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MICROSOFT'S ACQUISITION OF ACTIVISION BLIZZARD:

A POWER PLAY TO INCREASE SHAREHOLDER VALUE

THE QUEST TO INCREASE SHAREHOLDER VALUE

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Abstract

The following case study focuses on Microsoft's acquisition of Activision Blizzard for 68.7 billion USD, marking a milestone in the video gaming industry. Announced in January 2022, the takeover strengthens Microsoft's strategic market position and is aligned with its growth ambitions in cross-platform video gaming, cloud gaming, and metaverse. In the light of mixed reactions among Microsoft's shareholders, however, the acquisition comes with controversy. This case study addresses opportunities, synergies potentials, concerns, and risks associated with the deal and ultimately explores the possible value creation for Microsoft's shareholders. It is accompanied by an industry report and a teaching note, outlining how the case study might be taught.

Keywords: Merges and Acquisitions, Shareholder Value, Synergies, Strategy, Video Gaming Industry

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Introduction

On January 18, 2022, Microsoft made an announcement that will go down in history: It will acquire Activision Blizzard in an all-cash transaction for a total of 75 billion (bn) USD, including 6.37 bn USD of net cash, which values the video gaming company at 68.7 bn USD.¹ The deal represented the biggest acquisition in Microsoft's corporate history and by far the largest transaction the gaming industry has ever seen.¹ It made Microsoft the third largest gaming company behind Tencent and Sony and marked a cornerstone for the company's future development.² Satya Nadella, chairman and CEO of Microsoft, said:

“Gaming is the most dynamic and exciting category in entertainment across all platforms today and will play a key role in the development of metaverse platforms. We're investing deeply in world-class content, community, and the cloud to usher in a new era of gaming that puts players and creators first and makes gaming safe, inclusive, and accessible to all.”²

Facing cautious and varying reactions from shareholders, the public, and regulators, Microsoft's decision to acquire one of the world's most valuable gaming companies comes with controversy and raises questions regarding its economic and strategic sense.

Microsoft – Background

Company History

With the vision “to help people and businesses throughout the world realize their full potential”, the computing company Microsoft Corporation (Microsoft) became one of the American Tech Giants, amongst Alphabet (Google), Amazon, Apple, and Meta.³

Being founded in a garage in Albuquerque, New Mexico, in April 1975 by Bill Gates and Paul Allen, Microsoft dates back to the idea of developing a BASIC interpreter for the newly introduced microcomputer Altair 8008, published by Micro Instrumentation and Telemetry Systems (MITS). The two founders developed a simulator and interpreter and successfully presented it to MITS a few weeks later, which agreed to distribute it as Altair BASIC. This great success was the beginning of “Micro-soft”, a combination of "microcomputer" and "software". In 1986, Microsoft became a publicly traded company using the ticker “MSFT”. Its IPO earned the title of "the IPO of the year" by many analysts, resulting in a market capitalization of 777 million (m) USD.⁴ Crucial for Microsoft's ongoing success was the

contract with IBM to bundle Microsoft's operating system with IBM computers in 1980.⁵ Firstly, the partnership allowed Microsoft to gain access to IBM's vast hardware resources and knowledge, which helped them in the development and optimization of their software for IBM-compatible microcomputers. This ensured that Microsoft's software, such as their DNA sequence analysis programs and self-test software, could run efficiently and effectively on IBM PCs.⁵ The compatibility and standardization gave Microsoft a competitive edge, helped to maintain its position in the market, and made it possible to stay ahead of competitors such as Intel or Apple. Additionally, the partnership with IBM provided Microsoft with a significant market opportunity by enabling the company to tap into IBM's large customer base and gain credibility in the computer industry. This increased exposure and recognition helped Microsoft to establish itself as a leading software provider. Building on this foundation, the company continued to grow and expand.

Under the leadership of Satya Nadella, who became CEO in 2014, Microsoft shifted from a software company to a cloud and service firm. Gates left the board and remained a technical advisor for Microsoft. Nadella actively started to work on cultivating relationships with former competitors to change the perception of Microsoft. This relationship-building encompassed collaborations with Apple, Salesforce, and Dropbox, or a pivotal collaboration between IBM and Azure, Microsoft's cloud computing platform.⁶ The Nadella-driven company re-orientation to "empowering every person and every organization on the planet to achieve more"⁷ was accompanied by a strategic shift towards a more offensive posture. This included refraining from investments in established tech and jumping onto emerging opportunities. Nadella's long-term growth strategies focus on areas such as AI, productivity tools and retail technologies.⁸

During Satya Nadella's tenure as CEO, Microsoft diversified its business, the revenue increased by 144% (as of 2023), and the net margin significantly improved from 25.4% (2014) to 34.1% (2023). In FY2023, the company generated revenues of 218 bn USD and had a market capitalization well above 2 trillion (tn) USD.⁹

In 2023, Microsoft operated in 190 countries worldwide, employing more than 220 thousand professionals across all offices. Microsoft was a leader in various industries and best known for its operating system Windows, the Microsoft Office Suite, Internet Explorer, Microsoft Hardware, and the Xbox video gaming console as well as platform.

Microsoft's M&A-Activity

Ever since its first acquisition of Dynamical Systems Research in 1986, Microsoft was engaged in more than 240 acquisitions (**Case Exhibit 1**). Further, Microsoft held several billion-dollar stakes in companies such as AT&T, Comcast and Telewest.

Nadella's leadership over the past years was characterized by his M&A affinity as part of his strategy to jump onto emerging opportunities. The company began investing in small tech firms but also sought big deals such as the developer platform GitHub for 7.5 bn USD in 2018. Until 2023, Microsoft had closed 15 deals worth over a billion USD, of which nine were closed after 2014 (**Case Exhibit 2**). Among these immense deals, the biggest were LinkedIn for 26.2 bn (2016) and Nuance Communications for 19.7 bn USD (2021). However, the most substantial acquisition by Microsoft up until 2023 was the purchase of Activision Blizzard for 68.7 bn USD, which was closed on October 13, 2023.

While early acquisitions mostly encompassed software companies, Microsoft's strategy shift towards being a cloud and service firm led to a wider industry focus regarding its acquisitions. Microsoft entered the thriving race to lead AI development through acquisitions like the AI platforms Bonsai and Lobe and investments in OpenAI's ChatGPT. Further, Microsoft obtained increased market share in the video game market through acquisitions like ZeniMax and Activision Blizzard.

In its corporate history, not all of Microsoft's acquisitions have proven beneficial for the company. The 6.3 bn USD purchase of the digital marketing company aQuantitative was Microsoft's attempt to compete with Google. Microsoft wrongly believed that Google's success was based on advertising, while it was search that made Google unique. This resulted in a write-down of almost the whole purchasing value five years later. Similarly, a huge failure was Microsoft's acquisition of Nokia. The acquisition was driven by the attempt to re-enter the mobile phone market and former CEO Ballmer deemed it a "bold step into the future – a win-win for employees, shareholders and consumers of both companies"¹⁰. However, Microsoft underestimated the enormous lead of Google and Apple in the mobile phone market that was hard to catch up with. Among the issues in integrating Nokia's employees to the corporate culture and differences in the American and Finnish company culture, the unappealing user interface and the comparatively low availability of Apps also played a role in the downfall of Nokia. The acquisition turned out to be the opposite of a "win-win", resulting in Microsoft

laying off 7,800 employees and writing off the entire purchase in a 7.6 bn USD impairment charge after just two years.¹¹

Microsoft's Positioning Within the Video Gaming Industry

In the early 1980s until the 1990s, the golden age of video arcade games boomed and companies like Activision, Sega, Nintendo, and Electronic Arts ruled the market. Microsoft, which has been keen on the game industry for a long time, tried to enter the industry in the 1980s with games like *Microsoft Adventure* and *Microsoft Flight Simulator*. However, it did not manage to compete with the big gaming companies of that time. Further releases include *DirectX* (1995), which aimed at providing a unified programming layer for 2-D and 3-D video cards, becoming a valuable innovation for in-game graphics. Publishing *Age of Empires* in 1997, Microsoft entered the third-party publisher market successfully. The game was developed by Ensemble Studios which was later acquired by Microsoft. In 1999, rumors were circulating that Microsoft was discussing with Nintendo to acquire the company, however, the deal never went through. Shortly after, in 2001, Microsoft newly entered the video game console market with the launch of the Xbox. The Xbox series grew with the Xbox 360 in 2005, the Xbox One in 2013, and Xbox Series X and S in 2020, making Microsoft one of the three major players in the gaming console market amongst the companies Sony (PlayStation) and Nintendo (Switch).

During the early 2000s Microsoft transitioned and formed a wholly separate division named Microsoft Games Studios that gathered all video games-related projects within Microsoft.ⁱ The rebranding of Microsoft's umbrella game development organization signified the company's intent to leverage the Xbox brand in an effort to support video gaming across multiple devices.¹² Microsoft further invested in different first-party game studios to develop exclusive games for their Xbox platform.ⁱⁱ The acquisition of ZeniMax Media in 2020 bolstered Microsoft's game development capabilities and was driven by Nadella's strategy shift from a console-centric approach toward a "ubiquitous global gaming ecosystem".⁸ Additionally, the company planned on making use of the synergies between the cloud and gaming to achieve their vision "that anyone [is] able to play any game, anywhere they want".¹³

ⁱ The division got renamed to Microsoft Studios in 2011. Since 2019, it is called Xbox Game Studios.

ⁱⁱ Such as 343 Industries, The Coalition, and Obsidian Entertainment.

Even though Microsoft was comparably late to the gaming trend, it became a significant player in the gaming industry and the emerging cloud gaming market. This was also driven by synergies between business lines, including the cloud architecture (Azure), cloud gaming platforms (Xbox Cloud Gaming or xCloud), and PC operating systems (Windows). Especially during the COVID-19 pandemic, Microsoft's gaming revenues received a huge boost, totaling 15.4 bn USD in 2021), which marked a 32% year-on-year (YOY) increase.

A major part of Microsoft's strategy in the gaming industry historically relied on acquisitions, primarily in the segments of gaming software, game development, and video game engines, as illustrated in **Case Exhibit 3**. In early years, the developer behind the successful *MechWarrior* game, FASA Interactive, was acquired. Further, Microsoft bought Access Software and Aces Game Studio to work on the development of *Flight Simulator*, which would later become part of Microsoft Game Studios. A groundbreaking acquisition for Microsoft was the acquisition of *Minecraft*-developer Mojang for 2.5 bn USD in 2014. With the release of *Minecraft: Education Edition*, Microsoft successfully entered the educational video games industry.¹⁴ Further, the acquisition helped Microsoft to push into the mixed-reality space in which Microsoft already had a great presence. In 2021, Microsoft reported that *Minecraft* had 140 m monthly active users, growing by 30% YoY, making it one of the best-selling video games ever and an incredibly successful acquisition for Microsoft.¹⁵ In March 2021, Microsoft closed the acquisition of ZeniMax Media, including eight game development studiosⁱⁱⁱ. This acquisition represented the company's commitment to cross-platform play and was followed by doubts that Microsoft would make some ZeniMax games exclusively available for Xbox. However, the company continued to make the games accessible on other hardware and stated to decide on the distribution of ZeniMax games based on "consumer demand and preference and the willingness of third parties to work with Microsoft to launch games for their devices".¹⁶ In 2022, Microsoft announced to buy Activision Blizzard in the company's biggest transaction.

Over the years, Microsoft has acquired 27 gaming-related companies of which six were bought in 2018 (**Case Exhibit 3**). The biggest acquisitions were taken since Nadella announced Phil Spencer as the new head of Microsoft Studios in 2014. However, acquisitions were not always successful. Microsoft's checkered history of video gaming M&A is marked by consolidations,

ⁱⁱⁱ Bethesda Game Studios, id Software, ZeniMax Online Studios, Arkane, MachineGames, Tango Gameworks, Alpha Dog (mobile games), and Roundhouse Studios

and nine companies were closed, among them early acquisitions like Aces Game Studio, FASA Studio and Ensemble Studios. In 2004, Microsoft sold its Salt Lake Games Studio to Take-Two Interactive after deciding to outsource the sports video game development for the Xbox to the company EA Sports.

Activision Blizzard – Background

Activision Blizzard was a leading developer, publisher, and distributor in the video gaming industry. The company was formed by the merger of two influential companies, Activision and Vivendi Games, the parent company of Blizzard Entertainment, in July 2008.¹⁷ This strategic union, facilitated by Vivendi, left both companies as independent entities with their own development and publishing streams.

Corporate History of Activision

Activision, known for blockbuster titles like *Call of Duty* or *Tony Hawk's Pro Skater*, was founded in 1979 by the former Atari^{iv} game designers David Crane, Alan Miller, Bob Whitehead, and Larry Kaplan and former music entertainment executive Jim Levy.¹⁷ Leaving Atari as a consequence of a dispute over creator rights and recognition creative talent, the founders built a company at which designers would become a major part of the brand identity. In its early years, Activision independently developed high quality games for the Atari video computer system, such as the shooter *Chopper Command*. Activision became the first third-party video game developer and could quickly establish itself in the growing gaming industry.

Taking Activision's success as an inspiration and using Atari as a platform for video games, new entrants started to float the market in the 1980's, leading to a boom in third party video game development.¹⁸ As a consequence, the market got swamped by games, which often were of poor quality and developed by studios without working business plans.¹⁸ Many of these studios failed and their games were sold for extremely low prices. This made it hard for developers like Activision to sell titles at more expensive price points.^v ¹⁸ Following the partial collapse of the gaming industry between 1983 and 1984 and in response to the reduced demand for Atari games resulting from the introduction of Nintendo's NES console, Activision shifted its focus. The company transitioned to developing multipurpose software for the home

^{iv} Atari Games used to be one of the leading video computer system and video game development company.

^v Activision sold its games for around 40 USD.

computer market and rebranded itself to Mediagenic in 1988. The company continued to struggle and was on the verge of insolvency. In 1991, it reported a loss of 26.8 m USD, while having 28.8 m USD of revenues, and over 60 m USD in debt.^{19 20}

Under the leadership of the newly entered 25% shareholder and CEO Robert Kotick, the tarnished company reverted to the name Activision in 1992 and tried to build on its legacy of success. Activision laid off significant parts of its personnel and positioned itself as a company appreciating game designers more than competitors like Electronic Arts (EA). The company went public in 1993 and has since been listed on NASDAQ under the ticker ATVI. In the following years, Activision acquired a new generation of talented designers, bought multiple smaller studios which often remained partially independent with own names and headquarters, and funded designers who wanted to start own studios.¹⁹ This formed lucrative partnerships with developers and led to the launch of highly successful franchises like *Tony Hawk's Pro Skater* (1999) or *Call of Duty* (2003). Further, Activision started publishing an increasing number of PC games.¹⁸

Activision revolutionized the production, marketing, as well as distribution of video games and left an enduring mark on the worldwide video gaming industry. However, Activision never managed to build a massively online multiplayer (MMO) game, where online players would pay subscriptions allowing them to play in virtual real-life worlds. MMO games remained a main target of Kotick, as this submarket was highly attractive and presented an immersive business opportunity.^{vi 19}

Corporate History of Blizzard Entertainment

University of California graduates Allen Adham, Michael Morhaime, and Frank Pearce founded Blizzard under the name of Silicon & Synapse in 1991, which initially focused on porting^{vii} existing titles for various home computer systems. After carrying the name Chaos Studios Inc. from 1993 to 1994, the company rebranded itself as Blizzard Entertainment and released its real time strategy game *Warcraft: Orcs & Humans* shortly after. *Warcraft* was one of the first games that allowed players to compete online in a real-time strategy (RTS) game and thus managed to appeal to a broad range of gamers. Further, the *Warcraft* series introduced

^{vi} Back then, subscriptions were usually 15 USD per months. This is highly lucrative compared to the 40 USD one-time revenue coming from games like *Call of Duty*.

^{vii} Porting describes the process of converting an existing video game to run on a different platform.

innovative gameplay components, which were later adopted by other RTS titles.¹⁸ Following the success of *Warcraft*, Blizzard's future achievements would be closely tied to multiplayer experiences. In 1996, *Diablo*^{viii} was released, an action role-playing game that debuted alongside Battle.net, a free service that facilitated online multiplayer gaming and communication.²¹ Previously, gamers played online using third party clients or services.²¹ Publishing Battle.net allowed Blizzard to move gamers to its inhouse online gaming service, which further generated ad revenues.

Blizzard was known for following an approach of perfection, causing notable projects to never be published.²¹ An example for this is *StarCraft: Ghost* (announced in 2002), which, due to lags in the development process, got delayed and ultimately canceled.²¹

World of Warcraft (WoW), the company's largest title, debuted in 2004 and instantly became the top selling PC game worldwide. Blizzard significantly profited from *WoW*'s success: "The company's grown with World of Warcraft. It went from just under 500 employees [...] to over 4,600 employees worldwide now [...]."²¹ Further, thanks to its approachable and scalable design, *WoW* elevated the (MMO) game subgenre to high levels of popularity.²¹ Apart from *WoW*, however, Blizzard had difficulties to produce hits.

In its corporate history, Blizzard has changed ownerships multiple times. In 1994, the company has been acquired by game publisher and developer of educational video games Davidson & Associates. Following the 1996 acquisition of Davidson by CUC International, a diversified consumer services conglomerate, Blizzard got sold to French publisher Havas and became part of the Vivendi Games group in 1998, which had played a major role in the upcoming merger between Activision and Blizzard.

The Merger Forming the Video Gaming Titan Activision Blizzard Inc.

In November 2006, Vivendi CEO Jean-Bernard Lévy approached Kotick in an effort to gain control of Activision. As a merger would not secure Vivendi the majority of voting rights, Lévy insisted on additionally injecting approximately 2 bn USD in cash for 52% of fully diluted shares.²² Vivendi would then integrate its video gaming segment into Activision.²³ While Kotick struggled to give up control of Activision, he acknowledged that the deal added

^{viii} Diablo was developed by Condor Games, a partner studio of Blizzard that was later required and renamed to Blizzard North.

significant knowledge and competencies. Although highly successful in the past, some of Activision's hit franchises showed their age and frequent remakes contributed to the risk of gamer burnouts. Further, as Activision had failed to enter the highly profitable and important MMO market successfully and was searching for a way to participate in the industry transformation led by the internet. The Activision board ultimately agreed to the deal and Kotick commented: "We looked every which way to figure out how to participate in what Blizzard had created. We couldn't find a way to duplicate it, but we could acquire the expertise."²³ Levy announced: "We have created the world leader in online and console games with this transaction and the combined strengths of the two businesses offer immense growth potential."²² The merger created a company with diversified strengths, challenging EA as the world's largest third-party video game publisher.²³

Development of the Company After the Merger

Kotick was appointed as CEO of the newly formed Activision Blizzard Inc., with Vivendi Games chief executive Bruce Hack taking a leading role in the company.^{ix} In July 2013, Activision Blizzard announced to acquire shares held by Vivendi in a 5.8 bn USD buyback program, leaving Vivendi with only 12% of shares (previously: 61%), and making the public the biggest shareholder.²⁴ At the time, Activision Blizzard was the biggest independent publisher of video games and published the two best-selling titles, *Skylanders Giants* and *Call of Duty: Black Ops II*, as well as the world's most subscribed MMO role play game, *World of Warcraft*.²⁴ Vivendi sold their remaining shares in May 2014 and January 2016 in a move that was motivated by the latest 87% stock price increase.²⁵ In total, Vivendi was able to cash out 10.15 bn USD of a 9.8 bn USD investment^x, not necessarily making it a success considering the holding period of nine years.²⁶ Although divesting Activision Blizzard, Vivendi remained involved in the gaming market and continued to hold its 8 bn EUR stake in Ubisoft.²⁵

In August 2015, Activision Blizzard joined the S&P 500 index making it, next to EA, one of only two gaming-related companies in the index. Shortly after, in November 2015, Activision Blizzard announced its acquisition of King Digital Entertainment (King) Group, a London-based mobile game developer, for 5.9 bn USD. King, known for the highly popular mobile game *Candy Crush*, had experienced declining income and had failed to produce new top

^{ix} Hack was leading merger integration, finance, human resources, and legal sections.

^x Vivendi paid 1.7 bn USD in cash and merged their 8.1 bn USD (as of 2006) games division with Activision.

sellers.^{xi} Activision Blizzard was historically avoiding the mobile gaming market. With the acquisition, they entered the market for casual gaming, which is outside the typical company focus.²⁷ Casual games, such as *Candy Crush*, rely on a free-to-play model with rather unpredictable cash flows.²⁷ After the transaction, Activision Blizzard had a network of more than 500 million active users. Robert Kotick said: “Other than YouTube or Facebook there isn’t a worldwide network that has a bigger number of audience members.”²⁷

The merged company, Activision Blizzard, developed games for diverse platforms (PCs, consoles, and mobile devices) and published them globally through three business units: Activision Publishing, Blizzard Entertainment and King Digital Entertainment (**Case Exhibit 4**). The business units Activision and Blizzard both incorporate a global professional esports league. Revenues were generated from full-game (pay-to-play) and in-game sales, single-game subscriptions, as well as by licensing software. King delivered content primarily through free-to-play offerings for mobile, which rely on in-game sales and in-game advertising.²⁸ The main three franchises, *Call of Duty*, *Warcraft*, and *Candy Crush*, were responsible for 79% of revenues in 2022, with no other game comprising more than 10% of revenues. Activision Blizzard games could be purchased in digital format, where they are made available on third party platforms (**Case Exhibit 5**) and Battle.net, the company’s own gaming, communication, networking, and content delivery platform. Battle.net distributed most of the Blizzard games and selected Activision titles but was, however, only available on PC. Physical games were further sold in outlets globally.²⁸ Activision Blizzard’s most important revenue source was “Over-time” sales, which account for 86% of revenues (2021), growing by approximately 2% points per year.²⁸ These revenues occur after the game was initially sold (“point-in-time”) and comprise revenue from online features, in-game purchases, and subscriptions.

Following the record year of 2018, Activision Blizzard announced a restructuring plan in which it cut the workforce by 8%, deprioritizing initiatives that were underperforming and decreasing non-development and administrative-related costs, in February 2019. This news came along with a lowered revenue forecast due to a sparse release schedule and the decline in monthly active users (MAUs).²⁹ The company further announced that development efforts would focus more on larger franchises, where the number of developers would be increased by 20%, Battle.net, and esports.³⁰ After a 13.5% revenue decrease in 2019, the business’ revenue grew

^{xi} *Candy Crush* represented around 1/3 of revenues in 2012, revenue fell by 13% year-on-year.

by 24.6% and 8.9% in 2020 and 2021, respectively (**Case Exhibit 6**). Profitability decreased from a 39.8% EBITDA-margin (2018) to 33.3% in 2019 and increased to 42.0% in 2021 (**Case Exhibit 7**).²⁸ Activision Blizzard also experienced a strong stock price increase of 42.1% between 01.02.2019 and 14.01.2021, following the restructuring plan (**Case Exhibit 8**).

In July 2021, the California Department of Fair Employment and Housing (DFEH) filed a lawsuit against Activision Blizzard following a two-year investigation.³¹ Activision Blizzard was accused of encouraging a "frat boy culture" that included sexual harassment, unequal compensation for men and women, and retaliation against female employees. The US Securities and Exchange Commission launched an investigation on the handling of sexual misconduct allegations and workplace discrimination in September 2021. Responses from prominent figures at Activision Blizzard like former Blizzard President J. Allen Brack and CEO Kotick addressed the allegations but were mentioned in the lawsuit as having prior knowledge of the harassment and not taking appropriate action. In this context, a significant part of the fan base boycotted the company's games and several employees left or were fired. These scandals collectively created a significant crisis for Activision Blizzard, significantly damaging its reputation and standing in the gaming industry.³¹

The Deal: Microsoft's Acquisition of Activision Blizzard

On January 18, 2022, Microsoft announced a significant move in the gaming industry: It would take over Activision Blizzard. This strategic acquisition involved a substantial all-cash offer of 95 USD per share, presenting a 45.3% premium over the last closing price of 65.39 USD on January 14, 2022. The transaction's total value amounted to 68.7 bn USD.

Background on the Deal

Microsoft's acquisition of Activision Blizzard unfolded naturally over several weeks, as shown in **Case Exhibit 9**. It all began on November 19, 2021, with Microsoft expressing initial interest in exploring strategic opportunities with Activision Blizzard. What followed was a series of high-stakes conversations involving the industry titan Robert Kotick, and Microsoft's top management, led by Satya Nadella (CEO) and Phil Spencer (CEO of Microsoft Gaming). The momentum surged when, on November 26, Microsoft proposed an all-cash offer of 80 USD per share, on which Activision Blizzard reacted with a counterproposal demanding a range between 90-105 USD per share. Intense negotiations were steered by Activision Blizzard's board, holding multiple meetings with financial advisors and legal experts, evaluating

Microsoft's proposition alongside other potential opportunities. As negotiations intensified, Microsoft adjusted its offer to 90 USD per share, initiating a thorough back-and-forth. Activision Blizzard's board requested 100 USD per share, authorizing negotiations with a floor of 95 USD per share. After protracted negotiations, the two giants settled on a transaction price of 95 USD per share. The Activision Blizzard board unanimously greenlit the merger, culminating in a joint press release on January 18, 2022, announcing the agreement's finalization.

