. Key pillars of our growth narrative from the quarter included year-over-year growth as reported in Azure of 46%, Dynamics 365 of 45%, PowerApps of 161%, and LinkedIn of 37%. Channel constraints appear to be easing, as Surface revenue rebounded to 8% growth, compared to year-over-year declines in the last two quarters and against a difficult comparison. Xbox demand remains strong although supply chain issues continue to limit demand, which we expect to continue over the next several quarters.

Microsoft Creates Gaming Powerhouse With Activision Acquisition; FVE Still \$345 Dan Romanoff, CPA, Senior Equity Analyst, 18 Jan 2022

Wide-moat Microsoft has announced its largest deal ever: the acquisition of Activision Blizzard, one of the biggest video game publishers in the world, in an all-cash transaction valuing the target at \$68.7 billion in enterprise value, or \$95 per share. Given Microsoft's \$2.3 trillion market capitalization, we do not view this deal as transformative, especially since stand-alone Microsoft was already a key player in video games. While Microsoft is paying a 45% premium to Activision Blizzard's previous closing price, the \$95 valuation squares with Morningstar's \$92 predeal fair value estimate and management expects the deal to be immediately accretive to non-GAAP EPS. We are maintaining our \$345 fair value estimate for Microsoft.

We like the acquisition, as Microsoft bolsters its already strong gaming division with an iconic library that includes traditional console game developer Activision, PC developer Blizzard, and mobile developer King. Microsoft has minimal exposure to mobile, the largest gaming platform, so we think King and its Candy Crush franchise will instantly provide mobile chops. Activision has some of the most popular

Microsoft Corp MSFT ★★★★★

4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

games of all time under its umbrella, including the Call of Duty franchise and World of Warcraft, which changed the gaming industry in 2004 with not only its massively multiplayer game but also its monthly subscription model.

Microsoft intends to add as much Activision Blizzard content as possible to Game Pass, which has 25 million subscribers. Activision Blizzard has 400 million monthly active users. We tend to think the purpose of deals like this is to gather exclusive content. However, part of the value of Activision Blizzard is that it develops games across platforms and consoles, so we will be curious to see how much content excludes PlayStation users in the next few years. We also see hype building around the metaverse and believe this deal cements Microsoft's position as the most comprehensive metaverse play over the next decade.

U.S. Corporate Tax Rate Unlikely to Change After Roadblocks Rise in Senate



Julie Utterback, CFA,
Senior Equity Analyst, 23 Dec 2021

Given recent political developments around the Build Back Better bill, we are reversing our forecast that the U.S. corporate tax rate will rise to 26% in 2022. We now believe the U.S. statutory tax rate will remain at 21% at least through President Joe Biden's remaining term, which ends in early 2025. Our equity analysts will incorporate this new U.S. corporate tax rate assumption into their valuation models in the coming weeks. We previously simulated the impact of various tax rate changes on covered U.S. equities; reversing the statutory tax rate assumption to 21% results in a 3% average valuation increase, all else being equal.

Given their slim majority in the Senate, Democrats needed to present a unified front to pass this bill, and two Democratic senators presented roadblocks in recent months. First, Sen. Kyrsten Sinema opposed raising the U.S. corporate tax rate, which led to consideration of funding methods other than a corporate tax rate increase. Also, Sen. Joe Manchin has expressed opposition to the bill primarily because providing the services included in recent proposals would wind up costing much more than the \$1.75 trillion headline number when extended for the typical 10-year term considered in the Senate's budget reconciliation process.

Sinema's and Manchin's current terms end in line with Biden's current term, so these roadblocks may provide a hurdle to such a bill during that time frame. Also, considering recent polling numbers and midterm election patterns, we would not be surprised to see Democrats lose a majority in at least one of the congressional bodies after 2022's election, which would prevent passage of such significant legislation in the remainder of Biden's term. Any way we slice it, the Build Back Better bill may not pass, and even if a slimmed-down version passes in early 2022, we think it is highly unlikely that the U.S. corporate tax rate will increase, given Sinema's objections to that funding method.

Microsoft Corp MSFT ★★★★★ 4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD 5 Aug 2022	352.00 USD 26 Jan 2022 02:16, UTC	0.80	2.12 USD Tril 5 Aug 2022	 Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC

Microsoft Continues to Impress with All Around Strength and Another Positive Guide; FVE Up to \$345 Dan Romanoff, CPA, Senior Equity Analyst, 27 Oct 2021