Deal Motivation and Expected Synergies

The acquisition allowed Microsoft to strategically expand its gaming business across mobile, an area where the company had little presence, PC, console, and cloud. Gaming had been a major driver of Microsoft's overall growth. With a YoY revenue increase of 33%, gaming outperformed the overall revenue increase of 12% (2021), while contributing to 9.1% of sales (**Case Exhibit 10**).³² Additionally, the development of an own metaverse was a major motivation for the takeover. The deal allowed to further bring together Microsoft's technology and distribution capabilities with Activision Blizzard's talent and franchises, aiming to create a future where players can access their favorite games virtually anywhere. Moreover, a collaboration between the two companies would allow to combine knowledge and development capabilities which could be expected to also influence future hardware developments. Looking at video games development, Microsoft had not been successful to produce hits that generate sustainable income streams and lacked significant IP ownership, a crucial factor in an industry where content is a significant driver of success.³³ The gaming division depended largely on revenues from hardware sales and peaked whenever new consoles were released.³⁴ Owning the IP for a broad range of successful video game titles would allow Microsoft to publish exclusive content for its own hardware and cloud ecosystem, driving customers to the platform.³⁴ The IP could then be added to the Xbox Game pass, which could boost subscription revenues significantly. According to Nadella, the deal helped Microsoft to create “one of the largest and most engaged communities in all of entertainment”.¹ Prior to the acquisition, the Xbox ecosystem had a user base of 25 m, with relatively little weight in mobile gaming.³⁵ Acquiring Activision Blizzard enlarged the network by around 400 m users, providing Microsoft with diverse monetization possibilities.^{36 33}

Shortly before announcing the deal, Microsoft had cash reserves of around 138 bn USD, which was the largest number of any S&P 500 company.³⁷ Although the concrete reason for

Microsoft's cash stacking was unknown, there were multiple potential drivers for this strategic decision. First, having a large amount of cash at hand enabled Microsoft to fund new initiatives quickly without the need to raise debt. This could be considered as crucial in a highly dynamic market with the need to act fast. Second, the cash reserves could be tax-related, with subsidiaries in low-tax countries often holding a great share of cash^{xii}, especially when compared to their revenue share.³⁸ In fact, this business practice is increasingly common with companies relying on IP-driven assets, as their non-physical structure makes it easier to move operations to low-tax countries.³⁹ Ultimately, a strategic rationale behind the payment in all cash might had been to avoid share dilution. If an acquisition involves issuing new shares, the ownership percentage of existing shareholders would be reduced, and their shares diluted.

The acquisition of Activision Blizzard offered an opportunity for Microsoft to effectively deploy capital to realize returns. The questions remained, however, if Activision Blizzard really was an investment offering a sufficient value to shareholders. Was the acquisition only justified by Microsoft trying to reduce its cash reserves? Should Microsoft had distributed the 68.7 bn USD purchase price directly to its shareholders instead of investing it?

In the light of the acquisition, Microsoft shareholders were not amused, and the company's stock fell by 2.4% at the day of the announcement.⁴⁰ A regulatory blowback raised concerns about the feasibility of the deal. Further, Activision Blizzard faced internal problems, like large-scale layoffs, sexual harassment as well as discrimination, leading to lawsuits, and a significant decline in its share price over the past year (**Case Exhibit 8**).⁴⁰ Especially work culture and personnel-related issues presented a significant risk, as video gaming production highly depends on the retention of creative talent. In addition, the potential loss of gaming distribution in China due to an ending partnership with Chinese gaming company NetEase bore the risk of losing 750 m USD in Chinese market annual revenues.⁴¹

According to Kotick, the transaction allowed Activision Blizzard's business to stay competitive against gaming companies like Tencent and Sony. Further, it would strengthen the company against potential future competitors like Apple, Google, Amazon, and Netflix.⁴² Regarding technologies like cloud platforms for streaming, gaming, or cybersecurity software to protect players' data, Kotick said: "We realized there are a lot of categories of technology and talent

^{xii} 85% of the rise in cash reserves held by multinational corporations is held in their foreign subsidiaries.

that we needed access to that we didn't have and couldn't build fast enough."⁴² The announcement that Activision Blizzard would be acquired by Microsoft was received very positively by its shareholders. In a shareholder meeting in April 2022, the deal was approved by 98% of Activision Blizzard's shareholders (**Case Exhibit 11**).^{43 44}

The announcement included agreed terms of the deal. Microsoft would acquire all outstanding shares of Activision Blizzard at 95 USD per share, presenting a 45.3% premium over the closing stock price on the last trading day, January 14, 2022 (**Case Exhibit 12**). At the day of the announcement, it was declared that Kotick would remain CEO once the deal was closed.

Regulatory Issues

The Microsoft and Activision Blizzard deal did not come without controversy. Given the size of the acquisition, several government commerce bodies were required to review the deal for antitrust concerns. Relevant stakeholders like lawmakers and consumer organizations raised concerns about possible anticompetitive behaviors and emphasized the need for regulatory oversight. The reactions of international commissions are summarized in **Case Exhibit 13**. The Federal Trade Commission (FTC) filed a legal challenge to block the deal on December 8, 2022, arguing that Microsoft could potentially withhold gaming content from rivals and thus suppress competitors. According to the FTC, Microsoft could use Activision Blizzard, being one of a very small number of companies developing high quality video games, to manipulate pricing or to degrade gaming experience on rival platforms.⁴⁵ Investigations continued until, on July 14, 2022, the U.S. Appeals Court for the 9th Circuit denied the FTC's motion to block the transaction. Another key player, the European Commission (EC), filed its formal complaint in February 2023 with the concern that Microsoft may be "incentivized to block access to Activision's popular *Call of Duty* franchise".⁴⁶ However, after Microsoft's assurance that such impediments would not transpire, the EC approved the deal on May 15, 2023. Although getting approval by institutions like the EC and the FTC, the UK's Competition and Markets Authority (CMA) initially denied the merger, causing postponements for the deal closing.⁴⁷

A major area of CMA concerns was the nascent cloud gaming market, in which Microsoft would gain immense market power by exclusively offering Activision Blizzard's blockbuster titles with its Xbox cloud gaming service.⁴⁸ Responding to these concerns, Microsoft gave up control of perpetual cloud streaming rights of all current Activision Blizzard franchises and those released in the next 15 years outside of the European Economic Area (EEA). This allowed

Ubisoft to license cloud streaming rights for Activision Blizzard games to other streaming services, also including Microsoft.⁴⁹ Noteworthy are further concerns regarding a potential shift of competition in the console market, as raised by Sony, turned out to not be an issue. The CMA argued that there is no financial incentive to distribute the *Call of Duty* franchise exclusively using its own channels, as the PlayStation makes a significant market.⁴⁸ Following the concerns, Microsoft and Sony agreed on a 10-year deal to keep *Call of Duty* franchise on the PlayStation.⁵⁰

Stock Market Reactions

The acquisition of Activision Blizzard raised enthusiasm but also concerns among its investors (**Case Exhibit 14**). The day after the announcement, the share price (ATVI) jumped by more than 25% to close at 82.31 USD on January 18, 2022. Noteworthy is, that Sony's share price showed a high sensitivity to the developments, as it dropped by -12% on the day of announcement. Activision Blizzard's share price continued to be sensitive to developments of the deal, dropping by -11.4% when the CMA blocked the transaction on April 26, 2023. It then jumped by 10% when a judge rejected the FTC's request for a preliminary injunction to stop Microsoft from closing on the Activision Blizzard deal on July 10, 2023.

The MSFT share showed little reaction at the day of the announcement, closing at -2.4% (**Case Exhibit 15**). Opposed to ATVI's reaction on the CMA's blocking of the transaction, MSFT's stock price jumped by 7.2% that day. On July 17, 2023, Microsoft's appeal against the UK's CMA was formally paused for two months, positively simulating investors making the share price increase by 4.0%. Further events in the deal development did not show any significant impact on the MSFT share. October 13, 2023, the official day of the closing, the share closed at -1.0%, however, recovered to the prior-day-share price the day after.

These developments underlined the immense chatter around the deal and showed its controversy. Microsoft shareholders did not seem to be fully convinced and the stock market reaction was rather cautious and unimpressed. Were the expected synergies achievable, especially in the light of antitrust issues? Why did Microsoft pay a price 45% above market? What risks were associated to the acquisition? Should have Microsoft invested more in its own video game development? And finally, was the deal helping to achieve shareholder value?

Video Gaming Industry - Introduction

The commercial video games industry has a rich history that roots back to the 1970s and 1980s, where arcades and first home consoles made gaming widely accessible for the first time.⁵¹ Since then, video gaming has become the biggest and most wide-spread avenue of entertainment. With more than 2.6 bn gamers worldwide in 2023, video games reached a huge popularity.⁵² Global video game sales were estimated to total 193 bn USD in 2021, making the market significantly larger than the market for filmed entertainment (100 bn USD) and recorded music (26 bn USD) combined.⁵³

Given its popularity, video gaming has developed to be a crucial market for some of the largest companies of the 21st century. The video streaming and content production giant Netflix stated in 2019 that it competed with Fortnite more than HBO, battling for customers' screentime.⁵⁴ Apple, traditionally a company with little stakes in gaming, launched its gaming subscription services "Apple Arcade" in 2019 after spending an estimated amount of more than 500 m USD in an effort to secure video games for the platform.⁵⁵

During its recent growth, the video gaming industry went through significant shifts. It moved from mobile to cross-platform games like Fortnite, became more and more subscription based, evolved to in-game socializing environments, and became a popular form of entertainment through e-sports and broadcast platforms.

Definition, Industry Sectors, and Value Chain

Video games can be defined as "A game played by electronically manipulating images produced by a computer program on a monitor or other display".⁵⁶ The main purpose of video games is entertainment, but, when paired with a practical dimension, video games also find applications in education, business, and health care segments. The video games market is at the core of the video gaming industry, which represents the entire value chain involved in the creation, development, publishing, distribution, and monetization of video games.⁵⁷ Further, hardware, streaming, and e-sports fall within the broader industry definition.⁵⁸

Single elements of the video gaming industry and the value chain are illustrated in the following and summarized in **IR Exhibit 1**.^{59 60} Moreover, the industry value chain underwent significant transformations, also shown in **IR Exhibit 1**.

Game Developers: Video game developers (VGDs), or “studios”, lead the process of developing video games.⁶¹ The sheer complexity of video game development, resulting from its multidisciplinary nature, makes it substantially different from other forms of software development. Video games combine sound, art, control systems, artificial intelligence, and human factors, with each area requiring a dedicated set of skills and knowledge. The typical development process is shown in **IR Exhibit 2** and consists of both creative arts disciplines and the technological applications, making it traditionally highly complex and expensive.

Due to transformations of the video gaming industry, however, development processes changed. A traditional video console game can have development times of up to 10 years, with high development costs and payback periods. In response to a cost pressure, increasingly high competition, and market demand, video game development processes were shortened drastically.⁶¹ In particular, casual mobile games show a lower complexity and thus experience immensely decreased development times to as short as one month.⁶¹

VGDs can be categorized based on their relationship to publishers. First-party VGDs exclusively work together with publishers and can be internal or fully integrated or subsidiaries.⁶² Second-party developers closely collaborate with platforms like Microsoft, Nintendo, or Sony, but are technically independent. Ultimately, third party developers either publish games themselves or work together with a publisher on a project basis.⁶³ The relationship between a developer and publisher can have a major impact on business aspects like the size of projects, financial pressure, creative independence, and profit shares. Moreover, developers can be distinguished by the type of game they are developing. Large developers, often backed by major publishers, focus on developing “Triple-A” video games, also called “Blockbuster Titles”, which generally have high production costs and target a broad audience.⁶² On the other hand, Indie games are developed by smaller and often independent studios, with lower development costs and less high-end graphics or gameplay. They target a more niche audience, which values unique mechanics or experimental visuals.⁶⁴ Lastly, “Casual Games” describe video games with relatively simple gameplay and gaming mechanisms, like mobile games.⁶²

Developer Tools & Gaming Software: This sector focuses on developing engines and software tools targeted to aid the development process of video games. Gaming software empowers developers to build games more efficiently. This makes it possible to decrease development costs significantly, enabling companies of virtually any size to develop high quality games.

Thereby the barriers to enter the market are lowered, which drastically changed the competitive landscape of video game development.⁶⁵ Developer tools are highly capable, comparatively easy to implement and can be used across platforms.^{xiii} In contrast to gaming engines available on the market, larger video game developers often use in-house tools and software solutions.

Publishers: A video game publisher is an entity responsible for overseeing various aspects of a game's creation, including marketing, distribution, or funding. Publishers often act as a link between the artistic vision of game developers and the commercial viability of the final product and are responsible for making games available to the public.⁶² The level of involvement depends on the relationship between developer and publisher. In case of an external development, they either acquire the right to publish by paying a licensing fee or, alternatively, subcontract developers to create video games on their behalf. Furthermore, publishers can have games developed internally. To secure distribution, for publishers it is important to maintain partnerships with distribution platforms, granting market access. For larger publishers, it is also common to own distribution channels (e.g. Activision Blizzard's Battle.net). Looking at the rise of mobile, games for mobile devices are easier and cheaper to publish.⁶⁶

Hardware Developers: Hardware and components serve as the electronic infrastructure for gaming and represent the access point of video gaming for customers.⁶² As of 2023, the most common electronic devices used for gaming encompass PCs, gaming consoles, and mobile devices, such as smartphones and tablets. Video gaming has historically been console-based, but mobile devices hold the biggest share of gaming hardware (**IR Exhibit 3**) in 2022.

Over the last decades, hardware computing power and graphical game quality steadily increased. However, the emerging cloud gaming technology along with related Gaming-as-a-Service (GaaS) offerings lowered the hardware requirements for gaming. Here, video gamers are not required to have devices with a high level of computing power. Instead, cloud gaming uses centralized infrastructures and allows games to be streamed to various forms of devices with no platform limitation, including smartphones and TVs.⁶² While traditional video gaming can be described as “device-centric”, with gamers being tied to getting games specifically for their hardware, cloud gaming enables “gamer-centric” gaming, independent from the device used by the customer.⁶²

^{xiii} In fact, the high adaptability makes them also a common tool for the movie and television industry.

Distribution and Retail: Distribution of video games takes place through either physical retail channels, including both online and brick-and-mortar stores, or digitally via digital storefronts facilitating downloads or streaming.⁶² Steam, a platform offered by the company Valve, the Epic Games Store, and Activision Blizzard's Battle.net are examples for leading PC game online shops in 2023.⁶² On console, different platforms use their own storefronts. Microsoft has the Xbox Store, Sony the PlayStation Store and Nintendo the eShop.⁶² For mobile games, the distribution channels are strongly tied to the respective operating system, like Apple or Android, which both have an own app store. In the case of Android, single device manufacturers can also provide app stores, and apps can be downloaded from the internet.

The growth of digital distribution, which evolved to represent the most important channel, disrupted the traditional distribution structure of the video games industry. It enables publisher to directly publish games without needing an intermediary, as Sony does using its own online shop to distribute video games for the own PlayStation platform.⁶⁷

E-Sports: E-Sports describes a form of direct competition between human video game players on digital platforms.⁶⁸ Starting as a more niche form of video game entertainment, E-Sports had more than 600 million regular followers in 2022, making it a substantial industry with a mainstream acceptance. The E-Sports market consist of *Broadcasting* (Streaming competitions through specific platforms, broadcasting channels, and TV networks), *Esports platforms* (Hosting and managing esports events), and *Talent & Sponsoring*.

Streaming & Social Platforms: Streaming and social platforms connect gamers and fans, making video gaming an increasingly social market and creating communities.

Video Game Consumers

The audience demographic of video gaming is wide-ranging, making it a truly mainstream form of entertainment. In 2022, 81.9% of internet users played video games globally. Asian countries have on average the highest video gaming penetration (85.7%), followed by Americas (85.0%), Europe (77.5%), and Oceania (76.3%).^{xiv 69} In 2022, 25% of the global video gaming audience spends more than seven hours per week playing mobile games. Gamers from Asian countries spend the most time playing, with 27.7% of consumers playing mobile games for more than

^{xiv} Data is not weighted; Data for African countries is not sufficiently available. However, countries with available data show a high penetration of 89.7% (South Africa) and 83.4% (Egypt).

seven hours per week. In Americas (18.5%), Oceania (15.0%), and Europe (14.1%), this percentage is significantly smaller.^{xv 70}

Gamers can be split in three segments depending on their engagement: Casual gamers spend on average 1:46 hours gaming daily (33% of gamers), avid gamers spend on average 3:05 h gaming daily (43% of gamers) and super gamers spend on average 4:19 h gaming daily (24% of gamers).⁷¹ Across all genders, 48% of players identify as female and 52% identify as male. The average age video game players age in the US is 33 years, with the largest group of gamers being under 18 (24% of video gamers) and between 18-34 (36% of video gamers).⁷²

Industry Monetization and Business Models

Video Game Monetization Models

The video gaming industry uses a broad range of monetization models and advanced marketing strategies, which are heavily contributing to the industry's size and growth. Monetization is often complex, with construction, customer targeting, and revenue generation processes spanning across multiple layers.⁷³ Historically, video games were most commonly sold using a fixed price.⁷⁴ This pay-to-play concept has not changed much and remains a common mechanism of video game monetization. However, the video games market has proven to be price sensitive, which forced developers and publishers to develop alternative monetization mechanism. In fact, looking at video games for gaming consoles, prices for games did not change much over different console generation. Since 1977, video game prices have increased from an average of 39.99 USD to 69.99 USD for the newest generation of consoles released in 2020 (PlayStation 5, Xbox X/S), marking a yearly increase of only 1.34% (CAGR).⁷⁵ Further, the development of new monetization models was accelerated by new platforms (e.g. mobile), technologies (e.g. cryptocurrencies), types of games (e.g. battle royal games), and customer preferences (e.g. the demand for free-to-play games).⁷³ In the case of free-to-play video games, the initial price point is fully eliminated. These models commonly rely on microtransactions from small content packs that provide players with gameplay or cosmetic related advantages, or in-game advertisement.⁷³

^{xv} Data is not weighted; Data for African countries is not sufficiently available. However, countries with available data show a high share of 25% (South Africa) and 24% (Egypt) of gamer with >7 h weekly playtime.

Monetization mechanisms used in pay-to-play as well as free-to-play games are summarized in **IR Exhibit 4**. For video game developers, pay-to-play is the most used monetization method (**IR Exhibit 5**). However, looking at the mobile video games market, video ads have emerged as the industry standard (**IR Exhibit 6**).

Another common way of generating revenues is through game and network based platform subscriptions, which gained popularity across various platforms. They typically offer a bundle of benefits including access to a library of games, exclusive content, or multiplayer functionalities. The gaming industry benefits significantly from the subscription model as it attracts customers by lowering the entry barriers to play video games, creates steady revenue streams, and brings an extended range of games to customers attention. Further, exclusive perks and features, like early access, incentivize to pay for subscriptions.⁷⁶ Industry leaders like Apple (*Apple Arcade*), Sony (*PlayStation Plus*), and Microsoft (*Xbox Game Pass*) started to offer such models to its customers. **IR Exhibit 7** compares the offerings of Sony and Microsoft. The high revenue potential of subscription services is shown in **IR Exhibit 8 and 9**.

Economy of developers and publisher

Video game developing companies' revenue generation substantially depends on the intellectual property (IP) ownership. While large developers usually own the IP, making them eligible to receive direct revenues, the IP of blockbuster titles is sometimes owned by publishers. In these cases, development tasks are mandated, and developers receive milestone payments throughout the development process and royalties based on actual sales volumes.

Publishers generate revenues based on the sales of a video game and after paying development fees and royalties. Additionally, platforms, like app stores, typically demand a significant revenue share. Leading platforms such as Steam, Sony, and the Apple Appstore commonly demand approximately 30% of video game sales, whereas platforms like the Epic Games Store demand only 12%.⁷⁷ The final revenue share publishers receive is subject to individual negotiations, but it is usual for publishers to receive 15-30% of video game revenues.⁶⁶

Market composition

Competitive Landscape

The video gaming industry is influenced by the constantly shifting and progressing landscape of technological advancements. Consequently, new products are frequently released to meet

consumer preferences, creating a huge competitiveness among players within the industry. The industry's rapid evolution prompts a consolidation among its players as they seek to stay abreast of emerging trends through acquisitions of new and emerging business opportunities.

The competitive environment varies amongst the value chain. For developers of console and PC games, the landscape is shaped by rather high entry barriers due to the required complex skillset and high funding needs. This is different for developers of mobile games which operate in a highly fragmented environment. The market is easier to entry since cost requirements are lower, as the modular structure is simplified by game engines, which makes a solid gaming idea sufficient to enter the industry. Nevertheless, the process of consolidation gained momentum, with major players acquiring smaller mobile developers to obtain talent and IP. The market of publishers and distributors became even more concentrated since developers often choose established incumbents to sell their games to. Further competition arose from platform players who reduced the barriers for developers to directly publish games on their platforms which accelerated the risk of disintermediation for publishers and distributors. Integrated hardware and software companies, such as Microsoft and Sony, additionally impose competition, as they develop own games for their respective platforms.

Despite the fierce competition within the industry, a few players have managed to establish themselves with large market shares. Other non-gaming companies are showing efforts to enter the industry with emerging technologies like cloud gaming services, VR, and AR. The biggest global players in 2023, based on their gaming revenues, are the Tencent and Sony, based in China and Japan, respectively (**IR Exhibit 10 and 11**).

Role of Innovation and Intellectual Property

As an industry forcing an exchange between technological developments and creative disciplines and being characterized by a high level of entrepreneurial activity, the video gaming industry is a major source of innovation.⁵⁸ New products, technologies, and monetization methods, in turn, drive significant industry growth.

Innovation within the industry primarily occurs through commercial research and video game development efforts aimed at creating new products. However, it also finds inspiration in and contributes to academic research and development, both early-stage fundamental and practical applied. In particular, breakthroughs in fields such as physics, chemistry, electrical and electronic engineering, as well as materials science have played a pivotal role in shaping the

technologies that underlie video games. This has catalyzed advancements in computer science, computer vision, human-machine interaction, sensor systems, and a diverse array of scientific and technological applied disciplines.⁵⁸ The main areas of innovation are computer science and software engineering, but also artificial intelligence, hardware architecture, and telecommunications.⁵⁸

IP plays a crucial role in the video gaming industry, serving as an important differentiator. It occurs in the form of protected software code, patented technology, audio-visual elements, and significantly contributes to the consumer's gaming experience. Gaining a competitive edge in the industry requires a special combination and safeguarding of these components.

Mergers & Acquisitions and Venture Capital Activity

The video game industry is a booming sector that was shaped by significant and regular M&A deals driving consolidation within the industry (**IR Exhibit 12 and 13**). Deal activity is generally driven by the need for top talent and technology to create competitive games, as well as the acquisition of IP. Additionally, companies use M&A to expand market share, diversify products, and position themselves in emerging gaming themes like the metaverse and cloud gaming. In 2022, the volume of M&A deals within the gaming industry amounted to 16.5 bn USD.⁷⁸ The year 2022 was driven by astonishing deals such as Microsoft's 68.7 bn USD bid for Activision Blizzard, which was eventually closed in October 2023, and Take-Two Interactive's acquisition of Zynga amounting to 12.7 bn USD. The Savvy Gaming group made two big acquisitions with ESL for 1.0 bn USD in 2022 and Scopely for 4.9 bn USD in 2023. While historically, the gaming industry has mainly received funding through large incumbents, new industry trends and the convergence of entertainment, e-commerce, social media, and gaming create opportunities for new companies to enter. Consequently, VC investment in the video gaming industry increased in the past. However, due to rising interest rates and uncertainty about the economy, total VC investment significantly slowed down in 2022 and 2023 (**IR Exhibit 14**).

Market Size and Developments

Market Size

The video gaming industry has been shaped by rapid growth rates. It is expected to continue to expand with cloud games, e-sports and mobile games being the biggest growth drivers, and the

biggest markets being China and the US, followed by Japan (**IR Exhibit 15**). The market for physically sold video games has been declining historically. The largest market segments in 2022 are Mobile Gaming (154 bn USD), Gaming Hardware (127 bn USD), and in-Game Advertisement (30 bn USD). The market for Physically Sold Games is with 11 bn USD smaller than the market for Download Gaming (18 bn USD). In 2022, the global market size of the video gaming industry amounts to 383 bn USD, as shown in **IR Exhibit 16 and 17**.

Market Trends and Drivers

The gaming industry operates within a highly dynamic landscape affected by numerous noteworthy trends. Enhancements in the mobile gaming experience, driven by improved capabilities of smartphones and tablets, play a huge role for the gaming industry.⁷⁹ The convenience and accessibility of low-cost (free-to-play) mobile video games and the worldwide spread of smartphones make gaming attractive for a wider demographic and a greater audience. Another trend disrupting traditional PC and console gaming is cloud gaming, which attracts gamers by enhancing flexibility through GaaS and the option to play from virtually anywhere.⁸⁰ The video gaming industry is further being shaped by the rise of e-sports and professional gaming competitions showing emerging opportunities for revenue generation through sponsorship, advertising, and ticket sales.⁸¹

The growth prospects of the industry are significantly driven by technological and network advancements and new opportunities through emerging economies, where increasing wealth and higher penetration rates of electronic devices increase the potential customer base. New technologies like AR and VR can create innovative gaming experiences and thereby attract a wider and new audience. AI and machine learning are becoming increasingly integral parts of our lives and are impacting the gaming industry. They accelerate the development of engines and toolsets that automate game development and enable a wider mass to integrate user-generated content as well as to build high-quality games. Further technological advancements like metaverse gaming and play-to-earn games, rewarding players with cryptocurrency or NFTs, will most certainly drive the future development of the gaming industry.⁸² Future industry growth will further be driven by the accessibility of fast internet connectivity and 5G networks which enhances cloud gaming, multiplayer options, and social gaming.⁸³ The improved infrastructure will additionally drive expansion of video game companies into emerging economies which are characterized by a young demographic and expected to significantly contribute to the industry's growth.