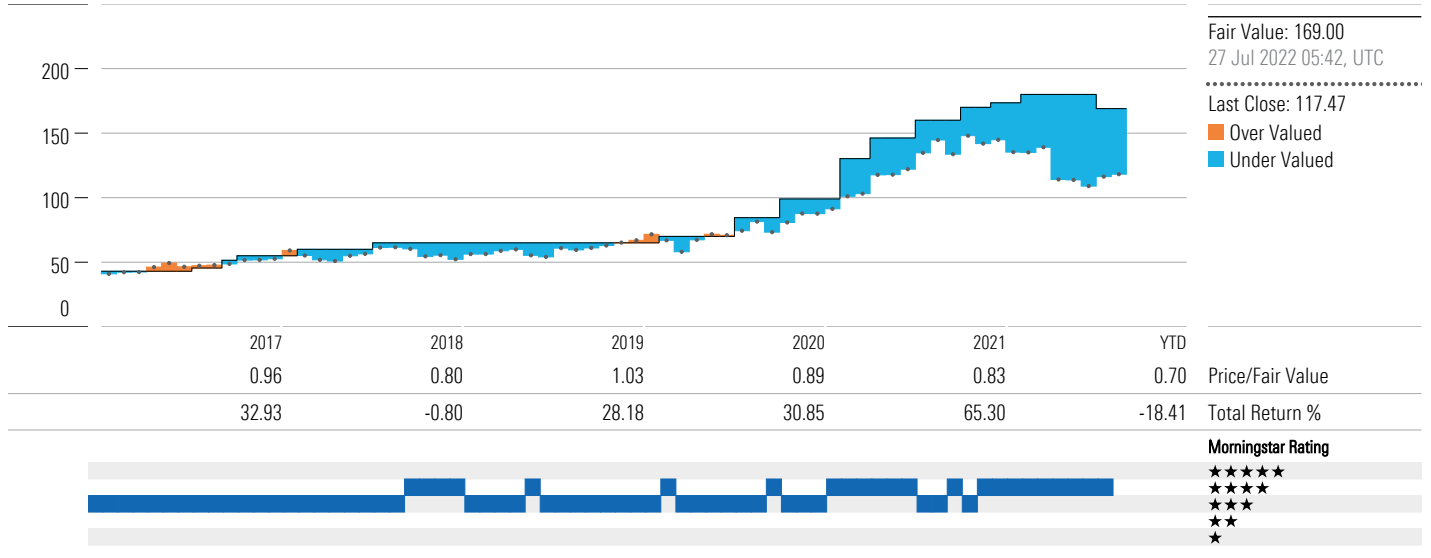
Wide-moat Microsoft continues to benefit from digital transformation efforts at enterprise customers, which once again helped the company drive material upside compared with its revenue and EPS outlook for the quarter. Second-quarter guidance was solidly above FactSet consensus as well. Azure and commercial related demand was robust by any measure, and gaming and Windows were strong even as supply constraints for PCs and Surface tablets remain challenging. We see a slowdown in remaining performance obligation, or RPO, growth and commercial bookings, two forward-looking metrics, as driven by large Azure deals in the prior year period and not a reflection of deteriorating demand. Microsoft remains impressive in its ability to drive both growth and margins at scale and think there is more to come on both fronts. We see results as reinforcing our thesis centering on the proliferation of hybrid cloud environments and Azure as the firm continues to use its on-premises dominance to allow customers to move to the cloud easily and at their own pace--a trend we believe will continue over the next five years. Quarterly strength and good guidance drive our fair value estimate to \$345 from \$325 per share and we continue to see upside to this high-quality name.

For the second quarter, revenue growth accelerated by 22% year over year to \$45.32 billion, compared with our model at \$44.17 billion and FactSet consensus at \$43.86 billion. Relative to our expectations and the high end of guidance, all segments were ahead with more personal computing driving the most upside. Key pillars of our growth narrative from the quarter included year-over-year growth in Azure of 50%, Dynamics 365 of 48%, PowerBI apps of 202%, Office commercial of 18%, and LinkedIn of 42%. Channel constraints drove Surface revenues down 17% compared with the year-ago period. Xbox demand remains strong although supply chain issues continue to crimp demand, which we expect to continue over the next four quarters. ■■

Microsoft Corp MSFT ★★★★★ 4 Aug 2022 21:26, UTC

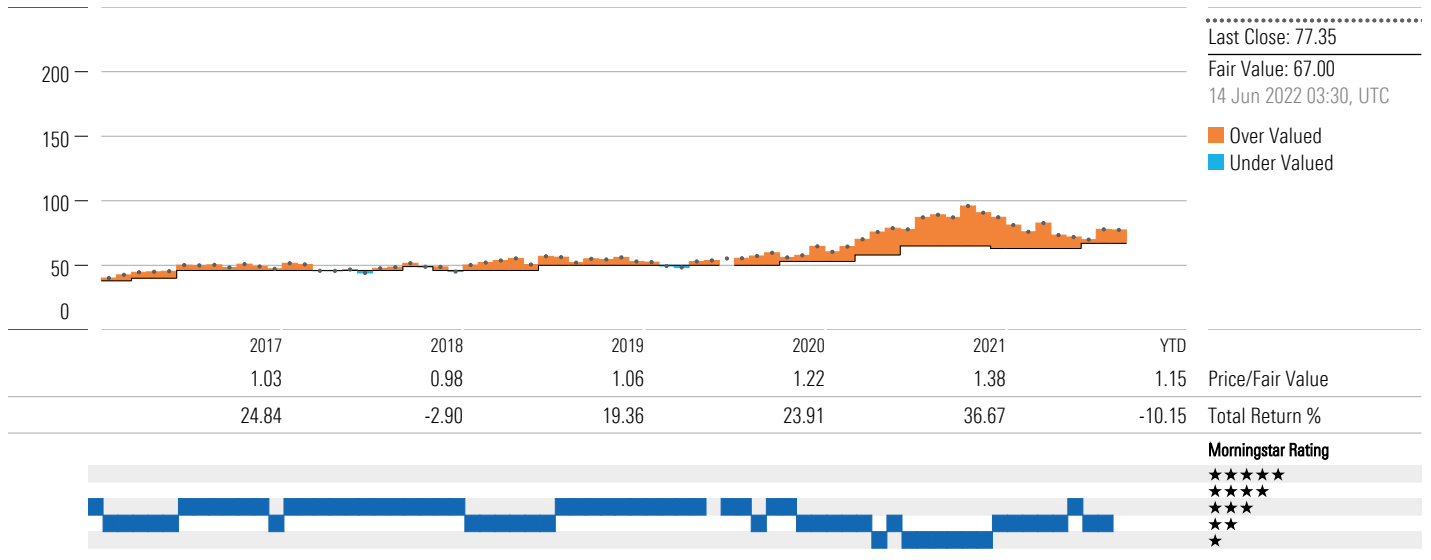
Competitors Price vs. Fair Value

Alphabet Inc Class A GOOGL



Total Return % as of 4 Aug 2022. Last Close as of 5 Aug 2022. Fair Value as of 27 Jul 2022 05:42, UTC.

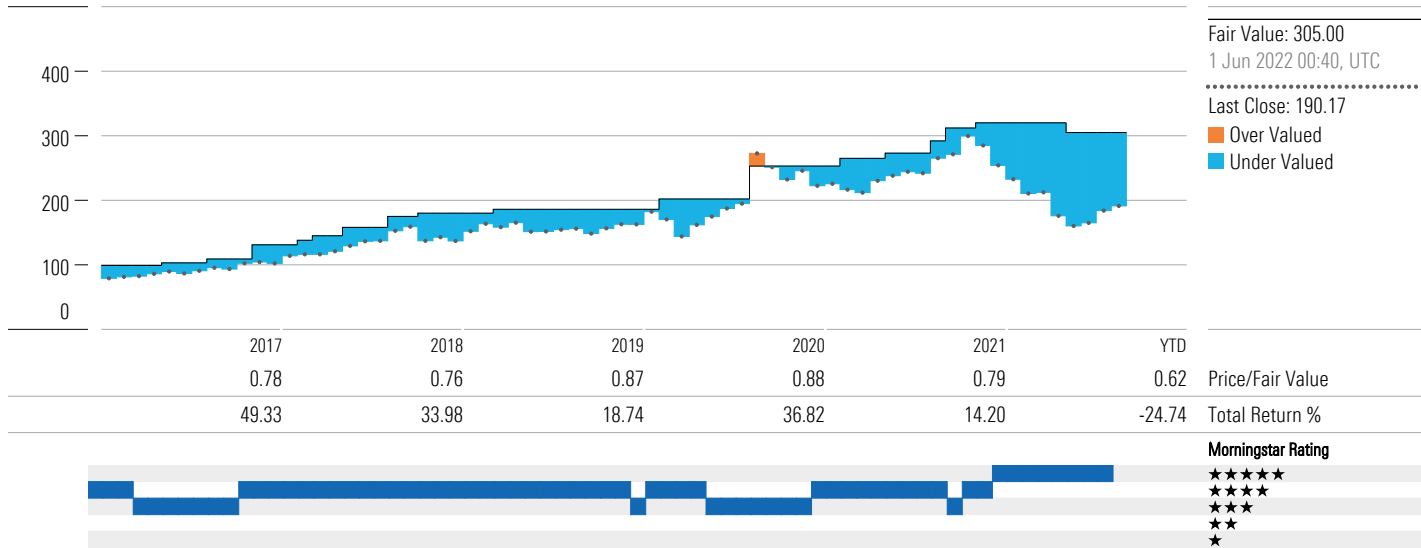
Oracle Corp ORCL



Total Return % as of 4 Aug 2022. Last Close as of 5 Aug 2022. Fair Value as of 14 Jun 2022 03:30, UTC.

Microsoft Corp MSFT ★★★★★ 4 Aug 2022 21:26, UTC

Salesforce Inc CRM



Total Return % as of 4 Aug 2022. Last Close as of 5 Aug 2022. Fair Value as of 1 Jun 2022 00:40, UTC.