Growth Outlook

The outbreak of the COVID-19 pandemic in 2020 spurred growth in the media and technology sector. The video game industry generated a CAGR of 12.3% from 2018 to 2022 (**IR Exhibit 17**). After the pandemic, there was a slight downturn in the industry growth and the market size increased by only 3.1% in 2022. This development was driven by worse macroeconomic conditions, increased cost of living, a post-pandemic drop in demand after lockdown, a higher demand for real-world entertainment possibilities, and increased regulatory and data privacy concerns. Console producer, chipmaker, and video game publishers reported a demand decrease^{xvi} in early 2022, which fundamentally challenges the long-term industry belief that video gaming is a recession resistant business.⁸⁴ Moreover, the shift in monetization models and revenue generation in the gaming industry imposes challenges for established players to sustainably generate profits. EA's CEO commented on the drop in consumers' spendings on mobile games: "In a world where you can engage deeply without spending, how will we see spending through this period?"⁸⁴

The lower growth prediction caused leading video gaming companies to suffer falling valuations during January 2021 and 2022, as shown in **IR Exhibit 18**. Nevertheless, the industry is anticipated to grow, driven by new next-gen consoles, increased growth of the mobile gaming sector, new advanced technologies, and the further rise of e-sports. Future gamers will likely be more engaged and spend more time on gaming.⁸⁴ For 2023 to 2027, a CAGR of 8.3% is predicted.

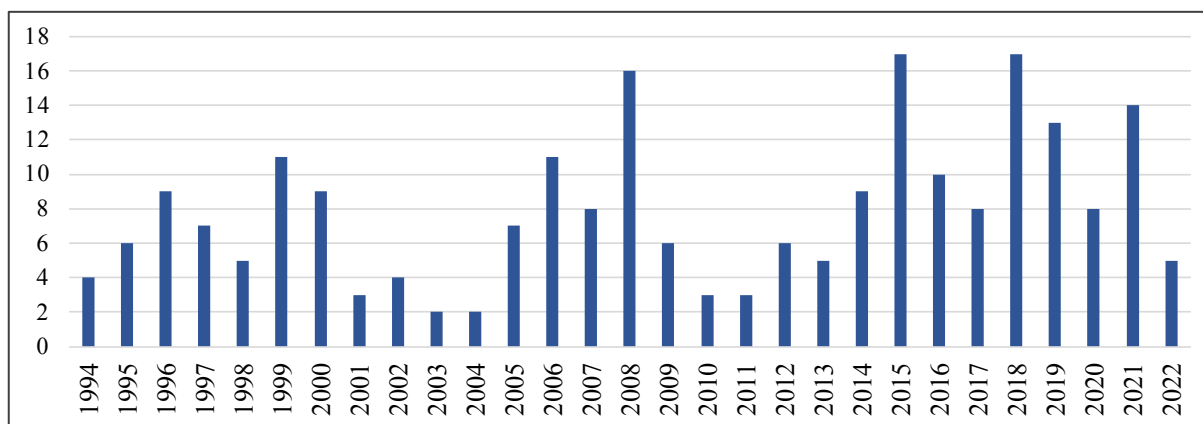
Industry Risks

Despite favorable growth perspectives, companies will still face fierce competition and regulatory and cyber security challenges. The large amount of data collected by gaming companies makes them an attractive target for cyber-attacks like data phishing or selling fake software that contains a virus, making cyber security a main challenge for gaming executives. Further, regulatory measures and fines have increased due to consumer protection and antitrust concerns or to prevent addiction and to limit video game spending, especially in China.⁸⁵ Other risk factors, which might limit growth, are market saturation, supply chain disruptions due to global conflicts and lack of resources, and social and cultural backlashes.

^{xvi} E.g. Sony reported a 15 per cent year on year decrease in PlayStation engagement.

APPENDIX I: CASE STUDY EXHIBITS

Case Exhibit 1: Number of M&A Deals by Microsoft by Year



Source: Microsoft Investor Relations. (2023). *Acquisitions History*. <https://www.microsoft.com/en-us/Investor/acquisition-history.aspx>.

Case Exhibit 2: Microsoft's Acquisitions Worth Over 1 bn USD

Date	Target	Target Country	Target Industry	Value (bn USD)
2000	Visio Corporation	US	Wholesale drawing software	1.4
2002	Navision	DK	Software programming	1.3
2007	aQuantive	US	Digital marketing	6.3
2008	Fast Search & Transfer	NORW	Search technology	1.2
2011	Skype Technologies	LU	Telecommunications	8.5
2012	Yammer	US	Social networking	1.2
2014	Mojang	SE	Video games	2.5
2014	Nokia	FIN	Mobile phones unit	7.2
2016	LinkedIn	US	Professional social network	26.2
2018	GitHub	US	Software development and control platform	7.5
2020	Affirmed Networks	US	5G Networking	1.4
2021	Nuance Communications	US	Speech synthesis and speech recognition	19.7
2021	ZeniMax Media	US	Video games	7.5
2021	Xandr	US	Digital Media	1.0
2023	Activision Blizzard	US	Video games	68.7

Source: S&P Capital IQ. (2023). <https://www.capitaliq.com/>.

Case Exhibit 3: Microsoft's M&A Activity in the Gaming Industry

Date	Target	Target Country	Value (bn USD)
1996	EXOS Inc.	US	0.005
1999	Access Software	US	N/A
1999	FASA Interactive	US	N/A
2000	Bungie	US	0.02 - 0.04
2000	Digital Anvil	US	N/A
2001	Ensemble Studios	US	0.1
2002	Rare	UK	0.375
2006	Massive Incorporated	US	0.2 - 0.4
2006	Lionhead Studios	UK	N/A
2009	BigPark	CA	N/A
2011	Twisted Pixel Games	US	N/A
2011	Videosurf	US	0.1
2012	Press Play	DK	N/A
2014	Mojang	SE	2.5
2015	Havok	IRE	N/A
2016	Beam	US	N/A
2018	Compulsion Games	CA	N/A
2018	inXile Entertainment	US	N/A
2018	Ninja Theory	UK	0.117
2018	Obsidian Entertainment	US	N/A
2018	Playground Games	UK	N/A
2018	Undead Labs	US	N/A
2019	Double Fine Productions	US	N/A
2020	ZeniMax Media	US	8.1
2021	Clipchamp	AU	N/A
2022	Activision Blizzard	US	68.7
2023	Nemesys Games	HU	N/A

Source: S&P Capital IQ. (2023). <https://www.capitaliq.com/>.

Case Exhibit 4: Activision Blizzard Business Unit Overview: Latest Releases

Segment	Most Important Franchises	Latest Releases - Titles	Date
Activision	Call of Duty	Call of Duty: Vanguard	05.11.2021
	Crash Bandicoot	Call of Duty: Black Ops Cold War	31.11.2020
	Spyro Reignited Trilogy	Crash Bandicoot 4: It's About Time	02.10.2020
	Sekiro: Shadows Die Twice	Tony Hawk's Pro Skater 1 + 2	04.09.2020
	Tony Hawk	Call of Duty: Modern Warfare 2 - Remastered	31.03.2020
		Call of Duty: Warzone	10.03.2020
		Call of Duty: Modern Warfare	25.10.2019
		Call of Duty: Mobile	01.10.2019
		Crash Team Racing - Nitro-Fueled	20.06.2019
		Sekiro: Shadows Die Twice	22.03.2019
		Spyro: Reignited Trilogy	13.11.2018
		Call of Duty: Black Ops 4	12.10.2018
		Call of Duty: WWII	03.11.2017
		Destiny 2	06.09.2017
	Crash Bandicoot: N. Sane Trilogy	30.06.2017	
	Skylanders: Imaginators	03.03.2017	
Blizzard	Diablo	Diablo II	23.09.2021
	World of Warcraft	Blizzard Arcade Collection	19.02.2021
	Overwatch	World of Warcraft: Shadowlands	23.11.2020
	Starcraft	Warcraft III: Reforged	28.01.2020
		World of Warcraft: Battle for Azeroth	14.08.2018
King	Candy Crush	Rebel Riders	2022
	Bubble Witch Saga	Crash Bandicoot: On the Run! - discontinued	2021
	Farm Heroes Saga	Knighthood - Epic RPG Knights - discontinued	2020
	Diamond Diaries Saga	Pet Rescue Puzzle Saga - discontinued	2019
	Pet Rescue	Candy Crush Friends Saga	2018
		Legend of Solgard - discontinued	2017
		Bubble Witch 3 Saga	2017

Data is from January 2017 to January 2022 and does not count different platform releases of the same video game.

Source: Wikipedia. (2022, August 13). *List of Activision Games: 2010–2019*. https://en.wikipedia.org/wiki/List_of_Activision_games%3A_2010%E2%80%932019.

Case Exhibit 5: Most Important Platform Partners 2021

Platform	FY17	FY18	FY19	FY20	FY21	YoY Change
Apple	16%	15%	17%	15%	17%	13.3%
Google	10%	11%	13%	14%	17%	21.4%
Sony	14%	13%	11%	17%	15%	(11.8%)
Microsoft	< 10%	< 10%	< 10%	11%	< 10%	N/A

Activision Blizzard only reports revenues with platform partners over 10%.

Source: Activision Blizzard, Inc. (2022, April 29). *Activision Blizzard Annual Report 2021*. <https://investor.activision.com/annual-reports>.

Case Exhibit 6: Activision Blizzard Income Statement as Reported

Activision Blizzard, Inc. Income Statement (As Reported)	2017 FY	2018 FY	2019 FY	2020 FY	2021 FY
Recommended: S&P Capital IQ - Standard					
Period Ended	31.12.17	31.12.18	31.12.19	31.12.20	31.12.21
Currency	USD	USD	USD	USD	USD
Units	Millions	Millions	Millions	Millions	Millions
Revenues					
Product Sales	2,110	2,255	1,975	2,350	2,311
Subscription, Licensing and Other Revenues	4,907	5,245	4,514	5,736	6,492
Total Revenues	7,017	7,500	6,489	8,086	8,803
Expenses					
Cost of Sales	NA	NA	NA	NA	NA
Cost of Sales	NA	NA	NA	NA	NA
Cost of Sales-intellectual Property Licenses	NA	NA	NA	NA	NA
Product Cost	(733)	(719)	(656)	(705)	(649)
Software Royalties & Amortization	NA	NA	NA	(269)	(346)
Software Royalties & Amortization	NA	NA	NA	(155)	(107)
Cost of Sales Online	NA	NA	NA	NA	NA
Game Operations and Distribution Costs	(984)	(1,028)	(965)	(1,131)	(1,215)
Software Royalties, Amortization, and Intellectual Property Licenses	(484)	(399)	(240)	NA	NA
Software Royalties, Amortization, and Intellectual Property Licenses	(300)	(371)	(233)	NA	NA
Product Sales - Software Royalties, Amortization, and Intellectual Property Licenses	NA	NA	NA	NA	NA
Subscription, Licensing, and Other Revenues - Software Royalties, Amortization, and Intellectual Property Licenses	NA	NA	NA	NA	NA
Sales and Marketing	(1,378)	(1,062)	(926)	(1,064)	(1,025)
General and Administrative	(745)	(822)	(732)	(784)	(788)
Research and Development	(1,069)	(1,101)	(998)	(1,150)	(1,337)
Interest Expense from Debt	NA	NA	NA	(99)	(108)
Other Income/expense-net	NA	NA	NA	12	13
Interest and Other Income/expense, Net	(146)	(71)	26	NA	NA
Loss on Extinguishments of Debt	(12)	(40)	NA	(31)	NA
Restructuring and Related Costs	(15)	(10)	(132)	(94)	(77)
Earnings before Taxes	1,151	1,877	1,633	2,616	3,164
Taxes and Other Expenses					
Provision for Income Tax	(878)	(29)	(130)	(419)	(465)
Net Income (Loss)	273	1,848	1,503	2,197	2,699

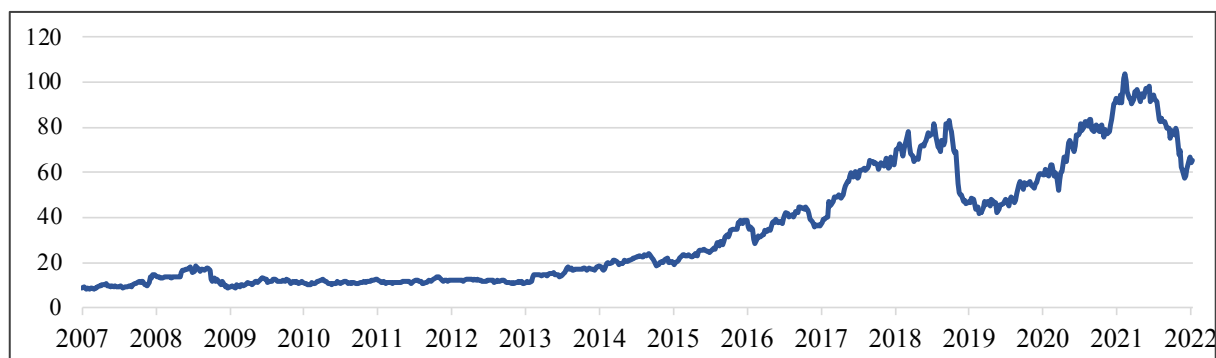
Source: S&P Capital IQ. (2023). <https://www.capitaliq.com/>.

Case Exhibit 7: Historic Revenue and EBITDA Development

Income Statement Items	FY17	FY18	FY19	FY20	FY21
<i>(\$ in Millions)</i>					
Activision Publishing Revenues	2,628	2,458	2,219	3,942	3,478
<i>Growth</i>	<i>NA</i>	<i>(6.5%)</i>	<i>(9.7%)</i>	<i>77.6%</i>	<i>(11.8%)</i>
<i>% of Sales</i>	<i>37.5%</i>	<i>32.8%</i>	<i>34.2%</i>	<i>48.8%</i>	<i>39.5%</i>
Blizzard Entertainment Revenues	2,139	2,291	1,719	1,905	1,827
<i>Growth</i>	<i>NA</i>	<i>7.1%</i>	<i>(25.0%)</i>	<i>10.8%</i>	<i>(4.1%)</i>
<i>% of Sales</i>	<i>30.5%</i>	<i>30.5%</i>	<i>26.5%</i>	<i>23.6%</i>	<i>20.8%</i>
King Digital Entertainment Revenues	1,998	2,086	2,031	2,164	2,580
<i>Growth</i>	<i>NA</i>	<i>4.4%</i>	<i>(2.6%)</i>	<i>6.5%</i>	<i>19.2%</i>
<i>% of Sales</i>	<i>28.5%</i>	<i>27.8%</i>	<i>31.3%</i>	<i>26.8%</i>	<i>29.3%</i>
Revenue Adjustments	252	665	520	75	918
<i>Non-reportable revenues (distribution business, others)</i>	<i>410</i>	<i>480</i>	<i>462</i>	<i>519</i>	<i>563</i>
<i>Deferrals</i>	<i>(139)</i>	<i>238</i>	<i>101</i>	<i>(333)</i>	<i>449</i>
<i>Intersegment revenues</i>	<i>(19)</i>	<i>(53)</i>	<i>(43)</i>	<i>(111)</i>	<i>(94)</i>
<i>Rounding error</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Total Revenue	7,017	7,500	6,489	8,086	8,803
<i>Growth</i>	<i>NA</i>	<i>6.9%</i>	<i>-13.5%</i>	<i>24.6%</i>	<i>8.9%</i>
COGS - Product Sales					
Product Costs	733	719	656	705	649
Software Royalties, Amortization, and IP Licenses	300	371	240	269	346
COGS - in-Game, Subscription, and Other					
Game Operations and Distribution Costs	984	1,028	965	1,131	1,215
Software Royalties, Amortization, and IP Licenses	484	399	233	155	107
COGS	2,501	2,517	2,094	2,260	2,317
Gross Profit	4,516	4,983	4,395	5,826	6,486
<i>Gross Margin</i>	<i>64.4%</i>	<i>66.4%</i>	<i>67.7%</i>	<i>72.1%</i>	<i>73.7%</i>
Selling, General & Administrative Expenses	2,123	1,884	1,658	1,848	1,813
<i>% of Sales</i>	<i>30.3%</i>	<i>25.1%</i>	<i>25.6%</i>	<i>22.9%</i>	<i>20.6%</i>
R&D Expenses	1,069	1,101	998	1,150	1,337
<i>% of Sales</i>	<i>15.2%</i>	<i>14.7%</i>	<i>15.4%</i>	<i>14.2%</i>	<i>15.2%</i>
Restructuring and Related Costs	15	10	132	94	77
<i>% of Sales</i>	<i>0.2%</i>	<i>0.1%</i>	<i>2.0%</i>	<i>1.2%</i>	<i>0.9%</i>
Operating Expenses (OPEX)	3,207	2,995	2,788	3,092	3,227
<i>% of Sales</i>	<i>45.7%</i>	<i>39.9%</i>	<i>43.0%</i>	<i>38.2%</i>	<i>36.7%</i>
EBITDA	2,508	2,986	2,160	3,180	3,699
<i>EBITDA Margin</i>	<i>35.7%</i>	<i>39.8%</i>	<i>33.3%</i>	<i>39.3%</i>	<i>42.0%</i>

Sources: S&P Capital IQ. (2023). <https://www.capitaliq.com/>; Activision Blizzard, Inc. (2022, April 29). *Activision Blizzard Annual Report 2021*. <https://investor.activision.com/annual-reports>.

Case Exhibit 8: Historic Stock Price Development of Activision Blizzard



Source: Refinitiv. (2023). *LSEG Data & Analytics*. <https://www.refinitiv.com/>.

Case Exhibit 9: Timeline Background of the Deal

Date	Event
19. Nov 21	Phil Spencer (Microsoft Gaming CEO) initiates a discussion about strategic opportunities with Bobby Kotick (Activision Blizzard CEO).
20. Nov 21	Satya Nadella (Microsoft CEO) expresses interest in a strategic combination with Activision Blizzard in a call with Kotick.
22. Nov 21, 26. Nov 21	Preliminary discussions about Microsoft needing more information about Activision Blizzard; Microsoft indicates an all-cash acquisition proposal at \$80 per share.
28. Nov 21	Activision Blizzard indicates it might entertain a proposal in the range of \$90.00-\$105.00 per share.
29. Nov 21	Microsoft agrees to negotiate within the proposed range, preferring the lower end.
01. Dec 21 - 03. Dec 21	Ongoing discussions and a Board meeting at Activision Blizzard to discuss the potential acquisition.
06. Dez 21	Mutual non-disclosure agreement signed between Activision Blizzard and Microsoft; preliminary financial information shared.
10. Dez 21	Microsoft sends a non-binding indication of interest to acquire Activision Blizzard for \$90.00 per share in cash.
12. Dez 21	Activision Blizzard Board discusses Microsoft’s proposal and potential third-party interests.
13. Dec 21 - 14. Dec 21	Communication with potential acquirers (Companies C, D, and E) and meeting with Company A CEO without a specific proposal.
15. Dez 21	Activision Blizzard requests Microsoft increase its offer to \$100.00 per share; Company C decides not to proceed with a potential transaction.
16. Dez 21	Microsoft proposes an increase to \$93.00 per share; negotiations continue.
17. Dez 21	Activision Blizzard agrees to enter exclusive discussions with Microsoft; Company D expresses interest in acquisition.
20. Dez 21	Final discussions with Company D; exclusivity agreement executed with Microsoft.
21. Dez 21	Activision Blizzard Board is informed of the exclusivity agreement with Microsoft.
27. Dec 21 - 18. Jan 22	Due diligence process and finalization of the merger agreement.
18. Jan 22	Execution of the merger agreement and public announcement.

Source: Microsoft Cooperation. (2023, December 13). *2022 14A Proxy Statement*. <https://www.sec.gov/Archives/edgar/data/789019/000119312522270484/d318171ddef14a.htm>.

Case Exhibit 10: Microsoft's Revenue Split 2021 per Segment

Revenue Segments (Year ended, June 30)	FY19	FY20	FY21	Revenue Share (2021)	Growth ('20 - '21)
<i>(in m USD)</i>					
Server products and cloud services	32,622	41,379	52,589	31.3%	27%
Office products and cloud services	31,769	35,316	39,872	23.7%	13%
Windows	20,395	22,294	23,227	13.8%	4%
Gaming	11,386	11,575	15,370	9.1%	33%
LinkedIn	6,754	8,077	10,289	6.1%	27%
Search advertising	7,628	7,740	8,528	5.1%	10%
Enterprise Services	6,124	6,409	6,943	4.1%	8%
Devices	6,095	6,457	6,791	4.0%	5%
Other	3,070	3,768	4,479	2.7%	19%
Total	125,843	143,015	168,088		

Source: Microsoft. (2021, October 21). *Microsoft 2021 Annual Report*.

<https://www.microsoft.com/investor/reports/ar21/index.html>.

Case Exhibit 11: Holders of More Than 5% of Activision Blizzard Common Stock

Entity	Shares of activision blizzard beneficially owned	Percent of outstanding shares
The Vanguard Group	64,883,729	8.33%
BlackRock, Inc.	61,381,263	7.88%
Capital International Investors	41,106,446	5.27%

Source: Activision Blizzard Inc. (2022, March 21). *Activision Blizzard Inc. 2021 Schedule 14A Proxy Statement*. <https://investor.activision.com/node/35156/html>.

Case Exhibit 12: Acquisition Premium on Activision Blizzard Share

Premium	Date	ATVI share price	Premium	Premium %
1 Day Prior Announcement	14. Jan 22	65.39 USD	29.61 USD	45.28%
1 Week Prior Announcement	11. Jan 22	65.85 USD	29.15 USD	44.27%
1 Month Prior Announcement	17. Dez 21	61.36 USD	33.64 USD	54.82%
Final offer price	18. Jan 22	95.00 USD		

Source: Mergermarket. (2023). <https://mergermarket.ionanalytics.com/>.

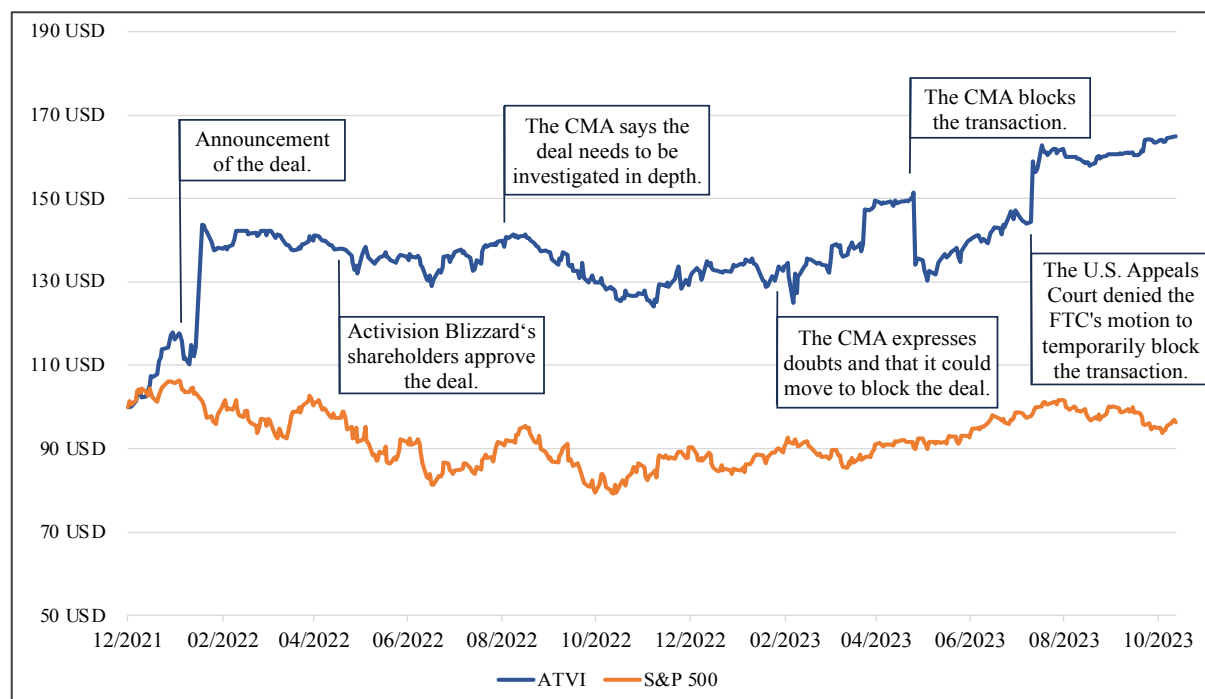
Case Exhibit 13: International Commissions Reaction Overview

Commission	Country	Status	Date
General Authority for Competition (GAC)	Saudi Arabia	Approved	21.08.22
Conselho Administrativo de Defesa Econômica (CADE)	Brazil	Approved	05.10.22
Commission for Protection of Competition (CPC)	Serbia	Approved	28.11.22
Federal Trade Commission (FTC)	United States	Pending*	08.12.22
Fiscalía Nacional Económica (FNE)	Chile	Approved	29.12.22
Japan Fair Trade Commission (JFTC)	Japan	Approved	28.03.23
The Competition Commission South Africa (CCSA)	South Africa	Approved	17.04.23
Antimonopoly Committee of Ukraine (AMCU)	Ukraine	Approved	27.04.23
European Commission (EC)	European Union	Approved	15.05.23
State Administration for Market Regulation (SAMR)	China	Approved	19.05.23
Korea Fair Trade Commission (KFTC)	South Korea	Approved	30.05.23
Turkish Competition Authority (TCA)	Turkey	Approved	13.07.23
Commerce Commission New Zealand (CCNZ)	New Zealand	Approved	07.08.23
Taiwan Fair Trade Commission (TFTC)	Taiwan	Approved	09.10.23
Competition and Markets Authority (CMA)	United Kingdom	Approved	13.10.23
Australian Competition and Consumer Commission (ACCC)	Australia	Review discontinued	16.10.23

**The FTC's attempt to block the merger through a federal court injunction on July 11, 2023, and an emergency stay from the circuit court proved unsuccessful, enabling Microsoft to complete the acquisition before the trial's resolution.*

Source: Mergermarket. (2023). <https://mergermarket.ionanalytics.com/>.