Microsoft Corp MSFT ★★★★★

4 Aug 2022 21:26, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
282.91 USD	352.00 USD	0.80	2.12 USD Tril	Wide	Stable	Medium	Exemplary	 3 Aug 2022 05:00, UTC
5 Aug 2022	26 Jan 2022 02:16, UTC		5 Aug 2022					

Morningstar Historical Summary

Financials as of 30 Jun 2022

Fiscal Year, ends 30 Jun	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	TTM
Revenue (USD Bil)	74	78	87	94	91	97	110	126	143	168	198	198
Revenue Growth %	5.4	5.6	11.5	7.8	-2.6	5.9	14.3	14.0	13.7	17.5	18.0	18.0
EBITDA (USD Bil)	26	31	34	25	34	41	49	58	68	85	100	100
EBITDA Margin %	34.7	40.1	38.7	27.0	36.8	42.4	44.8	46.1	47.8	50.6	50.6	50.6
Operating Income (USD Bil)	28	27	28	28	27	29	35	43	53	70	83	83
Operating Margin %	37.9	34.4	32.1	30.1	29.8	30.4	31.8	34.1	37.0	41.6	42.1	42.1
Net Income (USD Bil)	17	22	22	12	21	25	17	39	44	61	73	73
Net Margin %	23.0	28.1	25.4	13.0	22.5	26.4	15.0	31.2	31.0	36.4	36.7	36.7
Diluted Shares Outstanding (Mil)	8,506	8,470	8,399	8,254	8,013	7,832	7,794	7,753	7,683	7,608	7,540	7,540
Diluted Earnings Per Share (USD)	2.00	2.58	2.63	1.48	2.56	3.25	2.13	5.06	5.76	8.05	9.65	9.65
Dividends Per Share (USD)	0.76	0.89	1.07	1.21	1.39	1.53	1.65	1.80	1.99	2.19	2.42	2.42

Valuation as of 29 Jul 2022

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Recent Qtr	TTM
Price/Sales	3.1	3.9	4.3	5.0	5.8	7.2	6.9	9.4	11.6	14.5	10.1	10.7
Price/Earnings	14.7	14.0	18.2	36.8	29.8	30.2	41.8	29.8	35.8	37.6	26.8	29.1
Price/Cash Flow	7.4	11.1	12.0	15.5	13.7	16.6	17.5	23.3	25.8	31.2	22.3	23.8
Dividend Yield %	3.11	2.59	2.48	2.33	2.37	1.86	1.69	1.2	0.94	0.68	0.94	0.86
Price/Book	3.1	3.8	4.2	5.7	6.8	7.4	9.1	11.3	13.6	16.6	11.8	12.6
EV/EBITDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Operating Performance / Profitability as of 30 Jun 2022

Fiscal Year, ends 30 Jun	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	TTM
ROA %	14.8	16.6	14.0	7.0	11.2	11.5	6.5	14.4	15.1	19.3	20.8	20.8
ROE %	27.5	30.1	26.2	14.4	27.0	31.9	19.5	42.4	40.1	47.1	47.2	47.2
ROIC %	23.3	25.7	21.8	11.2	17.9	17.2	9.9	22.7	23.9	30.8	33.2	33.2
Asset Turnover	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.6	0.6

Financial Leverage

Fiscal Year, ends 30 Jun	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Recent Qtr	TTM
Debt/Capital %	13.9	13.8	18.7	25.8	36.0	48.2	48.5	41.6	36.2	29.6	26.0	—
Equity/Assets %	54.7	55.4	52.1	45.9	37.2	35.0	32.0	35.7	39.3	42.5	45.6	—
Total Debt/EBITDA	0.5	0.5	0.7	1.4	1.6	2.2	1.7	1.3	1.0	0.8	0.6	—
EBITDA/Interest Expense	67.4	72.8	56.3	32.3	27.0	18.4	18.1	21.6	26.4	36.3	48.6	48.6

Morningstar Analyst Historical/Forecast Summary as of 26 Jul 2022

Financials	Estimates					Forward Valuation	Estimates					
	2021	2022	2023	2024	2025		2021	2022	2023	2024	2025	
Fiscal Year, ends 30 Jun												
Revenue (USD Bil)	168	198	218	244	273	Price/Sales	12.1	9.7	9.7	8.7	7.8	
Revenue Growth %	17.5	18.0	10.0	12.0	11.7	Price/Earnings	34.0	27.9	28.3	24.5	21.8	
EBITDA (USD Bil)	88	105	116	131	147	Price/Cash Flow	36.3	29.4	27.2	22.9	20.1	
EBITDA Margin %	52.2	53.1	53.3	53.6	53.8	Dividend Yield %	0.83	0.97	0.94	1.02	1.09	
Operating Income (USD Bil)	70	83	92	104	117	Price/Book	—	—	—	—	—	
Operating Margin %	41.6	42.1	42.4	42.5	42.7	EV/EBITDA	22.6	17.8	17.8	15.8	14.1	
Net Income (USD Bil)	61	69	75	86	96							
Net Margin %	36.1	35.0	34.3	35.1	35.1							
Diluted Shares Outstanding (Mil)	7,608	7,540	7,458	7,398	7,342							
Diluted Earnings Per Share(USD)	7.97	9.21	10.04	11.58	13.03							
Dividends Per Share(USD)	2.24	2.48	2.68	2.88	3.08							