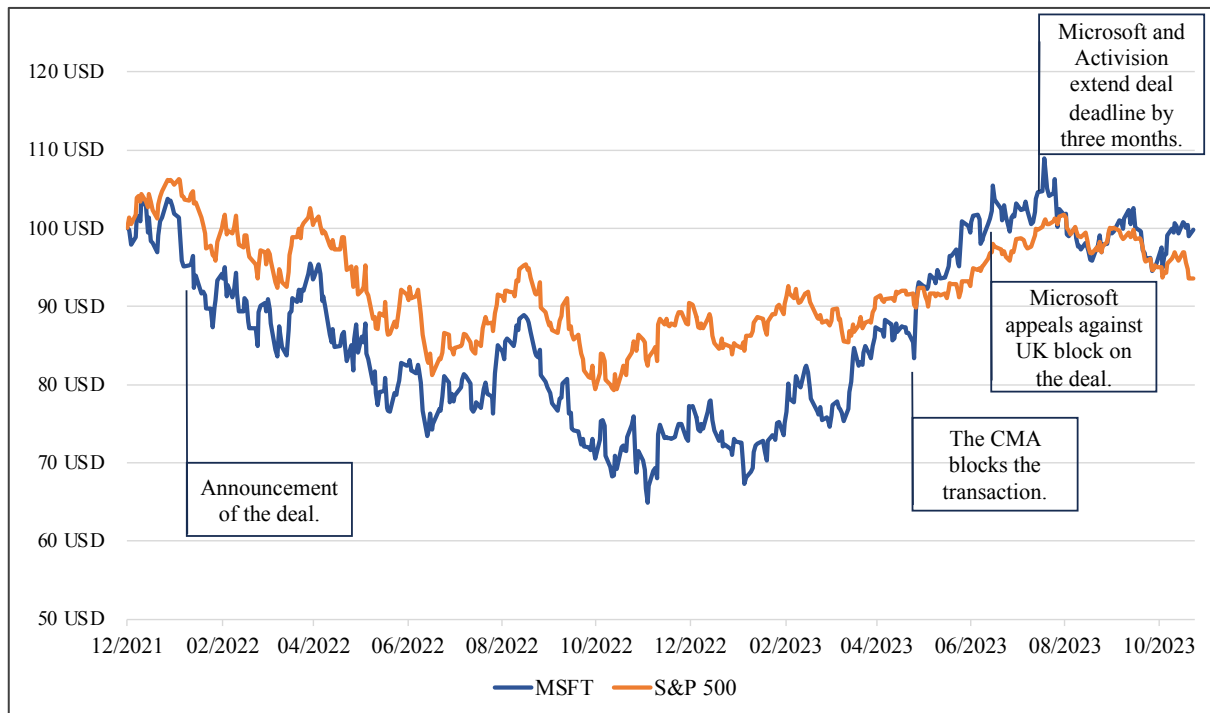
Case Exhibit 14: ATVI Share Development Compared to the S&P500



Prices have been rebased to 100.

Sources: Mergermarket. (2023). <https://mergermarket.ionanalytics.com/>; Yahoo Finance. (2023). <https://finance.yahoo.com/>.

Case Exhibit 15: MSFT Share Development Compared to the S&P500

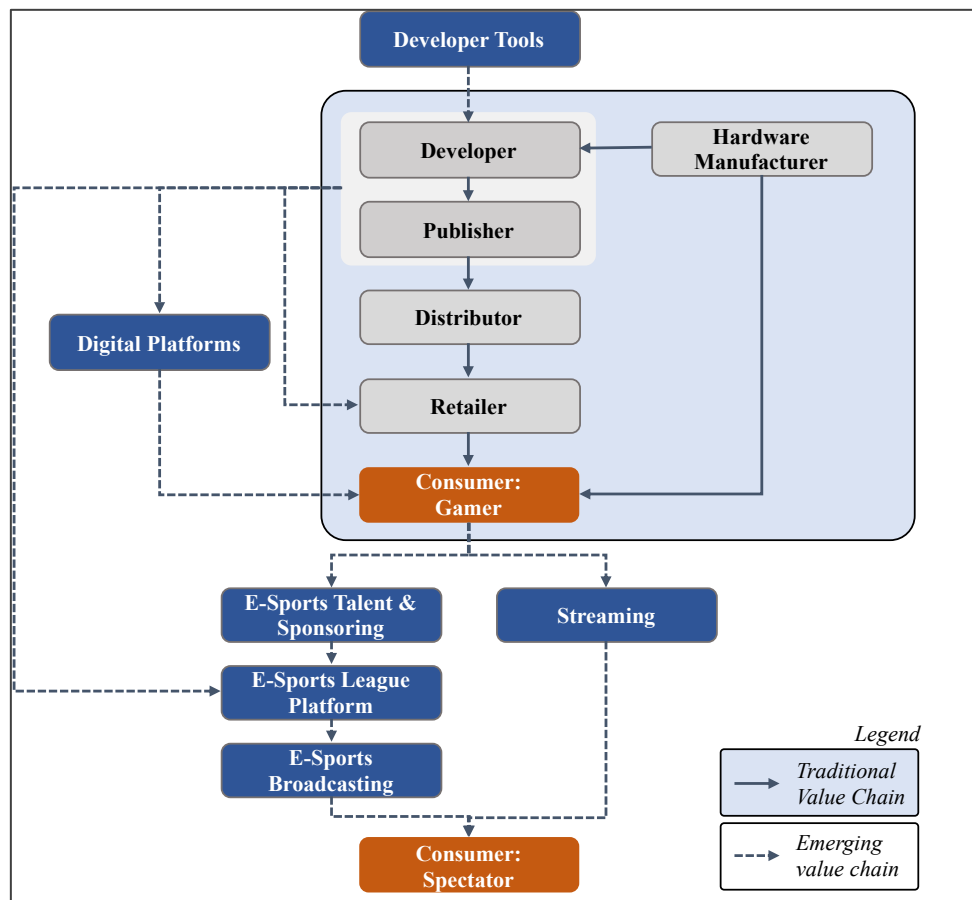


Prices have been rebased to 100.

Sources: Mergermarket. (2023). <https://mergermarket.ionanalytics.com/>; Yahoo Finance. (2023). <https://finance.yahoo.com/>.

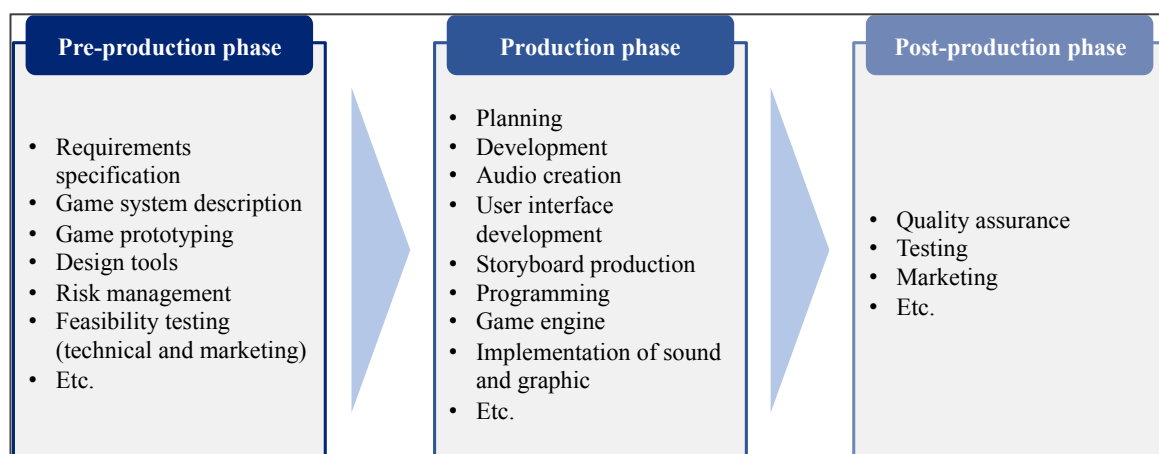
APPENDIX II: INDUSTRY REPORT EXHIBITS

IR Exhibit 1: Industry Value Chain



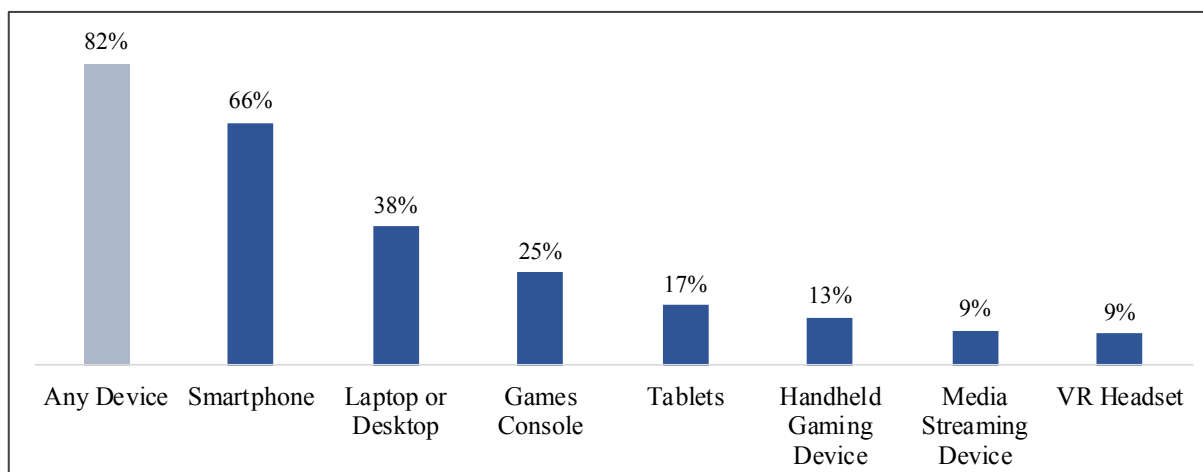
Source: Own graphic based on: González-Piñero, M. (2017). *Redefining The Value Chain Of The Video Games Industry*. DOI: [10.13140/RG.2.2.35972.53129](https://doi.org/10.13140/RG.2.2.35972.53129).

IR Exhibit 2: Video Game Production Process



Source: Own graphic based on: Aleem, S., Capretz, L. & Ahmed, F. (2016). *Game Development Software Engineering Process Life Cycle: A Systematic Review*. Journal of Software Engineering Research and Development. DOI: [10.1186/s40411-016-0032-7](https://doi.org/10.1186/s40411-016-0032-7).

IR Exhibit 3: Leading Devices Used to Play Video Games



Numbers are in percent of users who stated that they played video games via the respected devices within a 2022 study.

Source: DataReportal; We Are Social; Meltwater. (2023). *Share of internet users worldwide playing games on selected devices as of 3rd quarter 2022*. Statista. <https://www.statista.com/statistics/533047/leading-devices-play-games/>.

IR Exhibit 4: Commonly Used Video Game Monetization Models

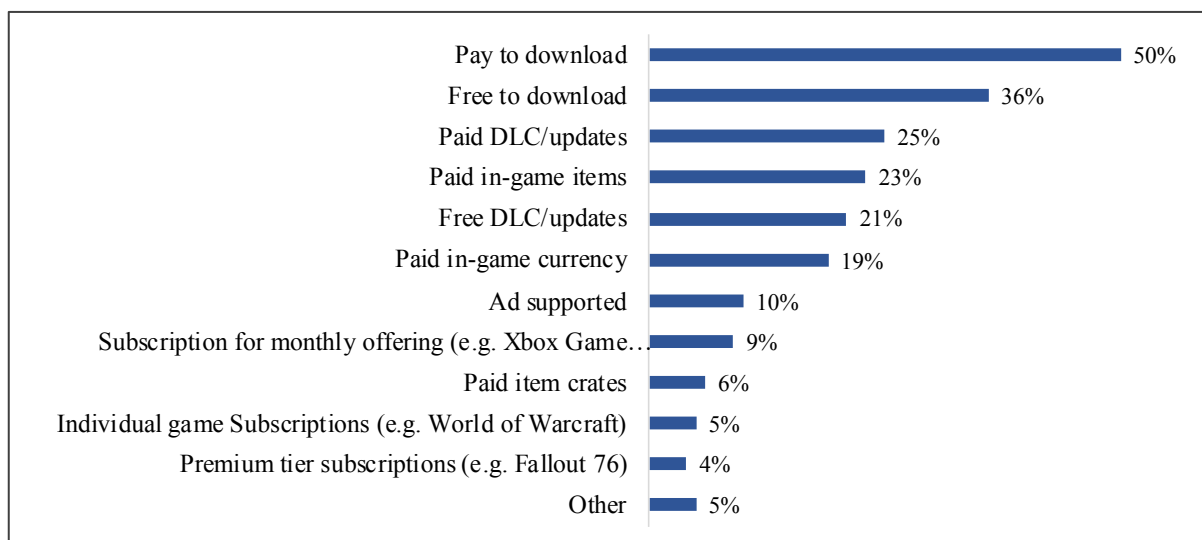
Expansions, or expansion packs	These sets provide supplementary content for a fixed price, typically built upon the foundation of the standard game. They were initially used to extend the product lifecycle of video games and substantially boosted the generated revenue.
Downloadable Content (DLC)	Following the idea of expansions, DLCs also offer additions to the basic game but use a more intricate design. DLCs are distributed fully digitally, allowing to bypass physical distribution channels, and offer various cosmetic and gameplay to the initial game.
Micro-transactions	They follow a similar concept as DLCs, as they add content to the initial game. However, the reduced price point and strong emphasis on offering gameplay advantages and cosmetic individualization, used to create a personal connection between player and the game, mark a major difference to higher priced DLCs that are more focused on increasing the actual satisfaction with the game. Microtransactions are predominantly observed in multiplayer games, where content packs can include items,

	<p>or abilities that confer a competitive edge. Due to the ability to largely increase revenues, microtransactions started to be implemented to single player games.</p>
<i>In-game currencies</i>	<p>A form of virtual tokens that can be used to access this premium content.</p>
<i>Loot Boxes</i>	<p>Successful way of monetizing additional content. Loot Boxes offer standard and premium content which is concealed until opened after purchase. Due to the randomization and visually appeal of these loot boxes, the concept shares characteristics of gambling.^{xvii} Thus, some countries began regulating them in 2018.</p>
<i>Advertisement</i>	<p>Can be used to generated revenue with video games. Within the gaming industry, various forms of advertising have emerged as a way of monetization, mostly used for free games. These advertising approaches include in-game advertising, where games incorporate brand messages or products seamlessly into the gaming experience. Around-game advertising surrounds the game environment, often appearing before or after gameplay, a prevalent occurrence in online games. Another notable strategy is advergaming, where a brand plays a central role in the game's narrative and development, typically sponsoring the game's creation. This collaborative endeavor, known as "work for hire," enables brands to actively fund and integrate themselves into the gaming experience, offering a unique avenue for marketing and audience engagement.</p>
<i>Subscription based monetization</i>	<p>Requires making recurring payments, often monthly, to maintain access to the game servers. This payment model is commonly used in multiplayer-only games, but also by platforms like Xbox or Sony, which offer subscription services to its customers.</p>

Source: Gain.pro. (2023). *Industry Report Video Gaming*.

^{xvii} Extensive research shows a significant link between loot box use and problem gambling in thousands of participants.

IR Exhibit 5: Most-used Monetization Methods in the Video Games Industry

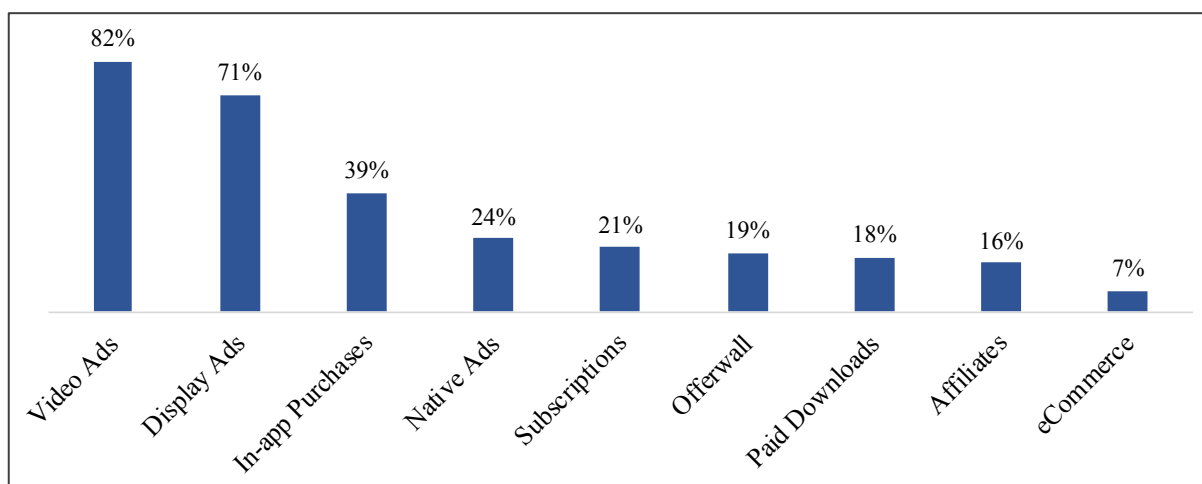


Numbers are in percent of game developers using the respective monetization method for current projects in 2022.

Source: Game Developers Conference. (2023, January 19). *Most common gaming business models used by game developers worldwide in 2023*. Statista.

<https://www.statista.com/statistics/1183087/game-developers-business-models/>.

IR Exhibit 6: Most-used Monetization Methods in the Mobile Video Gaming Market



Numbers are in percent of mobile game publishers using the respective monetization method in 2021.

Source: AdColony. (2021, November 10). *Most used monetization methods for mobile gaming and non-gaming apps according to mobile publishers worldwide in 2021*. Statista.

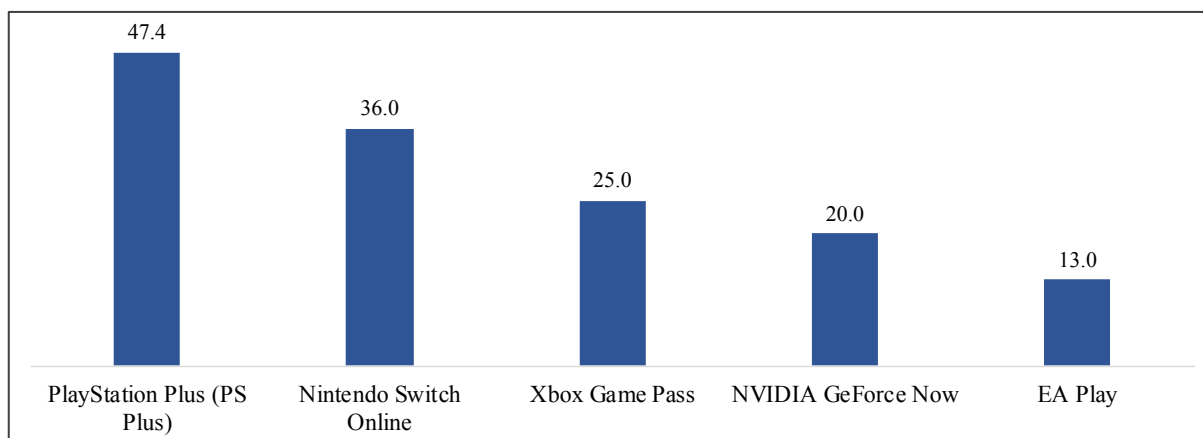
<https://www.statista.com/statistics/384215/app-developer-monetization-mix/>

IR Exhibit 7: Gaming Subscription Services of Microsoft (Xbox) and Sony (PlayStation) in Comparison

Features and benefits	PlayStation Plus	Xbox Game Pass
<i>Library of downloadable games</i>	<i>Yes</i>	<i>Yes</i>
<i>Online multiplayer</i>	<i>Yes</i>	<i>Yes (Game Pass Core or Game Pass Ultimate only)</i>
<i>New first party games on release day</i>	<i>No</i>	<i>All Xbox Game Studios releases and more (Game Pass Ultimate, PC / Console Game Pass)</i>
<i>Free monthly games</i>	<i>Yes</i>	<i>Yes (Game Pass Ultimate)</i>
<i>Member deals and discounts</i>	<i>Extra savings in PlayStation Store</i>	<i>10% off Xbox Game Pass games and DLC, offers from partners like Disney Plus, Discord, and Riot Games</i>
<i>Cloud gaming device support</i>	<i>PC, PS4, and PS5 (PlayStation Plus Premium)</i>	<i>Xbox, PC, phones, tablets, Samsung TVs (Game Pass Ultimate)</i>
<i>Partner memberships</i>	<i>Ubisoft+ Classics (PS Plus Extra or Premium)</i>	<i>Riot Games and EA Play (Game Pass Ultimate or PC)</i>
<i>Cloud savings</i>	<i>Yes</i>	<i>Available for free</i>
<i>Online screen sharing</i>	<i>Yes</i>	<i>No</i>
<i>Prices: Base version</i>	<i>\$10 / month, \$25 / quarter, \$60 / year (PlayStation Plus Essential)</i>	<i>\$10 / months, \$60 / year (Xbox Game Pass Core)</i>
<i>Prices: Middle version</i>	<i>\$15 / month, \$40 / quarter, \$100 / year (PlayStation Plus Extra)</i>	<i>\$10 / months, \$ 11 / months (Xbox Game Pass for PC and console, respectively)</i>
<i>Prices: Premium version</i>	<i>\$18 / month, \$50 / quarter, \$120 / year (PlayStation Plus Premium)</i>	<i>\$17 / months (Xbox Game Pass Ultimate)</i>

Source: Webb, K. (2023, July 21). Xbox Game Pass vs. PlayStation Plus: Which gaming service is best in 2023? Business Insider. <https://www.businessinsider.com/guides/tech/xbox-game-pass-vs-playstation-plus#xbox-game-pass-vs-playstation-plus-games-3>.

IR Exhibit 8: Subscriber Count of Leading Cloud Gaming and Subscription Services



Numbers are subscriber counts in million.

Sources: Statista. (2023, April 28). *Subscriber count of leading cloud gaming and gaming subscription services worldwide*. Statista.

<https://www.statista.com/statistics/1276305/subscriber-count-top-gaming-subscriptions/>.

IR Exhibit 9: Revenue split of Sony’s Game and Network Services business segment

	Hardware	Game Software	Physical Software	Digital Software	Add-on Content	Network Services	Others
<i>(JPY in Billions)</i>							
FY19 Q1	102	241	25	66	150	84	31
FY19 Q2	79	256	29	83	144	84	36
FY19 Q3	148	347	42	131	174	85	51
FY19 Q4	43	283	20	97	166	84	24
FY20 Q1	56	433	38	148	247	92	25
FY20 Q2	41	331	34	126	172	96	38
FY20 Q3	238	485	53	176	257	96	64
FY20 Q4	181	346	15	93	237	98	36
FY21 Q1	121	346	26	114	206	102	47
FY21 Q2	161	343	28	127	188	100	41
FY21 Q3	202	462	30	182	250	103	47
FY21 Q4	107	402	46	148	209	104	52
FY22 Q1	132	319	19	101	185	107	60
FY22 Q2	179	380	37	145	188	117	55
FY22 Q3	441	621	94	245	263	122	82
FY22 Q4	372	464	43	171	226	119	143
FY23 Q1	187	406	24	153	212	125	54

Source: Sony. (2023, November 9). *Net sales of Sony's game and network services (G&NS) by segment*. Statista. <https://www.statista.com/statistics/1202169/sony-net-sales-gaming-services-segment-quarter/>.

IR Exhibit 10: Video Gaming Industry Company Overview

Player	Business	Founded	Headquarter	Revenue (m USD)	Gaming Revenue* (mUSD)	Market Cap (m USD)
Activision Blizzard, Inc.	<i>Developer, Publisher, Distributor, Esports</i>	1979	California, US	8,706		73,667
Alphabet Inc.	<i>Distributor, Streaming & Social</i>	1998	California, US	289,531	12,400	1,658,766
Apple Inc.	<i>Distributor</i>	1977	California, US	383,933	14,500	7,676,763
Bandai Namco Holdings Inc.	<i>Developer, Publisher</i>	2005	Tokyo, Japan	7,448	1,067	13,582
CD Projekt	<i>Developer, Publisher, Distributor</i>	2002	Poland	205		2,856
Electronic Arts	<i>Developer, Publisher, Distributor</i>	1982	California, US	7,583		32,617
GameStop Corp.	<i>Distributor</i>	1996	Texas, US	5,813		5,019
GDEV Inc.	<i>Developer</i>	2010	Limassol, Cyprus	434		423
Keywords Studios plc	<i>Developer</i>	1998	Leopardstown, Ireland	606		1,360
Microsoft Corporation	<i>Hardware, Developer, Publisher,</i>	1975	Washington, US	211,915	15,466	2,345,947
NetEase, Inc.	<i>Developer, Publisher, Distributor, Esports, Social Platforms</i>	1997	Hangzhou, China	13,628		63,024
Nexon Co., Ltd.	<i>Developer, Publisher</i>	1994	Tokyo, Japan	2,501		18,920
Nintendo Co., Ltd.	<i>Developer, Publisher, Distributor</i>	1889	Kyoto, Japan	12,142		50,165
Playtika Holding Corp.	<i>Developer, Publisher</i>	2010	Herzliya, Israel	2,583		3,019
Roblox Corporation	<i>Distributor</i>	2004	California, US	1,919		24,925
Sony Group Corporation	<i>Developer, Publisher, Distributor</i>	1993	Tokyo, Japan	82,174	27,416	101,632
Square Enix Holdings Co., Ltd.	<i>Developer, Publisher, Distributor</i>	1975	Tokyo, Japan	2,336		4,189
Sumo Group plc	<i>Developer</i>	2003	Sheffield, UK	154		1,260
Take Two interactive	<i>Developer, Publisher, Distributor, Esports</i>	1993	New York, US	3,500		23,875
Take Two interactive	<i>Developer, Publisher, Distributor</i>	1993	New York, US	5,532		23,842
Tencent Holdings	<i>Publisher, Esports</i>	1998	Shenzen, China	80,559	32,500	370,191
Ubisoft	<i>Developer, Publisher, Distributor</i>	1986	France	1,911		4,092
Unity Software Inc.	<i>Developer</i>	2004	California, US	1,808		12,036

* Gaming revenues are only shown for companies with other major business segments

Source: S&P Capital IQ. (2023). <https://www.capitaliq.com/>.

IR Exhibit 11: Selection of Publicly Listed Video Game Development Companies

Competitor Overview	Ticker	Headquarter	Revenue (2021)	EBITDA Margin (2021)	Revenue Growth (2021)
<i>(\$ in Millions)</i>					
CD Projekt S.A.	CDR	Poland	230	42.5%	(58.1%)
Electronic Arts Inc.	EA	USA	6,991	23.1%	24.2%
GDEV Inc.	GDEV	Cyprus	434	0.6%	66.0%
Keywords Studios plc	KWS	Ireland	606	18.4%	42.1%
NetEase, Inc.	NTES	China	13,580	22.5%	27.2%
Nexon Co. Ltd	NEXOF	Japan	2,501	37.4%	(8.9%)
Playtika Holding Corp.	PLTK	Israel	2,583	26.3%	8.9%
Roblox Corporation	RBLX	USA	1,919	(16.4%)	107.7%
Square Enix Holdings Co., Ltd.	SQNXF	Japan	2,336	18.1%	9.8%
Sumo Group plc	SUMO	UK	154	16.4%	74.4%
Take-Two Interactive Software, Inc.	TTWO	USA	3,505	23.5%	3.9%
Ubisoft Entertainment SA	UBI	France	2,470	43.9%	(4.8%)

CD Projekt engages in the development, publishing, and digital distribution of videogames for personal computers and video game consoles worldwide. The company's most successful games are *The Witcher* and *Cyberpunk 2077*. The company is renowned for its commitment to storytelling, immersive open-world environments, and dedication to providing free post-launch content to players. CD Projekt also distributes videogames through the GOG.com distribution platform and the GOG GALAXY application. CD Projekt was incorporated in 2001.

Electronic Arts develops, markets, publishes, and distributes games, content, and services for game consoles, PCs, mobile devices worldwide. It develops and publishes games and services across various genres, such as sports, racing, first-person shooter, role-playing, and simulation. Electronic Arts is primarily known for the games *Battlefield*, *The Sims*, *Apex Legends*, *Need for Speed*, and license games from others, including *FIFA*, *Madden NFL*, *UFC*, and *Star Wars* brands. The company markets and sells its games and services through digital distribution and retail channels. Electronic Arts was incorporated in 1982.

GDEV operates as a gaming and entertainment company in the United States, Europe, Asia, and internationally. It develops desktop, mobile, web, and social games. The company was formerly known as Nexters Inc. and changed its name to GDEV Inc. in June 2023. GDEV Inc. was founded in 2010.

Keywords Studios provides creative and technical services to the video game industry worldwide. The company provides comprehensive art creation services for video games,

Appendix II: Industry Report Exhibits

covering concept art, 2D and 3D asset production, and animation. Additionally, it offers marketing, software engineering, audio, and operational support services. The company serves game developers and publishers. Keywords Studios plc was founded in 1998.

NetEase engages in online games, music streaming, online intelligent learning services, and internet content services businesses in China and internationally. In 2021, gaming comprised 77% of company revenues. NetEase develops and operates PC and mobile games, as well as offers games licensed from other game developers. Further it operates a live streaming platform with a focus on game broadcasting. NetEase, Inc. was founded in 1997.

Nexon produces, develops, and services PC online and mobile games. It operates through five segments: Japan, Korea, China, North America, and Others. The company's PC online game titles include *MapleStory*, *Dungeon & Fighter*, and *EA SPORTS FIFA ONLINE 4*. It is known for pioneering the free-to-play gaming market. Nexon was founded in 1994.

Playtika develops mobile games in the United States and internationally. The company owns a portfolio of casual and casino-themed games. It distributes its games to the end customer through various web and mobile platforms, such as Apple, Facebook, Google, and other web and mobile platforms and direct-to-consumer platforms. The company was founded in 2010.

Roblox develops and operates an online entertainment platform. The company offers *Roblox Studio*, a free toolset that allows developers and creators to build, publish, and operate 3D experiences; *Roblox Client*, an application that allows users to explore 3D digital world; *Roblox Education* for learning experiences; and *Roblox Cloud*, which provides services and infrastructure that power the human co-experience platform. It serves customers internationally. Roblox Corporation was founded in 2004.

Square Enix operates in the content and service businesses in Japan and internationally. It operates through Digital Entertainment Business, Amusement Business, Publishing Business, and Rights Property Business with gaming comprising around 79% of revenues in 2021. The company plans, develops, sells, and manages digital entertainment content primarily in the form of computer games. It is also involved in the operation of amusement facilities, and planning, development, manufacture, sale, and rental of arcade game machines and related products for amusement facilities. The company was incorporated in 1975.

Appendix II: Industry Report Exhibits

Sumo provides end-to-end creative development and co-development services to the video games and entertainment industries in the United Kingdom and rest of Europe, the United States, India, and Canada. It offers visual concept design, pre-production, development, user-interface design, and post-release support services. The company develops games across a range of console platforms, PC, and mobile devices. Sumo Group Plc was founded in 2003. In January 17, 2022, Sumo Group Plc was bought by Tencent.

Take-Two Interactive develops, publishes, and markets video games for consumers worldwide. It focusses on action/adventure products under multiple brand names and is most famous for the *Grand Theft Auto* and *Red Dead Redemption* games. The company publishes further entertainment properties across various platforms and a range of genres, such as shooter, action, role-playing, strategy, sports, and family/casual entertainment. Its products are designed for console gaming, personal computers, and mobiles. Take-Two was founded in 1993.

Ubisoft produce, publishes, and distributes video games for consoles, PC, smartphones, and tablets in both physical and digital formats internationally. The company designs and develops software, including scenarios, animation, gameplay, layouts, and game rules, as well as develops design tools and game engines. It is involved in the development in the area of online and mobile gaming, and film business. Ubisoft Entertainment SA was incorporated in 1986.

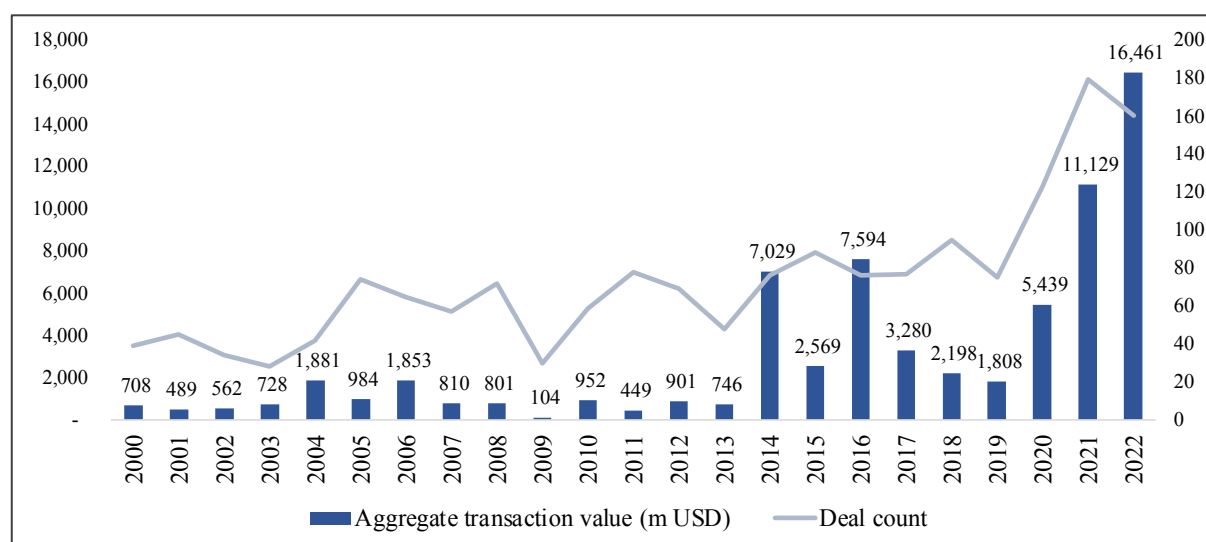
Source: Own analysis based on: S&P Capital IQ. (2023). <https://www.capitaliq.com/>.

IR Exhibit 12: Largest M&A Deals Within the Video Gaming Industry

Year	Acquirer	Acquirer Country	Target	Target Country	Deal value (bn USD)	EV/EBITDA Multiple
2023	Microsoft	US	Activision Blizzard	US	68.7	20.16 x
2023	Savvy Games Group	SA	Scopely	US	4.9	n.a.
2022	Take-Two Interactive	US	Zynga	US	12.7	14.04 x
2022	Sony Interactive Entertainment	JP	Bungie	US	3.6	n.a.
2022	Savvy Games Group	SA	ESLFACEIT	DEGB	1.5	n.a.
2021	ByteDance	CN	Moonton	CN	4.0	n.a.
2021	Embracer Group	SW	Asmodee	FR	3.1	n.a.
2021	Electronic Arts	US	Glu Mobile	US	2.4	151.93 x
2021	Netmarble	KOR	SpinX games	HOKO	2.2	n.a.
2021	Electronic Arts	US	Playdemic	GB	1.4	n.a.
2021	Embracer Group	SE	Gearbox Software	US	1.3	n.a.
2021	Tencent	CN	Sumo Group	GB	1.3	65.29 x
2020	Microsoft	US	ZeniMax Media	US	7.5	n.a.
2020	Flutter Entertainment	IR	FanDuel	US	4.2	n.a.
2020	Zynga	US	Peak	TR	1.8	n.a.
2020	Tencent	CN	Leyou	HK	1.5	58.64 x
2020	Electronic Arts	US	Codemasters	GB	1.2	43.71 x
2016	Tencent	CN	Supercell (81.4%)	FI	8.6	n.a.
2015	Activision Blizzard	US	King	MT	5.9	7.01 x
2014	Microsoft	US	Mojang	SE	2.5	n.a.
2014	Facebook	US	Oculus VR	US	2.0	n.a.

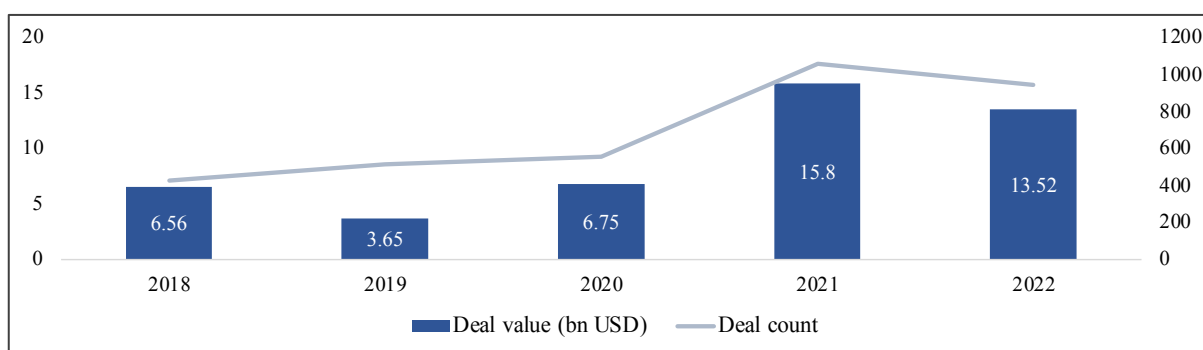
Source: Mergermarket. (2023). <https://mergermarket.ionanalytics.com/>.

IR Exhibit 13: Gaming M&A Deal Activity by Year



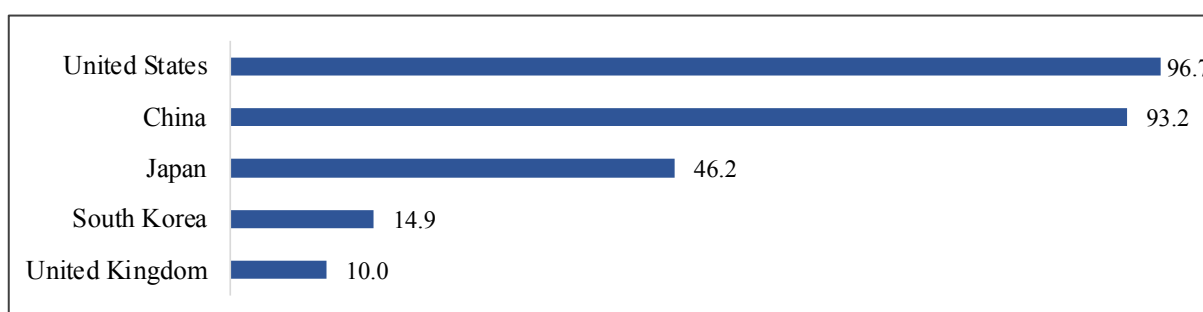
Source: S&P Capital IQ. (2023). <https://www.capitaliq.com/>.

IR Exhibit 14: Gaming VC Deal Activity by Year



Source: PitchBook. (2023, August 25). *Q2 2023 Gaming Report*. <https://pitchbook.com/news/reports/q2-2023-gaming-report>.

IR Exhibit 15: Top 5 Markets for Video Games



Numbers show market sizes per region (2022) in bn USD.

Source: Statista Advertising & Media Insights. (2023). *Market Insights, Games*. <https://www-statista-com.eu1.proxy.openathens.net/outlook/amo/media/games/worldwide>.

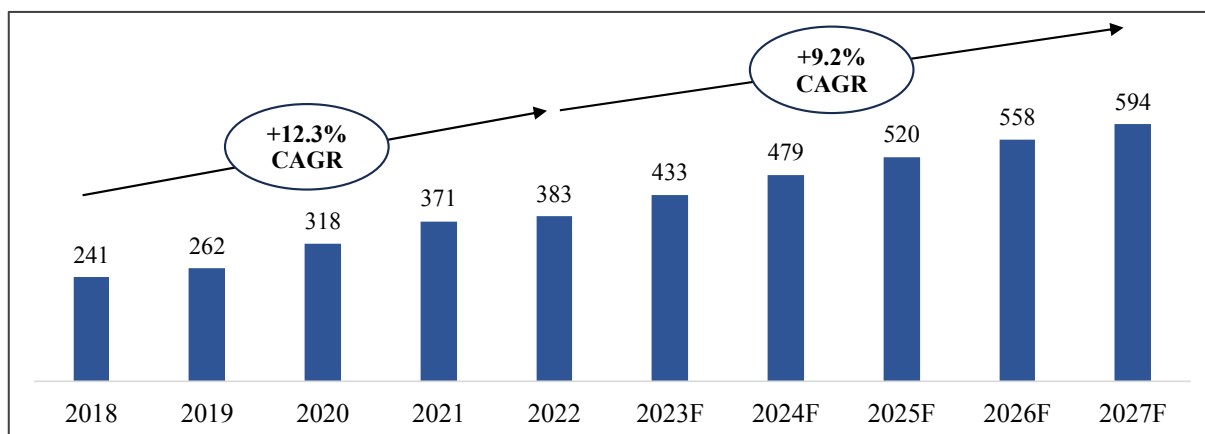
IR Exhibit 16: Video Gaming Industry Market Size Split Up

Revenue by Market	2017	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
<i>(in \$ Billions)</i>											
Cloud Gaming	0.5	0.6	0.8	1.1	1.7	2.7	4.3	6.9	10.5	14.6	18.7
Download Gaming	13.5	14.1	15.0	17.0	18.5	18.2	20.0	21.5	22.8	24.1	25.4
Games Live Streaming	4.8	5.2	5.8	6.7	8.1	9.7	11.7	13.7	15.3	16.6	17.4
Gaming Networks	1.6	1.9	2.2	2.8	3.2	3.2	3.7	4.0	4.2	4.5	4.7
In-Game Advertising	14.8	17.8	21.1	22.8	29.7	29.5	32.5	35.9	39.3	42.7	46.1
Mobile Games	62.8	73.7	86.1	115.6	140.8	153.8	173.6	191.2	203.5	213.8	222.7
Online Games	13.9	15.5	17.5	21.3	23.8	23.8	26.1	28.0	29.5	31.0	32.6
Gaming Hardware	N/A	95.9	97.8	114.2	129.3	127.2	145.3	161.7	178.4	194.4	210.0
Physically Sold Games	16.0	15.1	14.1	14.5	13.3	11.4	11.3	11.3	11.3	11.4	11.4
Esports	1.2	1.4	2.0	2.3	2.8	3.4	4.0	4.5	4.9	5.2	5.4
Total	129	241	262	318	371	383	433	479	520	558	594

Data for the years 2023 to 2027 is forecasted.

Source: Statista Advertising & Media Insights. (2023). *Market Insights, Games*. <https://www-statista-com.eu1.proxy.openathens.net/outlook/amo/media/games/worldwide>.

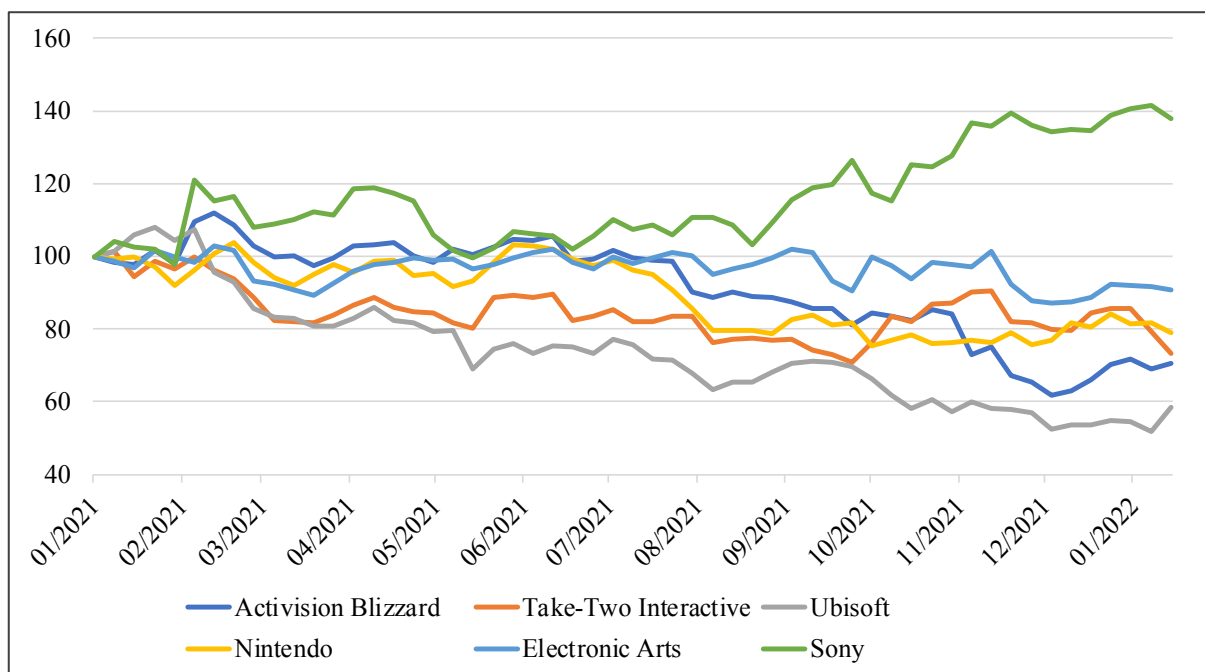
IR Exhibit 17: Video Gaming Industry Market Size Development



Numbers are in bn USD and show the total video gaming market size development according to IN Exhibit 16. The year 2017 is not shown, as the lack of gaming hardware data distorts the total market size in this year. Data for the years 2023 to 2027 is forecasted.

Source: Statista Advertising & Media Insights. (2023). *Market Insights, Games*. <https://www-statista-com.eu1.proxy.openathens.net/outlook/amo/media/games/worldwide>.

IR Exhibit 18: Stock Price Development of Selected Video Gaming Companies



Share prices have been rebased to 100 and show 1-year price developments.

Source: Refinitiv. (2023). *LSEG Data & Analytics*. <https://www.refinitiv.com/>.

APPENDIX III: TEACHING NOTE EXHIBITS

TN Exhibit 1: Comparable Company Analysis - Financial Indicators and Trading Multiples

Comparable Company Set (\$ in Millions)	Ticker	EBITDA:		Enterprise Value:		EV/Revenue:	EV/EBITDA:
		2020	2021	2020	2021	2021	2021
CD Project S.A.	CDR	373	98	7,200	4,588	19.9 x	46.9 x
Electronic Arts Inc.	EA	1,227	1,615	34,446	34,393	4.9 x	21.3 x
Keywords Studios plc	KWS	68	111	2,806	2,959	4.9 x	26.6 x
NetEase, Inc.	NTES	2,608	3,053	54,606	55,180	4.1 x	18.1 x
Take-Two Interactive Software, Inc.	TTWO	901	824	17,622	15,187	4.3 x	18.4 x
Ubisoft Entertainment SA	UBI	1,291	1,084	9,673	6,218	2.5 x	5.7 x
Summary Statistics							
25th percentile						4.1 x	18.2 x
Mean						6.8 x	22.8 x
Median						4.6 x	19.9 x
75th percentile						4.9 x	25.2 x
Activision Blizzard, Inc.	ATVI	3,180	3,699	66,554	44,874	5.1 x	12.1 x

Enterprise Values are as of the valuation date 14.01.2022.

Source: Refinitiv. (2023). *LSEG Data & Analytics*. <https://www.refinitiv.com/>.

TN Exhibit 2: Financial Benchmarking

Company	Ticker	2021	2019	2020	2021	2021	2021
		Gross Margin %	EBITDA Margin %	EBITDA Margin %	EBITDA Margin %	CAPEX in % of Sales	D&A in % of Sales
CD Projekt S.A.	CDR	71.8%	43.8%	67.9%	42.5%	20.6%	11.8%
Electronic Arts Inc.	EA	71.4%	28.2%	21.8%	23.1%	2.7%	7.0%
Keywords Studios plc	KWS	39.1%	14.8%	15.9%	18.4%	3.8%	7.0%
NetEase, Inc.	NTES	53.6%	27.7%	24.4%	22.5%	3.5%	3.7%
Take-Two Interactive Software, Inc.	TTWO	56.5%	21.4%	26.7%	23.5%	4.5%	10.0%
Ubisoft Entertainment SA	UBI	86.9%	35.1%	49.8%	43.9%	4.3%	31.6%
Summary Statistics							
High		86.9%	43.8%	67.9%	43.9%	20.6%	31.6%
Low		39.1%	14.8%	15.9%	18.4%	2.7%	3.7%
Mean		63.2%	28.5%	34.4%	29.0%	6.6%	11.8%
Median		63.9%	28.0%	25.6%	23.3%	4.0%	8.5%
Activision Blizzard, Inc.	ATVI	73.7%	33.3%	39.3%	42.0%	0.9%	5.0%

Source: Refinitiv. (2023). *LSEG Data & Analytics*. <https://www.refinitiv.com/>.