Research Methodology for Valuing Companies

Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, in-depth competitive advantage analysis, and a variety of other analytical tools to augment this process. Moreover, we think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (e.g., mines), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss short-term market-price movements), but we believe these negatives are mitigated by deep analysis and our long-term approach.

Morningstar's equity research group ("we," "our") believes that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star stocks sell for the biggest risk adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Four key components drive the Morningstar rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's fair value, (3) our uncertainty around that fair value estimate and (4) the current market price. This process ultimately culminates in our single-point star rating.

1. Economic Moat

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define economic profits as returns on invested capital (or ROIC) over and above our es-

timate of a firm's cost of capital, or weighted average cost of capital (or WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality, no-moat companies will see their normalized returns gravitate toward the firm's cost of capital more quickly than companies with moats.

When considering a company's moat, we also assess whether there is a substantial threat of value destruction, stemming from risks related to ESG, industry disruption, financial health, or other idiosyncratic issues. In this context, a risk is considered potentially value destructive if its occurrence would eliminate a firm's economic profit on a cumulative or midcycle basis. If we deem the probability of occurrence sufficiently high, we would not characterize the company as possessing an economic moat.

To assess the sustainability of excess profits, analysts perform ongoing assessments of the moat trend. A firm's moat trend is positive in cases where we think its sources of competitive advantage are growing stronger; stable where we don't anticipate changes to competitive advantages over the next several years; or negative when we see signs of deterioration.

2. Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

In this stage, which can last five to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in working capital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) and the net new investment (NNI) to derive our annual free cash flow forecast.

Stage II: Fade

The second stage of our model is the period it will take the company's return on new invested capital—the return on capital of the next dollar invested ("RONIC")—to decline (or rise) to its cost of capital. During the Stage II period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10–15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBI over the period, a normalized investment rate, average return on new invested capital (RONIC), and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until a perpetuity value is calculated. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

Stage III: Perpetuity

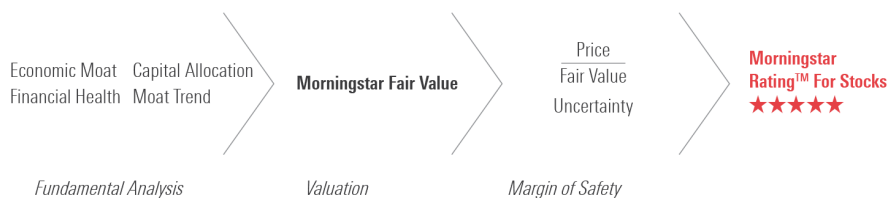
Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with estimated WACC.

Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term, market-value weights.

3. Uncertainty Around That Fair Value Estimate

Morningstar's Uncertainty Rating captures a range of likely potential intrinsic values for a company and uses it to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The Uncertainty Rating represents the analysts' ability to

Morningstar Equity Research Star Rating Methodology



Research Methodology for Valuing Companies

bound the estimated value of the shares in a company around the Fair Value Estimate, based on the characteristics of the business underlying the stock, including operating and financial leverage, sales sensitivity to the overall economy, product concentration, pricing power, exposure to material ESG risks, and other company-specific factors.

Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case, and a 25% probability that the company will perform worse than the bear case. The distance between the bull and bear cases is an important indicator of the uncertainty underlying the fair value estimate. In cases where there is less than a 25% probability of an event, but where the event could result in a material decline in value, analysts may adjust the uncertainty rating to reflect the increased risk. Analysts may also make a fair value adjustment to reflect the impact of this event.

Our recommended margin of safety widens as our uncertainty of the estimated value of the equity increases. The more uncertain we are about the estimated value of the equity, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the uncertainty rating provides guidance in portfolio construction based on risk tolerance.

Our uncertainty ratings for our qualitative analysis are low, medium, high, very high, and extreme.

	Margin of Safety	
Qualitative Analysis	★★★★★ Rating	★ Rating
Uncertainty Ratings	★★★★★ Rating	★ Rating
Low	20% Discount	25% Premium
Medium	30% Discount	35% Premium
High	40% Discount	55% Premium
Very High	50% Discount	75% Premium
Extreme	75% Discount	300% Premium

4. Market Price

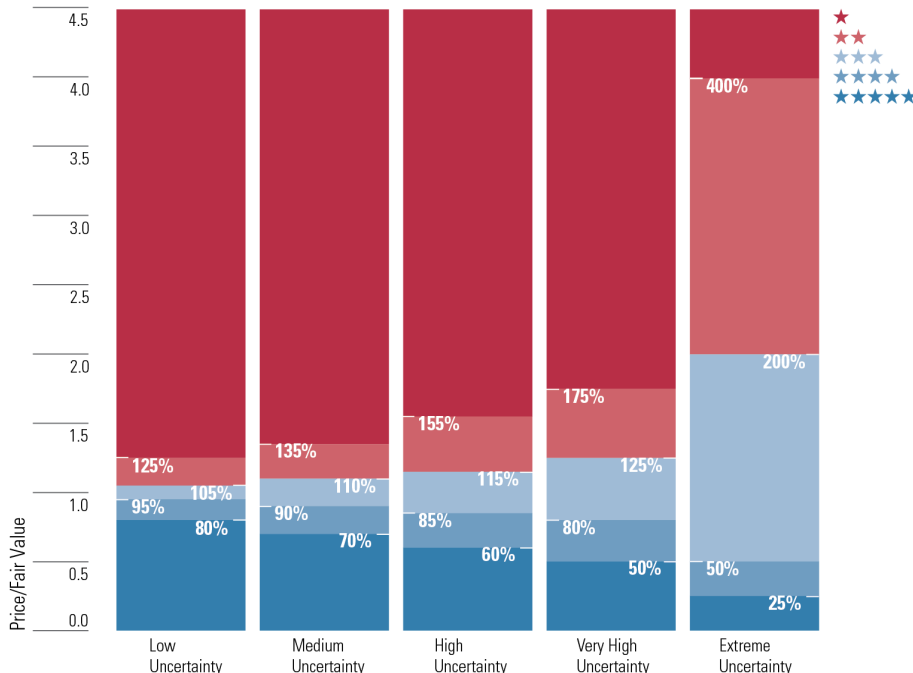
The market prices used in this analysis and noted in the report come from exchange on which the stock is listed which we believe is a reliable source.

For more details about our methodology, please go to <https://shareholders.morningstar.com>.

Morningstar Star Rating for Stocks

Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the star rating is automatically re-calculated at the market close on every day the market on which the stock is listed is open. Our analysts keep close

Morningstar Equity Research Star Rating Methodology



tabs on the companies they follow, and, based on thorough and ongoing analysis, raise or lower their fair value estimates as warranted.

Please note, there is no predefined distribution of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true the market price will converge on our fair value estimate over time generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our star ratings are guideposts to a broad audience and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors.

The Morningstar Star Ratings for stocks are defined below:

★★★★★ We believe appreciation beyond a fair risk-adjusted return is highly likely over a multiyear time frame. Scenario analysis developed by our analysts indicates that the current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential.

★★★★ We believe appreciation beyond a fair risk-adjusted return is likely.

★★★ Indicates our belief that investors are likely to receive a fair risk-adjusted return (approximately cost of equity).

★★ We believe investors are likely to receive a less than fair risk-adjusted return.

★ Indicates a high probability of undesirable risk-adjusted returns from the current market price over a multiyear time frame, based on our analysis. Scenario analysis by our analysts indicates that the market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to Capital loss.

Other Definitions

Last Price: Price of the stock as of the close of the market of the last trading day before date of the report.

Capital Allocation Rating: Our Capital Allocation (or Stewardship) Rating represents our assessment of the quality of management's capital allocation, with particular emphasis on the firm's balance sheet, investments, and shareholder distributions. Analysts consider companies' investment strategy and valuation, balance sheet management, and dividend and share buyback policies. Corporate governance factors are only considered if they are likely to materially impact shareholder value, though either the balance sheet, investment, or shareholder distributions. Analysts assign one of three ratings: "Exem-

Research Methodology for Valuing Companies

plary", "Standard", or "Poor". Analysts judge Capital Allocation from an equity holder's perspective. Ratings are determined on a forward looking and absolute basis. The Standard rating is most common as most managers will exhibit neither exceptionally strong nor poor capital allocation.

Capital Allocation (or Stewardship) analysis published prior to Dec. 9, 2020, was determined using a different process. Beyond investment strategy, financial leverage, and dividend and share buyback policies, analysts also considered execution, compensation, related party transactions, and accounting practices in the rating.

Capital Allocation Rating: Our Capital Allocation (or Stewardship) Rating represents our assessment of the quality of management's capital allocation, with particular emphasis on the firm's balance sheet, investments, and shareholder distributions. Analysts consider companies' investment strategy and valuation, balance sheet management, and dividend and share buyback policies. Corporate governance factors are only considered if they are likely to materially impact shareholder value, though either the balance sheet, investment, or shareholder distributions. Analysts assign one of three ratings: "Exemplary", "Standard", or "Poor". Analysts judge Capital Allocation from an equity holder's perspective. Ratings are determined on a forward looking and absolute basis. The Standard rating is most common as most managers will exhibit neither exceptionally strong nor poor capital allocation.