TN Exhibit 3: Revenue Forecast based on Market Benchmarking

Activision Publishing	FY22P	FY23P	FY24P	FY25P	FY26P	FY27P	CAGR	CAGR
							17-21	22-27
<i>(\$ in Millions)</i>								
Respective Market Size	56,760	61,410	65,170	68,410	71,640	74,820	7.0%	5.7%
Download Gaming	18,170	19,980	21,470	22,770	24,090	25,400	8.2%	6.9%
Online Games	23,810	26,140	27,970	29,480	31,000	32,560	14.5%	6.5%
Physically Sold Video Games	11,360	11,320	11,280	11,300	11,370	11,430	(4.5%)	0.1%
Esports	3,420	3,970	4,450	4,860	5,180	5,430	24.2%	9.7%
Revenue Optimistic Case	3,582	3,761	3,968	4,187	4,417	4,660	7.3%	5.4%
Growth	3.0%	5.0%	5.5%	5.5%	5.5%	5.5%		
Revenue Base Case	3,548	3,654	3,764	3,914	4,071	4,234	7.3%	3.6%
Growth	2.0%	3.0%	3.0%	4.0%	4.0%	4.0%		
Blizzard Entertainment	FY22P	FY23P	FY24P	FY25P	FY26P	FY27P	CAGR	CAGR
							17-21	22-27
<i>(\$ in Millions)</i>								
Respective Market Size	56,760	61,410	65,170	68,410	71,640	74,820	7.0%	5.7%
Download Gaming	18,170	19,980	21,470	22,770	24,090	25,400	8.2%	6.9%
Online Games	23,810	26,140	27,970	29,480	31,000	32,560	14.5%	6.5%
Physically Sold Video Games	11,360	11,320	11,280	11,300	11,370	11,430	(4.5%)	0.1%
Esports	3,420	3,970	4,450	4,860	5,180	5,430	24.2%	9.7%
Revenue Optimistic Case	1,864	1,957	2,015	2,096	2,180	2,267	(3.9%)	4.0%
Growth	2.0%	5.0%	3.0%	4.0%	4.0%	4.0%		
Revenue Base Case	1,845	1,938	1,918	1,899	1,937	1,956	(3.9%)	1.2%
Growth	1.0%	5.0%	(1.0%)	(1.0%)	2.0%	1.0%		
King Digital Entertainment	FY22P	FY23P	FY24P	FY25P	FY26P	FY27P	CAGR	CAGR
							17-21	22-27
<i>(\$ in Millions)</i>								
Respective Market Size	183,290	206,110	227,110	242,830	256,530	268,760	21.7%	8.0%
In-Game Advertising	29,490	32,510	35,910	39,330	42,730	46,060	19.0%	9.3%
Mobile Games	153,800	173,600	191,200	203,500	213,800	222,700	22.3%	7.7%
Revenue Optimistic Case	2,709	2,817	2,930	3,033	3,139	3,249	6.6%	3.7%
Growth	5.0%	4.0%	4.0%	3.5%	3.5%	3.5%		
Revenue Base Case	2,657	2,724	2,792	2,862	2,933	3,007	6.6%	2.5%
Growth	3.0%	2.5%	2.5%	2.5%	2.5%	2.5%		

Source: Own analysis and assumptions based on IR Exhibit 16.

TN Exhibit 4: Margin Forecast

Activision Blizzard, Inc.	FY22P	FY23P	FY24P	FY25P	FY26P	FY27P
Optimistic Case						
COGS (% Sales)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
COGS - Product Sales						
Product Costs	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%
Software Royalties, Amortization, and IP Licenses	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
COGS - in-Game, Subscription, and Other						
Game Operations and Distribution Costs	14.1%	14.1%	14.1%	14.1%	14.1%	14.1%
Software Royalties, Amortization, and IP Licenses	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Operating Expenses (% of Sales)	41.4%	40.4%	40.4%	39.9%	39.4%	38.4%
Selling, General & Administrative Expenses	22.5%	22.5%	22.5%	22.5%	22.5%	22.5%
R&D Expenses	18.0%	17.0%	17.0%	16.5%	16.0%	15.0%
Restructuring and Related Costs	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
Depreciation & Amortization (% of Sales)	6.0%	6.0%	6.0%	5.0%	5.0%	4.5%
CAPEX (% of Sales)	4.0%	4.0%	4.0%	4.0%	4.5%	4.5%
Activision Blizzard, Inc.						
Base Case						
COGS (% Sales)	31.2%	31.3%	31.4%	31.5%	31.6%	31.7%
COGS - Product Sales						
Product Costs	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%
Software Royalties, Amortization, and IP Licenses	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
COGS - in-Game, Subscription, and Other						
Game Operations and Distribution Costs	14.1%	14.2%	14.3%	14.4%	14.5%	14.6%
Software Royalties, Amortization, and IP Licenses	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Operating Expenses (% of Sales)	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%
Selling, General & Administrative Expenses	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%
R&D Expenses	15.5%	15.5%	15.5%	15.5%	15.5%	15.5%
Restructuring and Related Costs	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
Depreciation & Amortization (% of Sales)	4.0%	4.0%	5.0%	5.0%	4.0%	3.5%
CAPEX (% of Sales)	2.0%	2.0%	3.0%	3.0%	3.0%	3.5%

Optimistic Case: This case shows a scenario yielding in an operating result with EBITDA and Gross margins continuing to be significantly higher than the market benchmarks shown in **TN Exhibit 2**. COGS are modelled to increase slightly compared to financial years 2020 and 2021, where COGS totaled 27.9% and 26.3%, and move towards the 4-year-average of 30.0%. OPEX are modelled to increase initially due to higher R&D and SG&A expenses. A decrease of R&D expenses lowers OPEX from FY22P onwards to a sustainable margin in line with historic figures. CAPEX is assumed to increase significantly, moving away from low CAPEX during historic years (average of 1.5% of sales between FY17 and FY21) and closer to market benchmarks. Consequently, D&A is assumed to increase.

Appendix III: Teaching Note Exhibits

Base Case: This case shows a scenario yielding in an operating result with EBITDA and Gross margins between the market benchmarks shown in **TN Exhibit 2** and the optimistic case. COGS are modelled to increase compared to financial years 2020 and 2021 and close to 5-year historic average of 31.1%. Game Operations Costs (including customer service, internet, and server costs, and platform fees) are expected to increase during the projected period. OPEX are also modelled to increase compared to financial years 2020 and 2021 and move towards the 5-year historic averaged of 40.7%. Compared to the optimistic case, SG&A costs are expected to be higher, while R&D is assumed to be lower. CAPEX is assumed to increase, moving away from low CAPEX during historic years (average of 1.5% of sales between FY17 and FY21) and closer to market benchmarks. Consequently, D&A is assumed to increase.

Source: Own analysis and assumptions based on Case Exhibit 7.

TN Exhibit 5: Activision Blizzard DCF Model Valuation (Base Case)

	Projected:					Normalized FY	CAGR	
Unlevered Free Cash Flow Projections:	FY22	FY23	FY24	FY25	FY26	FY27	'17-'21	22-'27
(\$ in Millions)								
Income Statement Items								
Total Revenue	8,936	9,230	9,406	9,629	9,924	10,208	5.8%	2.7%
Growth	1.5%	3.3%	1.9%	2.4%	3.1%	2.9%		
COGS	2,789	2,890	2,955	3,034	3,137	3,237	(1.9%)	3.0%
Growth	20.4%	3.6%	2.2%	2.7%	3.4%	3.2%		
% of Sales	31.2%	31.3%	31.4%	31.5%	31.6%	31.7%		
Gross Profit	6,147	6,340	6,451	6,595	6,787	6,971	9.5%	2.5%
Growth	(5.2%)	3.1%	1.8%	2.2%	2.9%	2.7%		
Gross Margin	68.8%	68.7%	68.6%	68.5%	68.4%	68.3%		
Operating Expenses (OPEX)	3,609	3,727	3,798	3,889	4,008	4,122	0.2%	2.7%
Growth	11.8%	3.3%	1.9%	2.4%	3.1%	2.9%		
% of Sales	40.4%	40.4%	40.4%	40.4%	40.4%	40.4%		
EBITDA	2,895	2,982	3,123	3,187	3,176	3,206	10.2%	2.1%
Growth	(21.7%)	3.0%	4.7%	2.1%	(0.4%)	0.9%		
% of Sales	32.4%	32.3%	33.2%	33.1%	32.0%	31.4%		
Depreciation & Amortization	357	369	470	481	397	357	(22.2%)	(0.0%)
Growth	(18.8%)	3.3%	27.4%	2.4%	(17.5%)	(10.0%)		
% of Sales	4.0%	4.0%	5.0%	5.0%	4.0%	3.5%		
EBIT	2,538	2,612	2,653	2,706	2,779	2,848	25.6%	2.3%
Growth	(22.1%)	2.9%	1.5%	2.0%	2.7%	2.5%		
EBIT Margin	28.4%	28.3%	28.2%	28.1%	28.0%	27.9%		
Free Cash Flow to Firm - Components								
(-) Taxes, Excluding Effect of Interest	(327)	(337)	(342)	(349)	(358)	(367)	(14.7%)	2.3%
Growth	(29.6%)	2.9%	1.5%	2.0%	2.7%	2.5%		
% of Sales	(3.7%)	(3.6%)	(3.6%)	(3.6%)	(3.6%)	(3.6%)		
Net Operating Profit After Tax (NOPAT)	2,211	2,276	2,311	2,357	2,421	2,481	59.6%	2.3%
Growth	(20.9%)	2.9%	1.5%	2.0%	2.7%	2.5%		
% of Sales	24.7%	24.7%	24.6%	24.5%	24.4%	24.3%		
Adjustments for Non-Cash Effective Items								
(+) Depreciation & Amortization	357	369	470	481	397	357	(22.2%)	(0.0%)
Change in Working Capital								
(+/-) Change in Working Capital	(591)	(611)	(622)	(637)	(657)	(676)	57.4%	2.7%
% of Sales	(6.6%)	(6.6%)	(6.6%)	(6.6%)	(6.6%)	(6.6%)		
(-) Capital Expenditures:	(179)	(185)	(282)	(289)	(298)	(357)	(15.2%)	14.9%
Growth	123.4%	3.3%	52.9%	2.4%	3.1%	20.0%		
% of Sales	(2.0%)	(2.0%)	(3.0%)	(3.0%)	(3.0%)	(3.5%)		
Free Cash Flow to Firm - Calculation								
Annual Unlevered Free Cash Flow	1,798	1,849	1,876	1,913	1,863	1,806	13.1%	0.1%
Growth	(16.3%)	2.8%	1.5%	1.9%	(2.6%)	(3.1%)		
Unlevered Free Cash Flow for Rest of Year	1,729	1,849	1,876	1,913	1,863	1,806	-	0.9%
Standard Discount Period	0.96	1.96	2.96	3.96	4.96	5.96		
PV of Unlevered FCF (Standard)	1,645	1,670	1,609	1,557	1,441	1,325		

Revenues are calculated based on the forecast shown in **Exhibit 6**. They further include constant revenue adjustments of +11% of segment revenues, coming from the distribution

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business (non-reportable) and deferrals as a result of the way Activision Blizzard reports online service revenues. Modelled adjustments are in line with the +11.6% adjustments of FY2021.

The Effective Tax Rate is assumed to be fixed at 12.89%, representing the average effective tax rate for the previous three historic financial years (FY19 to FY21).

Changes in Working Capital are modelled to be constant to the revenue at the average rate of the previous three historic financial years (FY19 to FY21). The historic values are net of the effect of acquisitions.

The Stub Period of 0.96 represents the share of cash flows still outstanding at the date of valuation, implying 4% of cash flows have already been generated and do not need to be discounted. Thus, the standard discount period starts at 0.96 in the first projected year.

Source: Own calculations.

TN Exhibit 6: Activision Blizzard DCF Model Valuation (Optimistic Case)

	Projected:					Normalized FY	CAGR	
Unlevered Free Cash Flow Projections:	FY22	FY23	FY24	FY25	FY26	FY27	'17-'21	22-'27
<i>(\$ in Millions)</i>								
Income Statement Items								
Total Revenue	9,052	9,474	9,894	10,340	10,806	11,295	5.8%	4.5%
Growth	2.8%	4.7%	4.4%	4.5%	4.5%	4.5%		
COGS	2,713	2,840	2,966	3,100	3,239	3,386	(1.9%)	4.5%
Growth	17.1%	4.7%	4.4%	4.5%	4.5%	4.5%		
% of Sales	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%		
Gross Profit	6,338	6,634	6,928	7,240	7,567	7,909	9.5%	4.5%
Growth	(2.3%)	4.7%	4.4%	4.5%	4.5%	4.5%		
Gross Margin	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%		
Operating Expenses (OPEX)	3,746	3,826	3,996	4,124	4,256	4,335	0.2%	3.0%
Growth	16.1%	2.1%	4.4%	3.2%	3.2%	1.9%		
% of Sales	41.4%	40.4%	40.4%	39.9%	39.4%	38.4%		
EBITDA	3,136	3,377	3,526	3,633	3,851	4,082	10.2%	5.4%
Growth	(15.2%)	7.7%	4.4%	3.0%	6.0%	6.0%		
% of Sales	34.6%	35.6%	35.6%	35.1%	35.6%	36.1%		
Depreciation & Amortization	543	568	594	517	540	508	(22.2%)	(1.3%)
Growth	23.4%	4.7%	4.4%	(12.9%)	4.5%	(5.9%)		
% of Sales	6.0%	6.0%	6.0%	5.0%	5.0%	4.5%		
EBIT	2,592	2,808	2,933	3,116	3,311	3,574	25.6%	6.6%
Growth	(20.5%)	8.3%	4.4%	6.3%	6.2%	7.9%		
EBIT Margin	28.6%	29.6%	29.6%	30.1%	30.6%	31.6%		
Free Cash Flow to Firm - Components								
(-) Taxes, Excluding Effect of Interest	(334)	(362)	(378)	(402)	(427)	(461)	(14.7%)	6.6%
Growth	(28.1%)	8.3%	4.4%	6.3%	6.2%	7.9%		
% of Sales	(3.7%)	(3.8%)	(3.8%)	(3.9%)	(3.9%)	(4.1%)		
Net Operating Profit After Tax (NOPAT)	2,258	2,446	2,555	2,715	2,884	3,113	59.6%	6.6%
Growth	(19.2%)	8.3%	4.4%	6.3%	6.2%	7.9%		
% of Sales	24.9%	25.8%	25.8%	26.3%	26.7%	27.6%		
Adjustments for Non-Cash Effective Items								
(+) Depreciation & Amortization	543	568	594	517	540	508	(22.2%)	(1.3%)
Change in Working Capital								
(+/-) Change in Working Capital	(599)	(627)	(655)	(684)	(715)	(747)	57.4%	4.5%
% of Sales	(6.6%)	(6.6%)	(6.6%)	(6.6%)	(6.6%)	(6.6%)		
(-) Capital Expenditures:	(362)	(379)	(396)	(414)	(486)	(508)	(15.2%)	7.0%
Growth	352.6%	4.7%	4.4%	4.5%	17.6%	4.5%		
% of Sales	(4.0%)	(4.0%)	(4.0%)	(4.0%)	(4.5%)	(4.5%)		
Free Cash Flow to Firm - Calculation								
Annual Unlevered Free Cash Flow	1,840	2,009	2,098	2,134	2,223	2,365	13.1%	5.1%
Growth	(14.3%)	9.2%	4.4%	1.7%	4.2%	6.4%		
Unlevered Free Cash Flow for Rest of Year	1,770	2,009	2,098	2,134	2,223	2,365	-	6.0%
Standard Discount Period	0.96	1.96	2.96	3.96	4.96	5.96		
PV of Unlevered FCF (Standard)	1,684	1,814	1,799	1,737	1,719	1,736		

Revenues are calculated based on the forecast shown in **Exhibit 6**. They further include constant revenue adjustments of +11% of segment revenues, coming from the distribution

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business (non-reportable) and deferrals as a result of the way Activision Blizzard reports online service revenues. Modelled adjustments are in line with the +11.6% adjustments of FY2021.

The Effective Tax Rate is assumed to be fixed at 12.89%, representing the average effective tax rate for the previous three historic financial years (FY19 to FY21).

Changes in Working Capital are modelled to be constant to the revenue at the average rate of the previous three historic financial years (FY19 to FY21). The historic values are net of the effect of acquisitions.

The Stub Period of 0.96 represents the share of cash flows still outstanding at the date of valuation, implying 4% of cash flows have already been generated and do not need to be discounted. Thus, the standard discount period starts at 0.96 in the first projected year.

Source: Own calculations.

TN Exhibit 7: Bond Yield Calculation as of Valuation Date

Bond Name	Maturity Date	Valuation Date	Price at Valuation Date	Coupon in %	Coupon Frequency	Face Value	YTM
<i>(in \$)</i>							
00507VAK5	15.09.2026	14.01.2022	105.89	3.40%	Semiannually	100	2.07%
00507VAM1	15.06.2027	14.01.2022	105.83	3.40%	Semiannually	100	2.25%
00507VAP4	15.09.2030	14.01.2022	90.02	1.35%	Semiannually	100	2.65%
00507VAN9	15.06.2047	14.01.2022	116.22	4.50%	Semiannually	100	3.53%
00507VAQ2	15.09.2050	14.01.2022	83.16	2.50%	Semiannually	100	3.43%

Source: Refinitiv. (2023). *LSEG Data & Analytics*. <https://www.refinitiv.com/>.

TN Exhibit 8: WACC Calculation as of Valuation Date

Discount Rate Calculations - Assumptions:							
Risk-Free Rate (10 Year US Treasury Rate; 14.01.2022):							1.79%
Implied Equity Risk Premium (Damodaran, 2022):							5.94%
Pre-Tax Cost of Debt:							2.78%
Cost of Preferred Stock:							-
Cost of Debt Calculation (as of 14.01.2022)							
Issuer Name	Maturity						Yield
Activision Blizzard, Inc.	15.09.2026						2.07%
Activision Blizzard, Inc.	15.06.2027						2.25%
Activision Blizzard, Inc.	15.09.2030						2.65%
Activision Blizzard, Inc.	15.06.2047						3.53%
Activision Blizzard, Inc.	15.09.2050						3.43%
Average							2.78%
Leverage Ratio at Valuation Date							
D/V Ratio							8.04%
Comparable Companies - Unlevered Beta Calculation:							
<i>(\$ in Millions)</i>							
Company Name	Ticker	Beta (Levered)	Debt	Market Value of Equity	% of Equity	Tax Rate	Beta (Unlevered)
CD Projekt S.A.	CDR	0.37	12	4,576	100%	27%	0.37
Electronic Arts Inc.	EA	0.87	1,878	32,515	95%	27%	0.83
Keywords Studios plc	KWS	0.90	43	2,916	99%	27%	0.89
NetEase, Inc.	NTES	0.54	3,247	51,932	94%	27%	0.52
Take-Two Interactive Software, Inc.	TTWO	0.62	3	15,184	100%	27%	0.62
Ubisoft Entertainment SA	UBI	0.23	2,290	3,927	63%	27%	0.16
Median:		0.58	\$960	\$9,880	97%	27%	0.57
Activision Blizzard, Inc.	ATVI	0.70					
Activision Blizzard - Levered Beta & WACC Calculation:							
<i>(\$ in Millions)</i>							
	Ticker	Beta (Unlevered)	Debt	Market Value of Equity	% of Equity	Tax Rate	Beta (Levered)
Current Marked-value based Capital Structure	ATVI	0.57	\$3,608	\$41,266	92%	27%	0.60
"Optimal" Capital Structure:	ATVI	0.57	\$1,551	\$43,324	97%	27%	0.58
Cost of Equity Based on Comparables, Current Capital Structure:							5.38%
Cost of Equity Based on Comparables, "Optimal" Capital Structure:							5.26%
Cost of Equity Based on Historical Beta:							5.95%
WACC = Cost of Equity * % Equity + Cost of Debt * % Debt * (1 - Tax Rate)							
WACC, Current Capital Structure:							5.14%
WACC, Current Capital Structure and Historical Cost of Equity:							5.67%
WACC, "Optimal" Capital Structure:							5.16%
Average WACC of All Methods:							5.32%

For the Risk-Free Rate, the 10 Years US Treasury Rate on the 14.01.2022 is assumed to be an appropriate proxy.

The Tax Rate applied is based on the 2022 marginal corporate tax rate in the USA of 27%.

The Equity Risk Premium used is the implied ERP, which is provided by Damodaran and estimated from the level of stock prices (S&P500 index) as of the valuation year and expected earnings/cash flows in the future.

Sources: Damodaran, A. (2023, July). Country Default Spreads and Risk Premiums. NYU Stern. https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html; Refinitiv. (2023). *LSEG Data & Analytics*. <https://www.refinitiv.com/>; S&P Capital IQ. (2023). <https://www.capitaliq.com/>.

TN Exhibit 9: Activision Blizzard DCF Model Valuation (Base Case) – Output

Terminal Value - Multiples Method:		Terminal Value - Perpetuity Growth Method:	
<i>(\$ in Millions Except Per Share and Per Unit Data)</i>		<i>(\$ in Millions Except Per Share and Per Unit Data)</i>	
Median TEV / EBITDA of Comps:	19.9 x	Expected Long-Term GDP Growth:	2.50%
Baseline Terminal EBITDA Multiple:	19.9 x	Expected Long-Term Inflation Rate:	2.00%
		Baseline Terminal FCF Growth Rate:	2.40%
Baseline Terminal Value:	63,792	Baseline Terminal Value:	61,774
Implied Terminal FCF Growth Rate:	2.42%	Implied Terminal EBITDA Multiple:	19.3 x
Terminal Value Discount Period	5.96	Terminal Value Discount Period	5.96
(+) PV of Terminal Value:	46,827	(+) PV of Terminal Value:	45,345
(+) Sum of PV of Free Cash Flows:	9,248	(+) Sum of PV of Free Cash Flows:	9,248
Implied Enterprise Value:	\$ 56,075	Implied Enterprise Value:	\$ 54,593
<i>% of Implied TEV coming from TV:</i>	<i>83.5%</i>	<i>% of Implied TEV coming from TV:</i>	<i>83.1%</i>
(+) Cash & Cash-Equivalents:	10,423	(+) Cash & Cash-Equivalents:	10,423
(+) Equity Investments:	45	(+) Equity Investments:	45
(+) Other Non-Core Assets, Net:	-	(+) Other Non-Core Assets, Net:	-
(+) Net Operating Losses:	-	(+) Net Operating Losses:	-
(-) Total Debt & Capital Leases:	(3,608)	(-) Total Debt & Capital Leases:	(3,608)
(-) Preferred Stock:	-	(-) Preferred Stock:	-
(-) Noncontrolling Interests:	-	(-) Noncontrolling Interests:	-
(-) Unfunded Pension Obligations:	-	(-) Unfunded Pension Obligations:	-
Implied Equity Value:	\$ 62,935	Implied Equity Value:	\$ 61,453
Diluted Shares Outstanding:	784,000,000	Diluted Shares Outstanding:	784,000,000
Implied Share Price from DCF:	\$ 80.27	Implied Share Price from DCF:	\$ 78.38
<i>Premium / (Discount) to Current:</i>	<i>22.8%</i>	<i>Premium / (Discount) to Current:</i>	<i>19.9%</i>

Baseline Terminal FCF Growth Rate is assumed to be slightly lower than the expected long-term global GDP growth rate of 2.5% and above the expected long-term inflation rate of 2.0%.

Baseline EBITDA Multiple is assumed to be equal to the median EBITDA multiple of the peer group (**Exhibit 3**) at the valuation date.

Diluted Shares Outstanding are the diluted shares outstanding as of January 18, 2022, and as reported by Activision Blizzard.

Source: Own calculations.

TN Exhibit 10: Activision Blizzard DCF Model Valuation (Optimistic Case) – Output

Terminal Value - Multiples Method:		Terminal Value - Perpetuity Growth Method:	
<i>(\$ in Millions Except Per Share and Per Unit Data)</i>		<i>(\$ in Millions Except Per Share and Per Unit Data)</i>	
Median TEV / EBITDA of Comps:	19.9 x	Expected Long-Term GDP Growth:	2.50%
Baseline Terminal EBITDA Multiple:	19.9 x	Expected Long-Term Inflation Rate:	2.00%
		Baseline Terminal FCF Growth Rate:	2.40%
Baseline Terminal Value:	81,229	Baseline Terminal Value:	80,929
Implied Terminal FCF Growth Rate:	2.34%	Implied Terminal EBITDA Multiple:	19.8 x
Terminal Value Discount Period	5.96	Terminal Value Discount Period	5.96
(+) PV of Terminal Value:	59,627	(+) PV of Terminal Value:	59,406
(+) Sum of PV of Free Cash Flows:	10,489	(+) Sum of PV of Free Cash Flows:	10,489
Implied Enterprise Value:	\$ 70,116	Implied Enterprise Value:	\$ 69,896
<i>% of Implied TEV coming from TV:</i>	<i>85.0%</i>	<i>% of Implied TEV coming from TV:</i>	<i>85.0%</i>
(+) Cash & Cash-Equivalents:	10,423	(+) Cash & Cash-Equivalents:	10,423
(+) Equity Investments:	45	(+) Equity Investments:	45
(+) Other Non-Core Assets, Net:	-	(+) Other Non-Core Assets, Net:	-
(+) Net Operating Losses:	-	(+) Net Operating Losses:	-
(-) Total Debt & Capital Leases:	(3,608)	(-) Total Debt & Capital Leases:	(3,608)
(-) Preferred Stock:	-	(-) Preferred Stock:	-
(-) Noncontrolling Interests:	-	(-) Noncontrolling Interests:	-
(-) Unfunded Pension Obligations:	-	(-) Unfunded Pension Obligations:	-
Implied Equity Value:	\$ 76,976	Implied Equity Value:	\$ 76,756
Diluted Shares Outstanding:	784,000,000	Diluted Shares Outstanding:	784,000,000
Implied Share Price from DCF:	\$ 98.18	Implied Share Price from DCF:	\$ 97.90
<i>Premium / (Discount) to Current:</i>	<i>50.2%</i>	<i>Premium / (Discount) to Current:</i>	<i>49.7%</i>

Baseline Terminal FCF Growth Rate is assumed to be slightly lower than the expected long-term global GDP growth rate of 2.5% and above the expected long-term inflation rate of 2.0%.