Capital Allocation (or Stewardship) analysis published prior to Dec. 9, 2020, was determined using a different process. Beyond investment strategy, financial leverage, and dividend and share buyback policies, analysts also considered execution, compensation, related party transactions, and accounting practices in the rating.

Sustainalytics ESG Risk Rating Assessment: The ESG Risk Rating Assessment is provided by Sustainalytics; a Morningstar company.

Sustainalytics' ESG Risk Ratings measure the degree to which company's economic value at risk is driven by environment, social and governance (ESG) factors.

Sustainalytics analyzes over 1,300 data points to assess a company's exposure to and management of ESG risks. In other words, ESG Risk Ratings measures a company's unmanaged ESG Risks represented as a quantitative score. Unmanaged Risk is measured on an open-ended scale starting at zero (no risk) with lower scores representing less unmanaged risk and, for 95% of cases, the unmanaged ESG Risk score is below 50.

Based on their quantitative scores, companies are grouped into one of five Risk Categories (negligible, low,

medium, high, severe). These risk categories are absolute, meaning that a 'high risk' assessment reflects a comparable degree of unmanaged ESG risk across all subindustries covered.

The ESG Risk Rating Assessment is a visual representation of Sustainalytics ESG Risk Categories on a 1 to 5 scale. Companies with Negligible Risk = 5 Globes, Low Risk = 4, Medium Risk = 3 Globes, High Risk = 2 Globes, Severe Risk = 1 Globe. For more information, please visit sustainalytics.com/esg-ratings/

Ratings should not be used as the sole basis in evaluating a company or security. Ratings involve unknown risks and uncertainties which may cause our expectations not to occur or to differ significantly from what was expected and should not be considered an offer or solicitation to buy or sell a security.

Risk Warning

Please note that investments in securities are subject to market and other risks and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in future and is no indication of future performance. A security investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report. Morningstar's Uncertainty Rating serves as a useful data point with respect to sensitivity analysis of the assumptions used in our determining a fair value price.

General Disclosure

Unless otherwise provided in a separate agreement, recipients accessing this report may only use it in the country in which the Morningstar distributor is based. Unless stated otherwise, the original distributor of the report is Morningstar Research Services LLC, a U.S.A. domiciled financial institution.

This report is for informational purposes only and has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient. This publication is intended to provide information to assist institutional investors in making their own investment decisions, not to provide investment advice to any specific investor. Therefore, investments discussed and recommendations made herein may not be suitable for all investors: recipients must exercise their own independent judgment as to the suitability of such investments and recommendations in the light of their own investment objectives, experience, taxation status and financial position.

The information, data, analyses and opinions presented herein are not warranted to be accurate, correct, complete or timely. Unless otherwise provided in a separate agreement, neither Morningstar, Inc. or the Equity Research Group represents that the report contents meet all of the presentation and/or disclosure standards applicable in the jurisdiction the recipient is located.

Except as otherwise required by law or provided for in a separate agreement, the analyst, Morningstar, Inc. and the Equity Research Group and their officers, directors and employees shall not be responsible or liable for any trading decisions, damages or other losses resulting from, or related to, the information, data, analyses or opinions within the report. The Equity Research Group encourages recipients of this report to read all relevant issue documents (e.g., prospectus) pertaining to the security concerned, including without limitation, information relevant to its investment objectives, risks, and costs before making an investment decision and when deemed necessary, to seek the advice of a legal, tax, and/or accounting professional.

The Report and its contents are not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject Morningstar, Inc. or its affiliates to any registration or licensing requirements in such jurisdiction.

Where this report is made available in a language other than English and in the case of inconsistencies between the English and translated versions of the report, the English version will control and supersede any ambiguities associated with any part or section of a report that has been issued in a foreign language. Neither the analyst, Morningstar, Inc., or the Equity Research Group guarantees the accuracy of the translations.

This report may be distributed in certain localities, countries and/or jurisdictions ("Territories") by independent third parties or independent intermediaries and/or distributors ("Distributors"). Such Distributors are not acting as agents or representatives of the analyst, Morningstar, Inc. or the Equity Research Group. In Territories where a Distributor distributes our report, the Distributor is solely responsible for complying with all applicable regulations, laws, rules, circulars, codes and guidelines established by local and/or regional regulatory bodies, including laws in connection with the distribution third-party research reports.

Conflicts of Interest

- ▶ No interests are held by the analyst with respect to the security subject of this investment research report.

Research Methodology for Valuing Companies

- ▶ Morningstar, Inc. may hold a long position in the security subject of this investment research report that exceeds 0.5% of the total issued share capital of the security. To determine if such is the case, please click <http://msi.morningstar.com> and <http://mdi.morningstar.com>.
- ▶ Analysts' compensation is derived from Morningstar, Inc.'s overall earnings and consists of salary, bonus and in some cases restricted stock.
- ▶ Neither Morningstar, Inc. or the Equity Research Group receives commissions for providing research nor do they charge companies to be rated.
- ▶ Neither Morningstar, Inc. or the Equity Research Group is a market maker or a liquidity provider of the security noted within this report.
- ▶ Neither Morningstar, Inc. or the Equity Research Group has been a lead manager or co-lead manager over the previous 12-months of any publicly disclosed offer of financial instruments of the issuer.
- ▶ Morningstar, Inc.'s investment management group does have arrangements with financial institutions to provide portfolio management/investment advice some of which an analyst may issue investment research reports on. However, analysts do not have authority over Morningstar's investment management group's business arrangements nor allow employees from the investment management group to participate or influence the analysis or opinion prepared by them.
- ▶ Morningstar, Inc. is a publicly traded company (Ticker Symbol: MORN) and thus a financial institution the security of which is the subject of this report may own more than 5% of Morningstar, Inc.'s total outstanding shares. Please access Morningstar, Inc.'s proxy statement, "Security Ownership of Certain Beneficial Owners and Management" section <https://shareholders.morningstar.com/investor-relations/financials/sec-filings/default.aspx>
- ▶ Morningstar, Inc. may provide the product issuer or its related entities with services or products for a fee and on an arms' length basis including software products and licenses, research and consulting services, data services, licenses to republish our ratings and research in their promotional material, event sponsorship and website advertising.

Further information on Morningstar, Inc.'s conflict of interest policies is available from <https://shareholders.morningstar.com>. Also, please note analysts are subject to the CFA Institute's Code of Ethics and Standards of Professional Conduct.

For a list of securities which the Equity Research Group currently covers and provides written analysis on please contact your local Morningstar office. In addition, for historical analysis of securities covered, including their fair value estimate, please contact your local office.

For Recipients in Australia: This Report has been issued

and distributed in Australia by Morningstar Australasia Pty Ltd (ABN: 95 090 665 544; ASFL: 240892). Morningstar Australasia Pty Ltd is the provider of the general advice ('the Service') and takes responsibility for the production of this report. The Service is provided through the research of investment products.

To the extent the Report contains general advice it has been prepared without reference to an investor's objectives, financial situation or needs. Investors should consider the advice in light of these matters and, if applicable, the relevant Product Disclosure Statement before making any decision to invest. Refer to our Financial Services Guide (FSG) for more information at <http://www.morningstar.com.au/fsg.pdf>.

For Recipients in Hong Kong: The Report is distributed by Morningstar Investment Management Asia Limited, which is regulated by the Hong Kong Securities and Futures Commission to provide services to professional investors only. Neither Morningstar Investment Management Asia Limited, nor its representatives, are acting or will be deemed to be acting as an investment professional to any recipients of this information unless expressly agreed to by Morningstar Investment Management Asia Limited. For enquiries regarding this research, please contact a Morningstar Investment Management Asia Limited Licensed Representative at <https://shareholders.morningstar.com>.

For recipients in India: This Investment Research is issued by Morningstar Investment Adviser India Private Limited. Morningstar Investment Adviser India Private Limited is registered with the Securities and Exchange Board of India (Registration number INA000001357) and provides investment advice and research. Morningstar Investment Adviser India Private Limited has not been the subject of any disciplinary action by SEBI or any other legal/regulatory body. Morningstar Investment Adviser India Private Limited is a wholly owned subsidiary of Morningstar Investment Management LLC. In India, Morningstar Investment Adviser India Private Limited has one associate, Morningstar India Private Limited, which provides data related services, financial data analysis and software development. The Research Analyst has not served as an officer, director or employee of the fund company within the last 12 months, nor has it or its associates engaged in market making activity for the fund company.

*The Conflicts of Interest disclosure above also applies to relatives and associates of Manager Research Analysts in India # The Conflicts of Interest disclosure above also applies to associates of Manager Research Analysts in India. The terms and conditions on which Morningstar Investment Adviser India Private Limited offers Investment Research to clients, varies from client to client, and are detailed in the respective client agreement.

For recipients in Japan: The Report is distributed by Ibbotson Associates Japan, Inc., which is regulated by Financial Services Agency. Neither Ibbotson Associates Japan, Inc., nor its representatives, are acting or will be deemed to be acting as an investment professional to any recipients of this information.

For recipients in Singapore: For Institutional Investor audiences only. Recipients of this report should contact their financial professional in Singapore in relation to this report. Morningstar, Inc., and its affiliates, relies on certain exemptions (Financial Advisers Regulations, Section 32B and 32C) to provide its investment research to recipients in Singapore.