Baseline EBITDA Multiple is assumed to be equal to the median EBITDA multiple of the peer group (**Exhibit 3**) at the valuation date.

Diluted Shares Outstanding are the diluted shares outstanding as of January 18, 2022, and as reported by Activision Blizzard.

Source: Own calculations.

TN Exhibit 11: Calculation of Revenue Synergies

Activision Blizzard Revenue Synergie Potential	FY22P	FY23P	FY24P	FY25P	FY26P	FY27P
<i>(\$ in Millions)</i>						
Activision Blizzard Revenues (Stand-Alone)	9,052	9,474	9,894	10,340	10,806	11,295
% Revenue with Microsoft as Platform Partner	9.0%	9.0%	9.0%	8.9%	8.8%	8.7%
Expected Revenue with Microsoft's Platform	815	853	890	920	951	983
Revenue Synergies on Xbox Platform	4.0%	21.0%	10.0%	10.0%	10.0%	10.0%
Platform Push (Xbox Game Store)	2.0%	10.0%	5.0%	5.0%	5.0%	5.0%
Holistic Xbox Game Pass Integration	1.0%	6.0%	3.0%	3.0%	3.0%	3.0%
Product Bundling	1.0%	5.0%	2.0%	2.0%	2.0%	2.0%
New offerings on Xbox platform	0.1%	1.0%	7.0%	9.0%	11.0%	14.0%
Xbox Cloud Gaming	0.1%	1.0%	4.0%	5.0%	6.0%	7.0%
Microsoft Metaverse Gaming	-	-	3.0%	4.0%	5.0%	7.0%
<i>Revenue Synergie (Sales Growth Potential)</i>	<i>4.1%</i>	<i>22.0%</i>	<i>17.0%</i>	<i>19.0%</i>	<i>21.0%</i>	<i>24.0%</i>
Total Revenue Synergies	33	188	151	175	200	236
Total Revenue Synergies (including Likelihood)	17	94	76	87	100	118
Likelihood of Reaching Revenue Synergies	50%					

Revenues with Microsoft as a Platform Partner are reported by Activision Blizzard, but only if they exceed 10%. With 11% of revenues in 2020, the number fell below the 10% mark in 2021. For modelling the revenue, the Xbox revenue share is expected to 9% and declining over the projection period due to a higher share of mobile revenues in the future. This is in line with the development of Activision Blizzard's platform revenues with Sony (**Case Exhibit 5**), which were decreasing by 12% from 2020 to 2021.

Revenue Synergies with the existing Xbox offering are estimated based on the forecasted revenue with Microsoft as a platform partner. Three synergy revenue drivers are assumed to increase the Microsoft platform revenue by sustainable 10% from 2023 onwards. In 2022, the synergies are expected to be low due to the ongoing integration process and the uncertain deal completion. The biggest driver is assumed to be a platform push through intense marketing. The Xbox Game Pass integration shows additional revenues by increased Activision Blizzard game usage coming from the Xbox subscription service. The product bundling shows revenue increases through bundles Xbox and Activision Blizzard product offerings.

New offerings are modelled to have no significant short-term impact but a high future impact, driven by both cloud gaming and metaverse revenues. The forecasted cloud gaming revenue considers the partial sale of the licensing rights to Ubisoft, as explained in the Case, and assume the cloud gaming offering to be fully operational in 2023. Forecasted Metaverse revenues

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assume that Microsoft's metaverse ambitions allow metaverse gaming to generate revenues as of 2023.

The **Likelihood of Reaching Revenue Synergies** assumes that the forecasted revenue synergies are reached with a 50% probability, considering the high uncertainty relate to revenue synergies and lowering the modelled impact.

Source: Own calculations and estimations based on Cas Exhibit 5.

TN Exhibit 12: Calculation of Cost Synergies

Activision Blizzard Cost Synergie Potential	FY22	FY23	FY24	FY25	FY26	FY27
<i>(\$ in Millions)</i>						
COGS - Product Sales						
Product Costs (Stand-Alone)	839	885	922	964	1,008	1,055
<i>Achievable Reduction from Synergies</i>	-	(5.0%)	(5.0%)	(5.0%)	(5.0%)	(5.0%)
Software Royalties, Amortization, IP Licenses (Stand-Alone)	331	349	364	381	398	417
<i>Achievable Reduction from Synergies</i>	-	-	-	-	-	-
COGS - in-Game, Subscription, and Other						
Game Operations and Distribution Costs (Stand-Alone)	1,277	1,347	1,404	1,468	1,535	1,607
<i>Achievable Reduction from Synergies</i>	(5.0%)	(10.0%)	(12.0%)	(15.0%)	(15.0%)	(15.0%)
Software Royalties, Amortization, IP Licenses (Stand-Alone)	272	287	299	313	327	342
<i>Achievable Reduction from Synergies</i>	-	-	-	-	-	-
COGS - Post Synergies	2,655	2,689	2,774	2,857	2,989	3,127
COGS - Pre Synergies	2,718	2,868	2,989	3,126	3,269	3,421
Total COGS Synergies	64	179	215	268	281	294
<i>Cost Synergies in %</i>	2.3%	6.2%	7.2%	8.6%	8.6%	8.6%
Operating Expenses						
Selling, General & Administrative Expenses (Stand-Alone)	2,040	2,153	2,243	2,346	2,454	2,568
<i>Achievable Reduction from Synergies</i>	-	(9.0%)	(14.0%)	(14.0%)	(14.0%)	(14.0%)
R&D Expenses (Stand-Alone)	1,632	1,627	1,695	1,721	1,745	1,712
<i>Achievable Reduction from Synergies</i>	-	(2.0%)	(10.0%)	(12.0%)	(12.0%)	(12.0%)
Restructuring and Related Costs (Stand-Alone)	80	85	88	92	96	101
<i>Achievable Reduction from Synergies</i>	-	-	-	-	-	-
OPEX - Post Synergies	3,753	3,638	3,543	3,624	3,742	3,816
OPEX - Pre Synergies	3,753	3,864	4,026	4,159	4,295	4,381
Total OPEX Synergies	-	226	484	535	553	565
<i>Cost Synergies in %</i>	0.0%	5.9%	12.0%	12.9%	12.9%	12.9%
Total Cost Synergies	64	405	698	803	834	859
<i>Cost Synergies in %</i>	1.0%	6.0%	10.0%	11.0%	11.0%	11.0%
Cost of Synergies: Acquisition and Integration Costs	229	458	-	-	-	-
<i>Cost of Synergies in % to Purchase Price</i>	1.00%					

Cost Synergies are calculated by applying initial cost-revenue-ratios (obtained from the stand-alone scenario) on the post-synergy revenue and deducting potential cost savings.

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COGS are assumed to offer a moderate cost saving potential. Product Costs include direct product costs, personnel costs, warehousing, royalties, and distribution. Software Royalties, Amortization, and IP Licenses include mainly amortization on the capitalized software and sales royalties. The position has proven to be relatively consistent to historical revenues and is not expected to bear synergy potential. Game Operations and Distribution Costs include customer service, internet bandwidth, platform and payment fees, and e-Sports related costs.

OPEX are assumed to offer a high cost saving potential. SG&A cost include all non-production expenses like rent, advertising, marketing, or accounting. R&D expenses include the development of IP and new gaming technology. It can be expected that both R&D and SG&A cost can be lowered significantly due to synergies. Restructuring related costs are assumed to be unaffected by synergies and thus stay constant at the rate used in the stand-alone projection.

Source: Own calculations and estimations based on Case Exhibit 7.

TN Exhibit 13: Activision Blizzard DCF Model Valuation incl. Synergies (Base Case)

Unlevered Free Cash Flow Projections: (\$ in Millions)	Projected:					Normalized FY	CAGR	
	FY22	FY23	FY24	FY25	FY26	FY27	'17-'21	22-'27
Income Statement Items								
Stand-Alone Revenue	8,936	9,230	9,406	9,629	9,924	10,208		
Revenue Synergies	16	91	72	81	92	107		
Total Revenue	8,952	9,321	9,478	9,711	10,016	10,315	5.8%	2.9%
Growth	1.7%	4.1%	1.7%	2.5%	3.1%	3.0%		
COGS (Pre Synergies)	2,794	2,919	2,977	3,060	3,166	3,271		
(-) COGS Synergies	(63)	(177)	(208)	(256)	(266)	(275)		
COGS (Post Synergies)	2,731	2,742	2,769	2,804	2,901	2,996	(1.9%)	1.9%
Growth	17.9%	0.4%	1.0%	1.3%	3.5%	3.3%		
% of Sales	30.5%	29.4%	29.2%	28.9%	29.0%	29.0%		
Gross Profit	6,221	6,579	6,708	6,906	7,115	7,319	9.5%	3.3%
Growth	(4.1%)	5.8%	2.0%	3.0%	3.0%	2.9%		
Gross Margin	69.5%	70.6%	70.8%	71.1%	71.0%	71.0%		
Operating Expenses (OPEX, Pre Synergies)	3,615	3,764	3,827	3,921	4,045	4,165		
(-) OPEX Synergies	-	(230)	(465)	(507)	(523)	(538)		
Operating Expenses (OPEX, Post Synergies)	3,615	3,534	3,362	3,415	3,522	3,627	0.2%	0.1%
Growth	12.0%	(2.2%)	(4.9%)	1.6%	3.1%	3.0%		
% of Sales	40.4%	37.9%	35.5%	35.2%	35.2%	35.2%		
EBITDA	2,964	3,418	3,820	3,977	3,994	4,053	10.2%	6.5%
Growth	(19.9%)	15.3%	11.8%	4.1%	0.4%	1.5%		
% of Sales	33.1%	36.7%	40.3%	41.0%	39.9%	39.3%		
Depreciation & Amortization	358	373	474	486	401	361	(22.2%)	0.2%
Growth	(18.6%)	4.1%	27.1%	2.5%	(17.5%)	(9.9%)		
% of Sales	4.0%	4.0%	5.0%	5.0%	4.0%	3.5%		
EBIT	2,606	3,045	3,346	3,492	3,593	3,692	25.6%	7.2%
EBIT Margin	29.1%	32.7%	35.3%	36.0%	35.9%	35.8%		
Free Cash Flow to Firm - Components								
(-) Taxes, Excluding Effect of Interest	(336)	(393)	(431)	(450)	(463)	(476)	(14.7%)	7.2%
% of Sales	(3.8%)	(4.2%)	(4.6%)	(4.6%)	(4.6%)	(4.6%)		
Net Operating Profit After Tax (NOPAT)	2,270	2,653	2,915	3,042	3,130	3,216	59.6%	7.2%
Growth	(18.8%)	16.9%	9.9%	4.4%	2.9%	2.7%		
% of Sales	25.4%	28.5%	30.8%	31.3%	31.2%	31.2%		
Adjustments for Non-Cash Effective Items								
(+) Depreciation & Amortization	358	373	474	486	401	361	(22.2%)	0.2%
Change in Working Capital								
(+/-) Change in Working Capital	(592)	(617)	(627)	(643)	(663)	(683)	57.4%	2.9%
% of Sales	(6.62%)	(6.6%)	(6.6%)	(6.6%)	(6.6%)	(6.6%)		
(-) Capital Expenditures:	(179)	(186)	(284)	(291)	(300)	(361)	(15.2%)	15.1%
Growth	123.8%	4.1%	52.5%	2.5%	3.1%	20.1%		
% of Sales	(2.0%)	(2.0%)	(3.0%)	(3.0%)	(3.0%)	(3.5%)		
(-) Cost of Synergies: Integration Costs	(229)	(458)	-	-	-	-		
Free Cash Flow to Firm - Calculation								
Annual Unlevered Free Cash Flow	1,627	1,764	2,477	2,593	2,567	2,533	13.1%	9.3%
Growth	(24.2%)	8.4%	40.4%	4.7%	(1.0%)	(1.3%)		
Unlevered Free Cash Flow for Rest of Year	1,558	1,764	2,477	2,593	2,567	2,533	-	10.2%
Standard Discount Period	0.96	1.96	2.96	3.96	4.96	5.96		
PV of Unlevered FCF (Standard)	1,483	1,594	2,124	2,112	1,985	1,859	-	4.6%

Source: Own calculations.

TN Exhibit 14: Activision Blizzard DCF Model Valuation incl. Synergies (Optimistic Case)

Unlevered Free Cash Flow Projections: (\$ in Millions)	Projected:					Normalized FY	CAGR	
	FY22	FY23	FY24	FY25	FY26	FY27	'17-'21	22-'27
Income Statement Items								
Stand-Alone Revenue	9,052	9,474	9,894	10,340	10,806	11,295		
Revenue Synergies	17	94	76	87	100	118		
Total Revenue	9,069	9,568	9,970	10,427	10,906	11,413	5.8%	4.7%
Growth	3.0%	5.5%	4.2%	4.6%	4.6%	4.6%		
COGS (Pre Synergies)	2,718	2,868	2,989	3,126	3,269	3,421		
(-) COGS Synergies	(64)	(179)	(215)	(268)	(281)	(294)		
COGS (Post Synergies)	2,655	2,689	2,774	2,857	2,989	3,127	(1.9%)	3.3%
Growth	14.6%	1.3%	3.2%	3.0%	4.6%	4.6%		
% of Sales	29.3%	28.1%	27.8%	27.4%	27.4%	27.4%		
Gross Profit	6,414	6,879	7,196	7,570	7,918	8,285	9.5%	5.3%
Growth	(1.1%)	7.2%	4.6%	5.2%	4.6%	4.6%		
Gross Margin	70.7%	71.9%	72.2%	72.6%	72.6%	72.6%		
Operating Expenses (OPEX, Pre Synergies)	3,753	3,864	4,026	4,159	4,295	4,381		
(-) OPEX Synergies	-	(226)	(484)	(535)	(553)	(565)		
Operating Expenses (OPEX, Post Synergies)	3,753	3,638	3,543	3,624	3,742	3,816	0.2%	0.3%
Growth	16.3%	(3.1%)	(2.6%)	2.3%	3.3%	2.0%		
% of Sales	41.4%	38.0%	35.5%	34.8%	34.3%	33.4%		
EBITDA	3,205	3,815	4,251	4,467	4,721	4,983	10.2%	9.2%
Growth	(13.4%)	19.0%	11.4%	5.1%	5.7%	5.6%		
% of Sales	35.3%	39.9%	42.6%	42.8%	43.3%	43.7%		
Depreciation & Amortization	544	574	598	521	545	514	(22.2%)	(1.1%)
Growth	23.7%	5.5%	4.2%	(12.8%)	4.6%	(5.8%)		
% of Sales	6.0%	6.0%	6.0%	5.0%	5.0%	4.5%		
EBIT	2,661	3,241	3,653	3,946	4,175	4,470	25.6%	10.9%
EBIT Margin	29.3%	33.9%	36.6%	37.8%	38.3%	39.2%		
Free Cash Flow to Firm - Components								
(-) Taxes, Excluding Effect of Interest	(343)	(418)	(471)	(509)	(538)	(576)	(14.7%)	10.9%
% of Sales	(3.8%)	(4.4%)	(4.7%)	(4.9%)	(4.9%)	(5.0%)		
Net Operating Profit After Tax (NOPAT)	2,318	2,823	3,182	3,437	3,637	3,893	59.6%	10.9%
Growth	(17.0%)	21.8%	12.7%	8.0%	5.8%	7.0%		
% of Sales	25.6%	29.5%	31.9%	33.0%	33.3%	34.1%		
Adjustments for Non-Cash Effective Items								
(+) Depreciation & Amortization	544	574	598	521	545	514	(22.2%)	(1.1%)
Change in Working Capital								
(+/-) Change in Working Capital	(600)	(633)	(660)	(690)	(722)	(755)	57.4%	4.7%
% of Sales	(6.62%)	(6.6%)	(6.6%)	(6.6%)	(6.6%)	(6.6%)		
(-) Capital Expenditures:	(363)	(383)	(399)	(417)	(491)	(514)	(15.2%)	7.2%
Growth	353.4%	5.5%	4.2%	4.6%	17.7%	4.6%		
% of Sales	(4.0%)	(4.0%)	(4.0%)	(4.0%)	(4.5%)	(4.5%)		
(-) Cost of Synergies: Integration Costs	(229)	(458)	-	-	-	-		
Free Cash Flow to Firm - Calculation								
Annual Unlevered Free Cash Flow	1,670	1,924	2,722	2,852	2,970	3,138	13.1%	13.4%
Growth	(22.2%)	15.2%	41.5%	4.8%	4.1%	5.7%		
Unlevered Free Cash Flow for Rest of Year	1,600	1,924	2,722	2,852	2,970	3,138	-	14.4%
Standard Discount Period	0.96	1.96	2.96	3.96	4.96	5.96		
PV of Unlevered FCF (Standard)	1,522	1,737	2,334	2,322	2,296	2,304	-	8.6%

Source: Own calculations.

TN Exhibit 15: Activision Blizzard Valuation Output incl. Synergies (Base Case)

Terminal Value - Multiples Method:		Terminal Value - Perpetuity Growth Method:	
<i>(\$ in Millions Except Per Share and Per Unit Data)</i>		<i>(\$ in Millions Except Per Share and Per Unit Data)</i>	
Median TEV / EBITDA of Comps:	19.9 x	Expected Long-Term GDP Growth:	2.50%
Baseline Terminal EBITDA Multiple:	19.9 x	Expected Long-Term Inflation Rate:	2.00%
		Baseline Terminal FCF Growth Rate:	2.40%
Baseline Terminal Value:	80,646	Baseline Terminal Value:	86,663
Implied Terminal FCF Growth Rate:	2.12%	Implied Terminal EBITDA Multiple:	21.4 x
Terminal Value Discount Period	5.96	Terminal Value Discount Period	5.96
(+) PV of Terminal Value:	59,199	(+) PV of Terminal Value:	63,615
(+) Sum of PV of Free Cash Flows:	11,157	(+) Sum of PV of Free Cash Flows:	11,157
Implied Enterprise Value:	\$ 70,355	Implied Enterprise Value:	\$ 74,772
<i>% of Implied TEV coming from TV:</i>	<i>84.1%</i>	<i>% of Implied TEV coming from TV:</i>	<i>85.1%</i>
(+) Cash & Cash-Equivalents:	10,423	(+) Cash & Cash-Equivalents:	10,423
(+) Equity Investments:	45	(+) Equity Investments:	45
(+) Other Non-Core Assets, Net:	-	(+) Other Non-Core Assets, Net:	-
(+) Net Operating Losses:	-	(+) Net Operating Losses:	-
(-) Total Debt & Capital Leases:	(3,608)	(-) Total Debt & Capital Leases:	(3,608)
(-) Preferred Stock:	-	(-) Preferred Stock:	-
(-) Noncontrolling Interests:	-	(-) Noncontrolling Interests:	-
(-) Unfunded Pension Obligations:	-	(-) Unfunded Pension Obligations:	-
Implied Equity Value:	\$ 77,215	Implied Equity Value:	\$ 81,632
Diluted Shares Outstanding:	784,000,000	Diluted Shares Outstanding:	784,000,000
Implied Share Price from DCF:	\$ 98.49	Implied Share Price from DCF:	\$ 104.12
<i>Premium / (Discount) to Current:</i>	<i>50.6%</i>	<i>Premium / (Discount) to Current:</i>	<i>59.2%</i>

Source: Own calculations.

TN Exhibit 16: Activision Blizzard Valuation Output incl. Synergies (Optimistic Case)

Terminal Value - Multiples Method:		Terminal Value - Perpetuity Growth Method:	
<i>(\$ in Millions Except Per Share and Per Unit Data)</i>		<i>(\$ in Millions Except Per Share and Per Unit Data)</i>	
Median TEV / EBITDA of Comps:	19.9 x	Expected Long-Term GDP Growth:	2.50%
Baseline Terminal EBITDA Multiple:	19.9 x	Expected Long-Term Inflation Rate:	2.00%
		Baseline Terminal FCF Growth Rate:	2.40%
Baseline Terminal Value:	99,166	Baseline Terminal Value:	107,365
Implied Terminal FCF Growth Rate:	2.09%	Implied Terminal EBITDA Multiple:	21.5 x
Terminal Value Discount Period	5.96	Terminal Value Discount Period	5.96
(+) PV of Terminal Value:	72,793	(+) PV of Terminal Value:	78,812
(+) Sum of PV of Free Cash Flows:	12,515	(+) Sum of PV of Free Cash Flows:	12,515
Implied Enterprise Value:	\$ 85,308	Implied Enterprise Value:	\$ 91,327
<i>% of Implied TEV coming from TV:</i>	<i>85.3%</i>	<i>% of Implied TEV coming from TV:</i>	<i>86.3%</i>
(+) Cash & Cash-Equivalents:	10,423	(+) Cash & Cash-Equivalents:	10,423
(+) Equity Investments:	45	(+) Equity Investments:	45
(+) Other Non-Core Assets, Net:	-	(+) Other Non-Core Assets, Net:	-
(+) Net Operating Losses:	-	(+) Net Operating Losses:	-
(-) Total Debt & Capital Leases:	(3,608)	(-) Total Debt & Capital Leases:	(3,608)
(-) Preferred Stock:	-	(-) Preferred Stock:	-
(-) Noncontrolling Interests:	-	(-) Noncontrolling Interests:	-
(-) Unfunded Pension Obligations:	-	(-) Unfunded Pension Obligations:	-
Implied Equity Value:	\$ 92,168	Implied Equity Value:	\$ 98,187
Diluted Shares Outstanding:	784,000,000	Diluted Shares Outstanding:	784,000,000
Implied Share Price from DCF:	\$ 117.56	Implied Share Price from DCF:	\$ 125.24
<i>Premium / (Discount) to Current:</i>	<i>79.8%</i>	<i>Premium / (Discount) to Current:</i>	<i>91.5%</i>

Source: Own calculations.

TN Exhibit 17: Valuation of Synergies

Activision Blizzard Synergies	FY22P	FY23P	FY24P	FY25P	FY26P	FY27P
<i>(\$ in Millions)</i>						
Total Revenue Synergies (including Likelihood)	16	91	72	81	92	107
Assumed Margin of Revenue Synergies	80%	80%	80%	80%	80%	80%
Costs Associated with Revenue Synergies	3.3	18.3	14.4	16.3	18.3	21.3
Total Cost Synergies	63	407	673	763	788	813
Cost of Synergies: Acquisition and Integration Costs	(229)	(458)	-	-	-	-
Total Synergies (Pre-Tax)	-153	22	731	828	862	899
Tax Rate	12.89%					
Total Synergies (Post-Tax)	-133	19	637	721	751	783
Standard Discount Period	0.96	1.96	2.96	3.96	4.96	5.96
PV of Synergies	-127	18	546	587	580	575
Sum of PV of Synergies	2,179					
Terminal Value - Perpetuity Growth Method:	15,033					
<i>TV Growth Rate of Synergies:</i>	1.50%					
PV of Synergies	17,212					
Equity Value as of Valuation Date	51,266					
Acquisition Equity Value	68,700					
Premium Paid	17,434					

Values are discounted using the WACC calculated in **TN Exhibit 8**. Synergies are assumed to grow a terminal growth rate of 1.50%, which is below the expected inflation.

Source: Own calculations.

TN Exhibit 18: Valuation Outputs – Share Prices

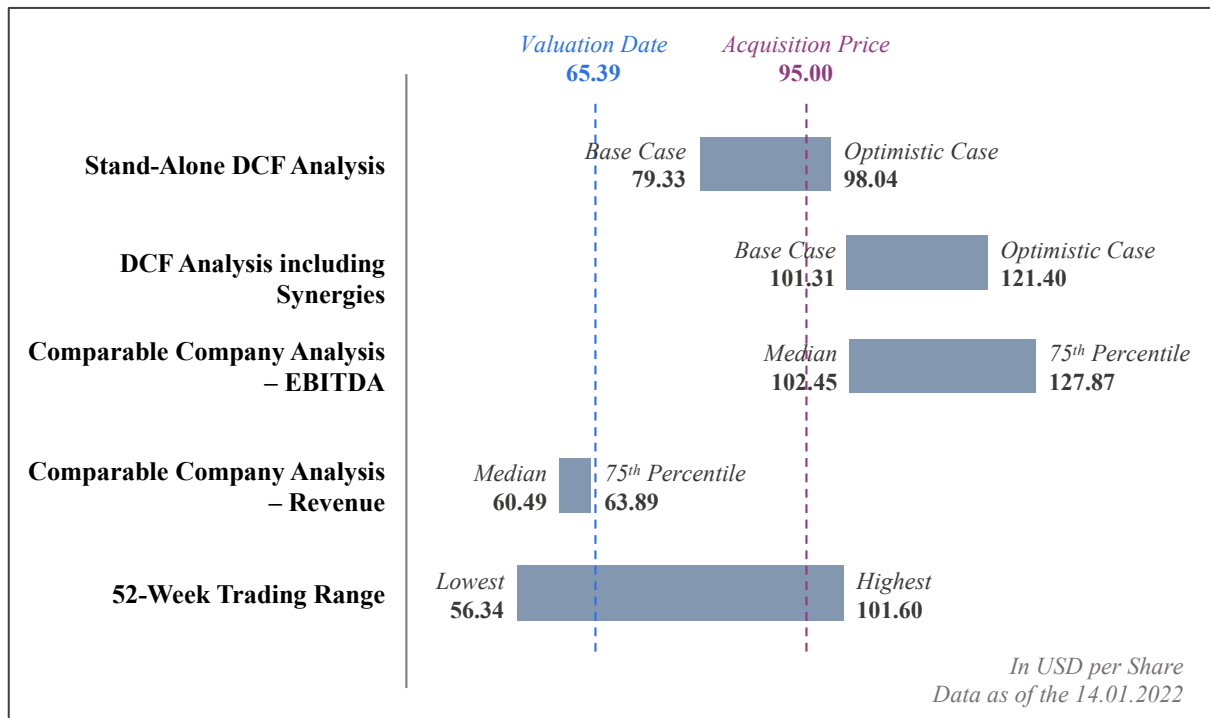
Share Price as of 14.01.2022:	\$	65.39
Purchase Share Price	\$	95.00
<i>(\$ in Millions Except Per Share and Per Unit Data)</i>	Base Estimate	Optimistic Case
Stand Alone Discounted Cash Flow Analysis	Base Case	Optimistic Case
Total DCF Share Price:	79.33	98.04
<i>Premium/(Discount) to Purchase Price:</i>	<i>(16.5%)</i>	<i>3.2%</i>
Discounted Cash Flow Analysis including Synergies	Base Case	Optimistic Case
Total DCF Share Price:	101.31	121.40
<i>Premium/(Discount) to Purchase Price:</i>	<i>6.6%</i>	<i>27.8%</i>
Comparable Company Analysis	Median	75th percentile
Total CCA Share Price (EBITDA Multiples):	102.45	127.87
<i>Premium/(Discount) to Purchase Price:</i>	<i>7.8%</i>	<i>34.6%</i>
Total CCA Share Price (Revenue Multiples):	60.49	63.89
<i>Premium/(Discount) to Purchase Price:</i>	<i>(36.3%)</i>	<i>(32.7%)</i>
52-Week Trading Range	56.34	101.60
<i>Premium/(Discount) to Purchase Price:</i>	<i>(40.7%)</i>	<i>6.9%</i>

DCF Share Prices are calculated by using the mean value between the multiples and the Perpetuity Terminal Value approach.

CCA Share Prices are calculated using the industry peer group EV multiples and Activision Blizzard's 2021 financials. Equity values, used for the share price calculation, are determined by adding the 2021 net debt (6.86 bn) to the EV.

Source: Own calculation.

TN Exhibit 19: Valuation Outputs – Football Field (Share Prices)



Source: Own calculations.

REFERENCES

¹ Fontanella-Khan, J., Gara, A., Waters, R. & Grimes, C. (2022, January 18). *Microsoft to buy video game maker Activision Blizzard for \$75bn*. <https://www.ft.com/content/d3726a3a-c4a0-4761-a82c-cda98abc3cb7#comments-anchor>.

² Microsoft News Center. (2022, January 21). *Microsoft to acquire Activision Blizzard to bring the joy and community of gaming to everyone, across every device*. Microsoft News. <https://news.microsoft.com/2022/01/18/microsoft-to-acquire-activision-blizzard-to-bring-the-joy-and-community-of-gaming-to-everyone-across-every-device/>.

³ Beard, A. (2021, December 14). *Can big tech be disrupted?*. Harvard Business Review. <https://hbr.org/2022/01/can-big-tech-be-disrupted>.

⁴ Goldman Sachs. (1986, March 13). *1986: IPO of the Year puts Goldman Sachs on the map with Tech Companies*. <https://www.goldmansachs.com/our-firm/history/moments/1986-microsoft-ipo.html#:~:text=The%20highly%20successful%201986%20offering,%242.14%20billion%20in%202023%20dollars>.

⁵ Barret, V. (2012, July 11). *Microsoft's Pivotal Moment*. Forbes. <https://www.forbes.com/2010/05/07/microsoft-ibm-vmware-intelligent-technology-maritz.html?sh=735b84054648>.

⁶ Clarke, G. (2014, October 22). *Big Azure? Microsoft and IBM ink deal on business cloud*. The Register. https://www.theregister.com/2014/10/22/ibm_microsoft_cloud_partnership/.

⁷ Staff, I. T. (2023, December 4). *Reinventing Microsoft's employee experience for a hybrid world*. Inside Track Blog. <https://www.microsoft.com/insidetrack/blog/reinventing-microsofts-employee-experience-for-a-hybrid-world/>.

⁸ *Microsoft's next act*. (2018, April 3). McKinsey & Company. <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/microsofts-next-act>.

⁹ S&P Capital IQ. (2023, October 12). *Microsoft Corporation*. S&P Capital IQ. <https://www.capitaliq.com/CIQDotNet/company.aspx?companyId=21835>.

¹⁰ Microsoft News. *Microsoft to acquire Nokia's devices & services business, license Nokia's patents and mapping services - Stories*. (2022, March 15). <https://news.microsoft.com/2013/09/03/microsoft-to-acquire-nokias-devices-services-business-license-nokias-patents-and-mapping-services/>.

¹¹ Warren, T. (2015, July 8). *Microsoft writes off \$7.6 billion from Nokia deal, announces 7,800 job cuts*. The Verge. <https://www.theverge.com/2015/7/8/8910999/microsoft-job-cuts-2015-nokia-write-off>.

¹² Chalk, A. (2019, February 5). *Xbox Game Studios rebranding signals big changes for Microsoft's focus on gaming*. Pcgamer. <https://www.pcgamer.com/xbox-game-studios-rebranding-signals-big-changes-for-microsofts-focus-on-gaming/>.

¹³ Davison, L. (2022, January 6). *Game on: An interview with Microsoft's head of gaming ecosystem*. McKinsey. <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/game-on-an-interview-with-microsofts-head-of-gaming-ecosystem>.

¹⁴ Xbox news. (2021). *Minecraft Franchise Fact Sheet*. https://news.xbox.com/en-us/wp-content/uploads/sites/2/2021/04/Minecraft-Franchise-Fact-Sheet_April-2021.pdf.

¹⁵ Nguyen, B. (2023, October 16). *Minecraft Just Surpassed 300 Million Sales—Here's the only video game still beating it*. Forbes. <https://www.forbes.com/sites/britneynguyen/2023/10/16/minecraft-just-surpassed-300-million-sales-heres-the-only-video-game-still-beating-it/?sh=e48c053db504>.

¹⁶ Microsoft. (2022, December). *Get The Facts: How Microsoft is Committed to Growing Gaming Communities*. Microsoft News. <https://news.microsoft.com/wp-content/uploads/prod/sites/642/2022/12/Get-the-facts-ZeniMax-.pdf>.

¹⁷ Ray, M. (2023, December 10). *Activision Blizzard, Inc. | Games, Merger, scandal, & Microsoft*. Britannica. <https://www.britannica.com/topic/Activision-Blizzard-Inc>.

¹⁸ Fahs, T. (2020, March 31). *The History of Activision - IGN*. IGN. <https://www.ign.com/articles/2010/10/01/the-history-of-activision>.

¹⁹ *Activision's unlikely hero*. (2009, January 15). Forbes. <https://www.forbes.com/forbes/2009/0202/052.html#788254c31a16>.

²⁰ Fleming, J. (2007, July 30). *The history of Activision*. Game Developer. <https://www.gamedeveloper.com/business/the-history-of-activision>.

²¹ Clayman, D. (2016, June 28). *The History of Blizzard - IGN*. IGN. <https://www.ign.com/articles/2010/10/22/the-history-of-blizzard>.

²² *Vivendi and Activision complete transaction to create Activision Blizzard - Vivendi*. (2020, July 27). Vivendi. <https://www.vivendi.com/en/press-release/vivendi-and-activision-complete-transaction-to-create-activision-blizzard/#:~:text=Concurrently%20with%20the%20merger%2C%20Vivendi,on%20a%20fully%20diluted%20basis>.

²³ Richtel, M. (2007, December 3). *Vivendi to Acquire Activision*. The New York Times. <https://www.nytimes.com/2007/12/03/technology/03activision.html#:~:text=Under%20the%20arrangement%20announced%20Sunday,Activision%20in%20the%20new%20company.>

²⁴ Berkshire Hathaway. (2013, July 25). *Activision Blizzard Announces Transformative Purchase of Shares from Vivendi and New Capital Structure*. Businesswire. [https://www.businesswire.com/news/home/20130725006767/en/Activision-Blizzard-Announces-Transformative-Purchase-Shares-Vivendi.](https://www.businesswire.com/news/home/20130725006767/en/Activision-Blizzard-Announces-Transformative-Purchase-Shares-Vivendi)

²⁵ Thomson, A. (2016, January 15). Financial Times. *Vivendi sells stake in gaming company Activision Blizzard*. [https://www.ft.com/content/b8def266-bb7b-11e5-bf7e-8a339b6f2164.](https://www.ft.com/content/b8def266-bb7b-11e5-bf7e-8a339b6f2164)

²⁶ Sinclair, B. (2017, December 1). *Vivendi a third wheel in the Activision Blizzard union*. GamesIndustry.biz. [https://www.gamesindustry.biz/2017-12-1-vivendi-a-third-wheel-in-the-activision-blizzard-union.](https://www.gamesindustry.biz/2017-12-1-vivendi-a-third-wheel-in-the-activision-blizzard-union)

²⁷ Bradshaw, T. & Garrahan, M. (2015, November 3). *'Candy Crush' owner King sold to Activision Blizzard for \$5.9bn*. Financial Times. [https://www.ft.com/content/680ccbd2-81d4-11e5-8095-ed1a37d1e096.](https://www.ft.com/content/680ccbd2-81d4-11e5-8095-ed1a37d1e096)

²⁸ Activision Blizzard, Inc. (2023a, May 1). *Activision Blizzard Annual Report*. [https://investor.activision.com/annual-reports.](https://investor.activision.com/annual-reports)

²⁹ Activision Blizzard, Inc. (2023, July 31). *Quarterly Report Pursuant to Section 13 or 15(D) Of The Securities Exchange Act of 1934*. [https://investor.activision.com/static-files/70497f6b-ca6b-487b-bb03-2f8b3b031447.](https://investor.activision.com/static-files/70497f6b-ca6b-487b-bb03-2f8b3b031447)

³⁰ Perez, M. (2019, February 13). *Activision Blizzard to lay off nearly 800 people as its 2019 looks bleak*. Forbes. [https://www.forbes.com/sites/mattperez/2019/02/12/activision-blizzard-to-layoff-nearly-800-employees/.](https://www.forbes.com/sites/mattperez/2019/02/12/activision-blizzard-to-layoff-nearly-800-employees/)

³¹ Allsup, M. (2021, July 22). *Activision Blizzard Sued Over 'Frat Boy' Culture, Harassment (I)*. Bloomberg Law. [https://news.bloomberglaw.com/daily-labor-report/activision-blizzard-sued-by-california-over-frat-boy-culture.](https://news.bloomberglaw.com/daily-labor-report/activision-blizzard-sued-by-california-over-frat-boy-culture)

³² Microsoft. (2021, October 21). *Microsoft 2021 Annual Report*. [https://www.microsoft.com/investor/reports/ar21/index.html.](https://www.microsoft.com/investor/reports/ar21/index.html)

³³ Benzinga. (2022, January 19). *6 analysts dissect Microsoft's Activision Blizzard deal: "a call option on numerous metaverse plays"*. Business Insider. [https://markets.businessinsider.com/news/stocks/6-analysts-dissect-microsoft-s-activision-blizzard-deal-a-call-option-on-numerous-metaverse-plays-1031113796.](https://markets.businessinsider.com/news/stocks/6-analysts-dissect-microsoft-s-activision-blizzard-deal-a-call-option-on-numerous-metaverse-plays-1031113796)

³⁴ Sharma, R. (2022, January 19). *Game On: Analyzing Microsoft's (MSFT) Acquisition of Activision Blizzard (ATVI)*. Investopedia. <https://www.investopedia.com/analyzing-microsoft-activision-blizzard-acquisition-5216323>.

³⁵ He, Z. & Liu, H. (2023, April). *Depth analysis of Microsoft's acquisition of Activision Blizzard: Thinking Based on the Development of the Metauniverse*. Highlights in Business Economics and Management. DOI: [10.54097/hbem.v7i.6971](https://doi.org/10.54097/hbem.v7i.6971).

³⁶ He, Z. & Liu, H. (2023, April). *Depth analysis of Microsoft's acquisition of Activision Blizzard: Thinking Based on the Development of the Metauniverse*. Highlights in Business Economics and Management. DOI: [10.54097/hbem.v7i.6971](https://doi.org/10.54097/hbem.v7i.6971).

³⁷ Sharma, R. (2022, January 18). *Analyzing Microsoft's (MSFT) acquisition of Activision Blizzard (ATVI)*. Investopedia. <https://www.investopedia.com/analyzing-microsoft-activision-blizzard-acquisition-5216323>.

³⁸ Hankins, K. W. (2020, January 17). *Why are companies sitting on so much cash?* Harvard Business Review. <https://hbr.org/2020/01/why-are-companies-sitting-on-so-much-cash>.

³⁹ Faulkender, M., Hankins, K. W. & Petersen, M. (2022, April 29). *Why are U.S. companies hoarding so much cash?* KelloggInsight. <https://insight.kellogg.northwestern.edu/article/companies-hoarding-cash>.

⁴⁰ Sharma, R. (2022b, January 19). *Game On: Analyzing Microsoft's (MSFT) Acquisition of Activision Blizzard (ATVI)*. Investopedia. <https://www.investopedia.com/analyzing-microsoft-activision-blizzard-acquisition-5216323>.

⁴¹ Browning, K. & Che, C. (2023, March 29). *Rift between gaming giants shows toll of China's economic crackdown*. The New York Times. <https://www.nytimes.com/2023/03/29/technology/activision-netease-china-breakup.html>.

⁴² Waters, R., Grimes, C., Gara, A. & Fontanella-Khan, J. (2022, January 18). *Microsoft to buy video game maker Activision Blizzard for \$75bn*. Financial Times. <https://www.ft.com/content/d3726a3a-c4a0-4761-a82c-cda98abc3cb7>.

⁴³ Datta, T. (2022, April 28). *Activision Blizzard shareholders approve \$68.7 bn Microsoft deal*. Reuters. <https://www.reuters.com/technology/activision-blizzard-shareholders-approve-687-bln-microsoft-deal-2022-04-28/>.

⁴⁴ Activision Blizzard. (2023, June 21). *Activision Blizzard, Inc. 2023 Proxy Statement*. <https://investor.activision.com/static-files/2cdc085d-1238-4e4e-ad37-3b589c67b8d2>.

⁴⁵ Federal Trade Commission. (2022, December 9). *FTC seeks to block Microsoft Corp. 's acquisition of Activision Blizzard, Inc.* <https://www.ftc.gov/news-events/news/press-releases/2022/12/ftc-seeks-block-microsoft-corps-acquisition-activision-blizzard-inc>.

⁴⁶ European Commission. (2023, May 15). *Commission Decision of 15.5.2023 declaring a concentration to be compatible with the internal market and the EEA agreement. Case M.10646 – Microsoft / Activision Blizzard.* https://ec.europa.eu/competition/mergers/cases1/202241/M_10646_8537359_1008_3.pdf.

⁴⁷ Ezhava, A. (2023, July 12). *Microsoft's Game-Changing Activision Blizzard Acquisition: FTC Gives Green Light.* Medium. <https://medium.com/@ashishezhava/microsofts-game-changing-activision-blizzard-acquisition-ftc-gives-green-light-824f2f369bb2>.

⁴⁸ Bradshaw, T. & Ring, S. (2023, October 13). *Microsoft closes \$75bn activision deal after UK Regulator's approval.* Financial Times. <https://www.ft.com/content/e8b61fe4-335d-419e-a0de-02db53f42e69>.

⁴⁹ Warren, T. (2023, October 13). *Ubisoft and Activision Blizzard's deal for cloud gaming rights, explained.* The Verge. <https://www.theverge.com/2023/10/13/23915780/ubisoft-activision-blizzard-microsoft-cloud-gaming-rights-deal-explained>.

⁵⁰ Warren, T. (2023, July 16). *Sony agrees to 10-year call of duty deal with Microsoft.* The Verge. <https://www.theverge.com/2023/7/16/23792215/sony-microsoft-call-of-duty-cod-deal-signed>.

⁵¹ Goh, E. L., Al-Tabbaa, O. & Khan, Z. (2023). *Unravelling the complexity of the Video Game Industry: An integrative framework and future research directions.* Telematics and Informatics Reports. <https://doi.org/10.1016/j.teler.2023.100100>.

⁵² Statista Advertising & Media Insights. (2023). *Market Insights, Games.* <https://www-statista-com.eu1.proxy.openathens.net/outlook/amo/media/games/worldwide>.

⁵³ Richter, F. (2022, December 12). *Are you not entertained?* Statista Daily Data. <https://www.statista.com/chart/22392/global-revenue-of-selected-entertainment-industry-sectors/>.

⁵⁴ Fung, B. (2021, January 16). *Netflix: Fortnite is a bigger rival than HBO.* Washington Post. <https://www.washingtonpost.com/technology/2019/01/18/netflix-fortnite-is-bigger-rival-than-hbo/>.

⁵⁵ Bradshaw, T. (2019, April 13). *Apple spends hundreds of millions on Arcade video game service.* Financial Times. <https://www.ft.com/content/44236e86-5ba3-11e9-9dde-7aedca0a081a>

⁵⁶ Oxford Languages. (2023). *Video Game Definition*. English Definitions Powered by Oxford Languages. <https://en.bab.la/dictionary/english/video-game>.

⁵⁷ Statista Advertising & Media Insights. (2023). *Market Insights, Games*. <https://www-statista-com.eu1.proxy.openathens.net/outlook/amo/media/games/worldwide>.

⁵⁸ Tripp, S., Grueber, M., Simkins, J. & Yetter, D. (2021). *Video Games in The 21st Century: The 2020 Economic Impact Report*. TEconomy Partners. <https://www.theesa.com/video-game-impact-map/wp-content/uploads/sites/2/2020/12/Video-Games-in-the-21st-Century-2020-Economic-Impact-Report-Final.pdf>.

⁵⁹ White Star Capital. (2021, December 15). *Mapping the gaming and esports VC landscape - Venture beyond - medium*. Medium. <https://medium.com/venture-beyond/mapping-the-gaming-and-esports-vc-landscape-eca062502dca>.

⁶⁰ Cuofano, W. I. G. (2023, August 19). *Understanding the gaming industry and its business models*. FourWeekMBA. <https://fourweekmba.com/gaming-industry/>

⁶¹ Aleem, S., Capretz, L. F. & Ahmed, F. (2016). *Game development software engineering process life cycle: a systematic review*. Journal of Software Engineering Research and Development. <https://doi.org/10.1186/s40411-016-0032-7>.

⁶² European Commission. (2023, May 15). *Case M.10646 – Microsoft / Activision Blizzard, Regulation (Ec) No 139/2004 Merger Procedure*. https://ec.europa.eu/competition/mergers/cases1/202330/M_10646_9311516_7443_3.pdf.

⁶³ Nanou, E. (2021, June 7). *What are First, Second, and Third-Party video game developers?* MUO. <https://www.makeuseof.com/what-are-first-second-third-party-video-game-developers/>.

⁶⁴ Lynch, M. (2023, August 1). *AAA Games vs. Indie Games: What Are the Differences?* The Tech Edvocate. <https://www.thetechadvocate.org/aaa-games-vs-indie-games-what-are-the-differences/#:~:text=AAA%20games%20are%20developed%20by,gameplay%20mechanics%20and%20artistic%20expression>.

⁶⁵ McGee, P. (2021, February 14). *Zynga looks to expand after reaching new heights on High Heels!*. Financial Times. <https://www.ft.com/content/46c3a499-8cca-4ca5-a9ea-34e1b503afec>.

⁶⁶ Gain.pro. (2023). *Industry Report Video Gaming*.

⁶⁷ González-Piñero, M. (2017). *Redefining the value chain of the video games industry*. ResearchGate. https://www.researchgate.net/publication/316200858_Redefining_The_Value_Chain_Of_The_Video_Games_Industry.

⁶⁸ Block, S. & Haack, F. (2021). *eSports: a new industry*. Globalization and Its Socio-Economic Consequences 2020. https://www.shs-conferences.org/articles/shsconf/pdf/2021/03/shsconf_glob20_04002.pdf.

⁶⁹ DataReportal, We Are Social, & Meltwater. (2023, January 26). *Share of internet users worldwide who play video games on any device*. Statista. <https://www.statista.com/statistics/195768/global-gaming-reach-by-country/>.

⁷⁰ Fernandes, J. (2022, July 6). *Global: A quarter of consumers now playing in excess of 7 hours of mobile phone games a week*. YouGov. <https://business.yougov.com/content/43077-global-quarter-consumers-now-playing-excess-7-hour>.

⁷¹ Activate Consulting. (2023). *Activate Technology & Media Outlook 2024*. WSJ Tech. <https://www.activate.com/insights-archive/Activate-Technology-and-Media-Outlook-2024.pdf>.

⁷² ESA. (2022, June 10). *2022 Essential Facts about the Video game Industry - Entertainment Software Association*. Entertainment Software Association. <https://www.theesa.com/resource/2022-essential-facts-about-the-video-game-industry/>.

⁷³ Ivanov, M., Wittenzellner, H. & Wardaszko, M. (2021). *Video game monetization mechanisms in Triple A (AAA) Video Games*. Lecture Notes in Computer Science (pp. 389–404). https://doi.org/10.1007/978-3-030-72132-9_33.

⁷⁴ González-Piñero, M. (2017). *Redefining The Value Chain Of The Video Games Industry*. Working Paper. DOI: [10.13140/RG.2.2.35972.53129](https://doi.org/10.13140/RG.2.2.35972.53129).

⁷⁵ Naji, S. (2022, August 8). *Are Video Games Really More Expensive?*. GamesIndustry.biz. <https://www.gamesindustry.biz/are-video-games-really-more-expensive>.

⁷⁶ Swaerd, M. (2021). *The Subscription Payment Model In The Games Industry*. KTH Skolan För Industriell Teknik Och Management. <https://www.diva-portal.org/smash/get/diva2:1543838/FULLTEXT01.pdf>

⁷⁷ Button, C. (2022, June 15). *How much do game developers make from their games? – GamesHub*. GamesHub. <https://www.gameshub.com/news/features/how-game-prices-digital-distribution-and-xbox-game-pass-affects-developers-10912/>.

⁷⁸ S&P Capital IQ. (2023). <https://www.capitaliq.com/>.

⁷⁹ Schudey, A., Kasperovich, P., Ikram, A. & Panhans, D. (2023, June 13). *Game Changer: Accelerating the media industry's most dynamic sector*. BCG Global. <https://www.bcg.com/publications/2023/drivers-of-global-gaming-industry-growth>.

⁸⁰ PricewaterhouseCoopers. (2022). *Cloud Gaming gewinnt weiter an Akzeptanz und Verbreitung*. PwC. <https://www.pwc.de/de/technologie-medien-und-telekommunikation/cloud-gaming-studie.html>.

⁸¹ Raturi, G. (2022, December 4). *The Growing Trend of Esports: Why 2023 is Going to be a Massive year for Esports*. Medium. <https://medium.com/codex/the-growing-trend-of-esports-why-2023-is-going-to-be-a-massive-year-for-esports-e17fe39ac58a>.

⁸² Hall, P. (2023, October 18). *Best Play-to-Earn Games with NFTs or Crypto - Play to Earn*. Play to Earn. <https://www.playtoearn.online/games/>.

⁸³ McKinsey & Company. (2022, October 7). *What is 5G?* <https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-5g>.

⁸⁴ Gross, A. (2022, August 13). *Gaming tapers off post-pandemic as players return to the real world*. Financial Times. <https://www.ft.com/content/3e04a454-470e-490b-af87-bf65c435525c>.

⁸⁵ Jossen, E. & Chen, H. (2021, December 17). *A guide to the Chinese Gaming Law of 2021*. Children and Screens. <https://staging.childrenandscreens.com/a-guide-to-the-chinese-gaming-law-of-2021/>.